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PESTICIDE USAGE IN NORTHERN IRELAND
SURVEY REPORT 247

NORTHERN IRELAND ARABLE CROPS 2012

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PESTICIDE USAGE SURVEY REPORT 247

NORTHERN IRELAND

ARABLE CROPS

2012

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INVESTOR IN PEOPLE

The County Regions of Northern Ireland

SUMMARY

This is the twelfth survey of pesticide usage practices on arable crops in Northern Ireland, providing comparative data to that obtained in the previous surveys in 1990, (Jess *et al*., 1992), 1992 (Jess *et al*., 1995), 1994 (Jess *et al*., 1997), 1996 (Jess *et al*., 2000), 1998 (Jess *et al*., 2002), 2000 (Withers *et al*., 2004), 2002 (Withers *et al.,* 2004), 2004 (Withers *et al.,* 2006) 2006 (Withers *et al.,* 2007), 2008 (Withers *et al*.,2009) and 2010 (Withers *et al*.,2011) .

Information on all aspects of pesticide usage was collected from 204 holdings throughout the Province, representing 23% of the total area of arable crops grown. Quantitative data has been adjusted to provide estimates of total pesticide usage.

The total area of arable crops grown in Northern Ireland in 2012 was 41,856 hectares which was similar to the cropping area recorded in 2006. This represented a decrease of 3% compared to that recorded in 2010 and a 32% reduction compared to that recorded in the first pesticide usage survey of the arable sector, in 1990. Approximately 44% of the arable cropping area in 2012 was in County Down, 23% in County Londonderry, 18% in County Antrim, 8% in County Armagh and 7% in County Tyrone. This distribution is similar to that recorded in 2010, 2008 and 2006. There was no significant area of arable cropping in County Fermanagh.

A total of 348 products (including 8 adjuvants), comprising 145 active ingredients were recorded in use on field crops in the survey.

During the period 2010 to 2012, applications of all pesticide groups increased, with the area of arable crops treated with pesticides increasing by 11%, to 374,845 spray-hectares. This was a similar level to that recorded in 2008. Fungicide applications increased by 6%, with chlorothalonil, either applied as a single active ingredient or in combination, the most frequently applied to cereal crops, especially spring barley and winter wheat. Herbicides and desiccant applications increased by 11%. Glyphosate was the most frequently applied, accounting for 26% of herbicide and desiccant applications. Insecticide applications increased by 7% when compared with 2010 and the weight applied increased by 75%. Pyrethroids were the most frequently applied insecticides representing 89% of all insecticide applications. Esfenvalerate was the most frequently applied insecticide, primarily to spring barley and winter wheat crops, to control aphids. Growth regulator applications increased by 32% when compared to 2010. The principal growth regulator used in 2012 was chlormequat, which is consistent with previous surveys conducted in 1998-2010. In 2012, growth regulators were applied primarily to spring barley, winter barley, spring wheat and, most frequently, to winter wheat. Due to the adverse weather conditions during 2012 molluscicide applications increased four-fold when compared with 2010. An estimated 80% of molluscicide applications were to control slugs mostly on maincrop potato crops. The total weight of pesticides applied to arable crops in 2012 decreased to 132 tonnes of active ingredients, representing a 3% reduction compared with 2010 and 22 % and 44% reduction when compared with 2008 and 2006, respectively. Seed treatment applications increased by 11% and the weight applied increasing by 21%. In keeping with 2008 and 2010 data, the formulation prochloraz/triticonazole was the most commonly applied cereal seed treatment in 2012. This contrasted with 2004 and 2006 where the single active ingredient fludioxonil was the most commonly applied to these crops. The formulation imazalil/pencycuron was the most commonly applied seed treatment on potatoes.

During 2012, regional pesticide usage was related to the area of arable crops grown in each county. Pesticides were applied to 98% of the total area of arable crops grown in Northern Ireland in 2010 with a range of 1 – 11 applications per crop.

Fungicides were applied to 42% of the pesticide-treated area, accounting for 44% of the total weight of pesticides used. Herbicides and desiccants were applied to 30% of the pesticide-treated area, representing 39% of the total weight of pesticides used. Insecticides accounted for 8% of the pesticide-treated area of arable crops, representing 3% of the weight of pesticides used. Molluscicide treatments represented less than 1% of both area of application and weight of pesticides applied. Growth regulator usage accounted for 9% of the pesticide-treated area and 13% of the weight of active ingredients applied. Seed treatments were applied to 10% of the area of arable crops grown in 2010, representing 2% of the weight of active ingredients applied.

Potato crops comprised 10% of the area of arable crops grown in Northern Ireland in 2010, accounting for 20% of the total pesticide-treated area. However, the weight of pesticides applied to potato crops represented 30% of the total weight of pesticides used on all arable crops. The total area of potatoes grown comprised 82% maincrop, 13% seed and 5% early potato crops. Potato crops accounted for 32% of the area of arable crops treated with fungicides and received 47% of the total weight of fungicides applied. Furthermore, applications of herbicides and desiccants to potato crops represented 15% of the area treated and 20% of the weight applied of this pesticide group. The most commonly recorded fungicide applied to potato crops was fluazinam. Fluazinam was used on 32% of the fungicide-treated area and accounted for 11% of the weight of fungicide active ingredients applied. It was used primarily in maincrop potatoes to control blight (*Phytophthora infestans*) and for general disease control.

This was the eighth survey in which the cultivation of pea and bean crops was recorded.

Data of pesticide applications to *Camelina* crops was recorded for the first time. *Camelina* is a genus within the Brassicaceae family and is commonly known as false flax. It is grown for its oil component.

In addition to information concerning field applications of pesticides to crops, data relating to post-harvest/storage treatments applied to farm-stored potatoes were collected. It was estimated that 68,804 tonnes of potatoes were stored on-farm, following the 2012 growing season. This represented a 41% decrease compared with 2010. Ware potatoes accounted for 81% of the total quantity of stored potatoes, with seed potatoes representing the remainder. No early potatoes were recorded as stored. County Antrim and County Down accounted for 38% and 37% of all potatoes stored, respectively. Overall, approximately 12% of stored potatoes received pesticide treatment. Furthermore, 39% of seed potatoes and 6% of ware potatoes received treatment. Overall, a total of 218 kilogrammes of treatments were applied to 8,134 tonnes of potatoes. The sprout suppressant chlorpropham was the only pesticide applied to an estimated 3,183 tonnes of stored ware potatoes in Northern Ireland in 2010. However, imazalil was applied to 4,951 tonnes of stored seed potatoes both as a single active ingredient and in combination with thiabendazole. Approximately 51% of all potatoes in 2010 were stored in 'refrigerated' buildings and 26% in 'barns'. Overall, 94% of potatoes were stored on-farm in boxes, while 6% were stored in bulk.

DEFINITIONS AND NOTES

- 'Basic area' refers to the actual planted area of crop treated with a given pesticide.

- 'Treated area' refers to the total area treated with a pesticide, which includes all repeated applications to the basic area. This is measured in 'spray-hectares' (basic area x number of spray applications = spray hectares (spha)).

- 'Reasons for use' refers to the reasons given by the farmer for the use of a particular pesticide. These reasons may sometimes be inappropriate as they may have perceived treatment effects.

- 'Rounding'; due to rounding of figures there may be slight differences in totals both within and between tables.

- 'Spray applications' refers to the number of treatments of any pesticide type to the treated areas.

- 'Comparison tables'; due to restrictions imposed by the foot and mouth outbreak in February 2001 and the inability to complete farm visits, the 2000 report sample size was reduced by over one third. Due to this reduced sample size, data collected on the use of pesticide on potatoes, both grown and stored, was unreliable and had to be omitted from the report. Therefore, when comparisons are made between this, 2012 report, and previous reports, no comparisons can be made with the 2000 report in relation to total treatment of arable crops and both field and storage treatments of early, seed and maincrop potatoes.

- In 2008, the set-aside rate was reduced to zero and the requirement to set-aside land was abolished altogether with effect from 1 January 2009. However, producers may still voluntarily set land aside. For the purpose of this survey set-aside land is not recorded.

INTRODUCTION

As a participant of the UK Working Party on Pesticide Usage Surveys, the Department of Agriculture and Rural Development for Northern Ireland (DARD), conducts a cyclical programme of surveys to examine pesticide usage in all sectors of the agricultural and horticultural industries. Principally, the data collected provides information for consideration by the Advisory Committee on Pesticides. However, pesticide usage data may also be used by those involved in residue testing, for public information, provision of data for research and evaluation of trends in pesticide usage.

This is the twelfth survey of pesticide usage on arable crops grown in Northern Ireland. Previous surveys reported on pesticide usage on arable crops grown in 1990 (Jess *et al*., 1992), 1992 (Jess *et al*., 1995), 1994 (Jess *et al*., 1997), 1996 (Jess *et al*., 2000), 1998 (Jess *et al*., 2002), 2000 (Withers *et al*., 2004), 2002 (Withers *et al.,* 2004), 2004 (Withers *et al.,* 2006), 2006 (Withers *et al.,* 2007), 2008 (Withers *et al.,* 2009) and 2010 (Withers *et al.,* 2011). Data from previous surveys are included in the report for comparative purposes.

A list of published Northern Ireland Pesticide Usage Survey reports is shown in Appendix 1.

METHODS

The sample of holdings to be surveyed was selected from each of the six counties on the basis of the total area of arable crops grown, using data from the Northern Ireland Agricultural Census, June 2011 (Anon., 2012). However, due to sampling procedures and the distribution of arable crops in Northern Ireland, no holdings were visited in County Fermanagh. The arable crops grown comprised the following; barley, wheat, oats, spring and winter oilseed rape, peas and beans, *Camelina* and potatoes.

The sample was stratified into six size groups, according to the total area of cereal crops grown in each region. Holdings were selected at random within each of the size groups, the number of holdings being proportional to the total area of arable crops grown. Ware and seed potato crops were selected from their own defined size groups province wide.

The purpose of the survey was explained to the occupiers of selected holdings in preliminary correspondence. A total of 204 holdings were contacted during November 2012 to April 2013. A majority of data was collected by personal interview and the remainder by telephone interview. The data collected included; the area of crops grown, area treated, target crop, pesticides used and number of treatments applied. The growers' reasons for pesticide use were also included but may not always seem appropriate as they may have perceived treatment effects. Holdings selected in the original sample that were unable to provide data were replaced with those from the same county and size group held on a reserve list. During analysis, the sample data were raised to the total population level using raising factors calculated from the ratio of the number of farms sampled to the number of farms in the population within each region and size group. A further adjustment factor corrected the data in accordance with the areas of arable crops published in the Northern Ireland Agricultural Census, June 2012 (Anon., 2013). The total number of farms in each size group and the number of farms sampled are shown in Table 1.

The collected data were entered using Oracle, a relational database programme. Validated data were downloaded for analysis using SPSS software.

Crops

Information was collected for spring barley, undersown barley, winter barley, spring wheat, winter wheat, undersown wheat, spring oats, undersown oats, winter oats, spring & winter oilseed rape, peas & beans, *Camelina*, seed potatoes, early potatoes and maincrop potatoes.

Data on pesticide usage on these crops were collected from 686 crops surveyed on 204 holdings. This accounted for 23% of crops (table 2).

Figure 1: Comparison of the areas of arable crops grown in Northern Ireland (ha), 1990 - 2012.

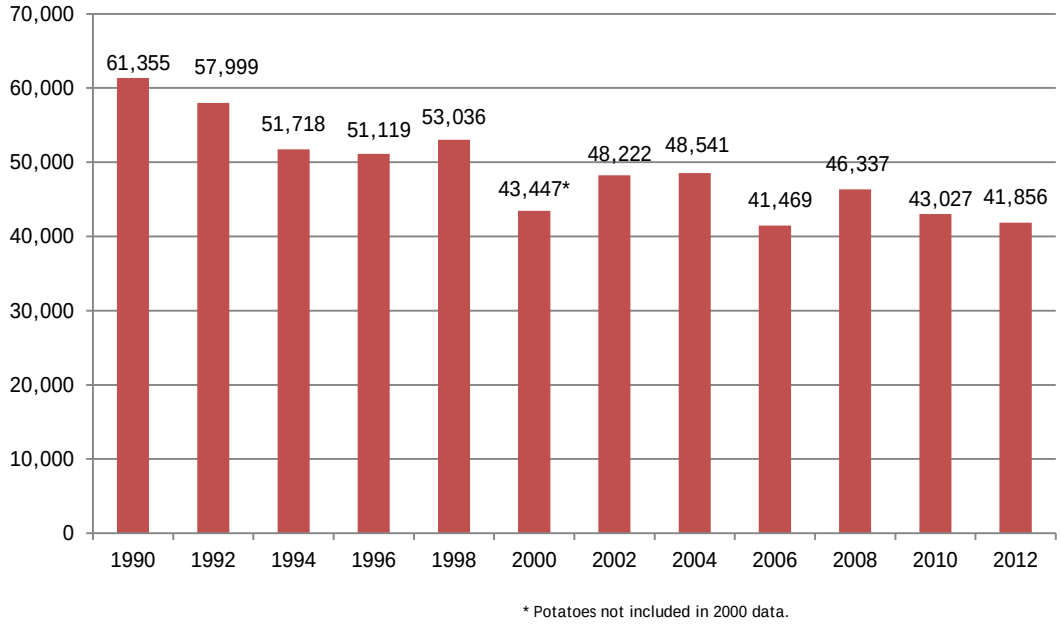


Figure 2: Regional distribution of arable crops grown in Northern Ireland (ha), 2012.

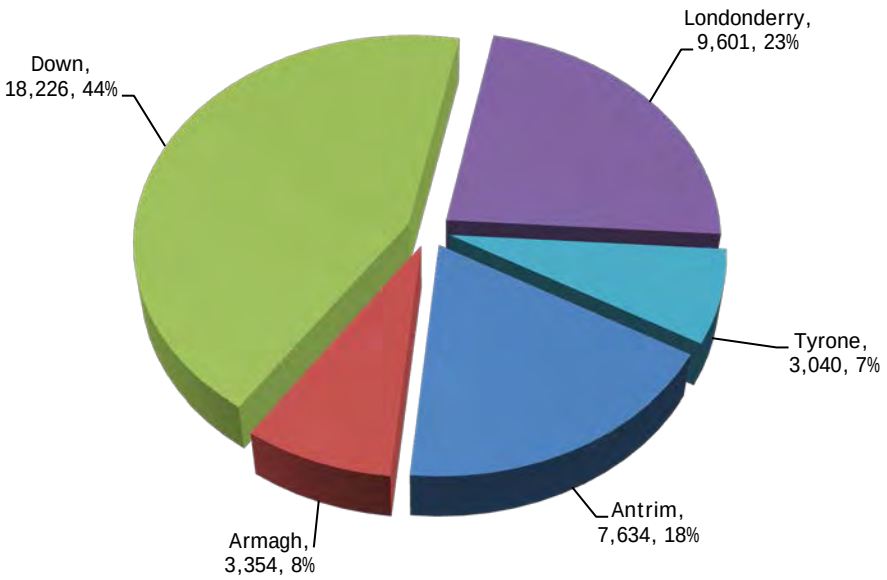


Figure 3: Regional distribution of individual arable crops grown in Northern Ireland (ha), 2012.

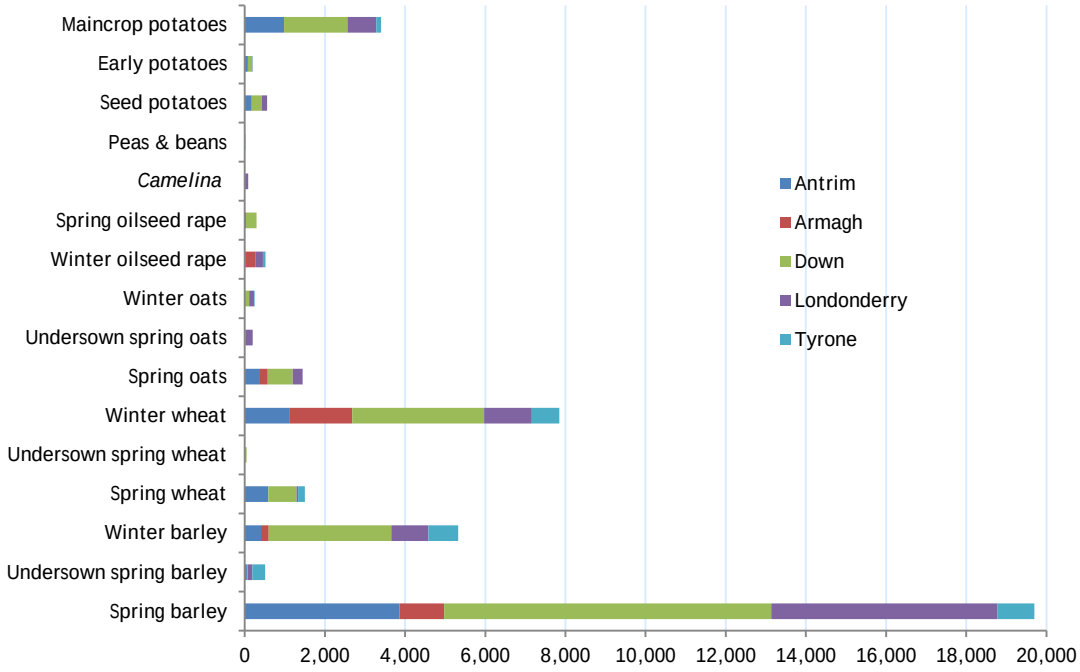


Figure 4: Areas of individual crops grown in Northern Ireland (ha), 2012.

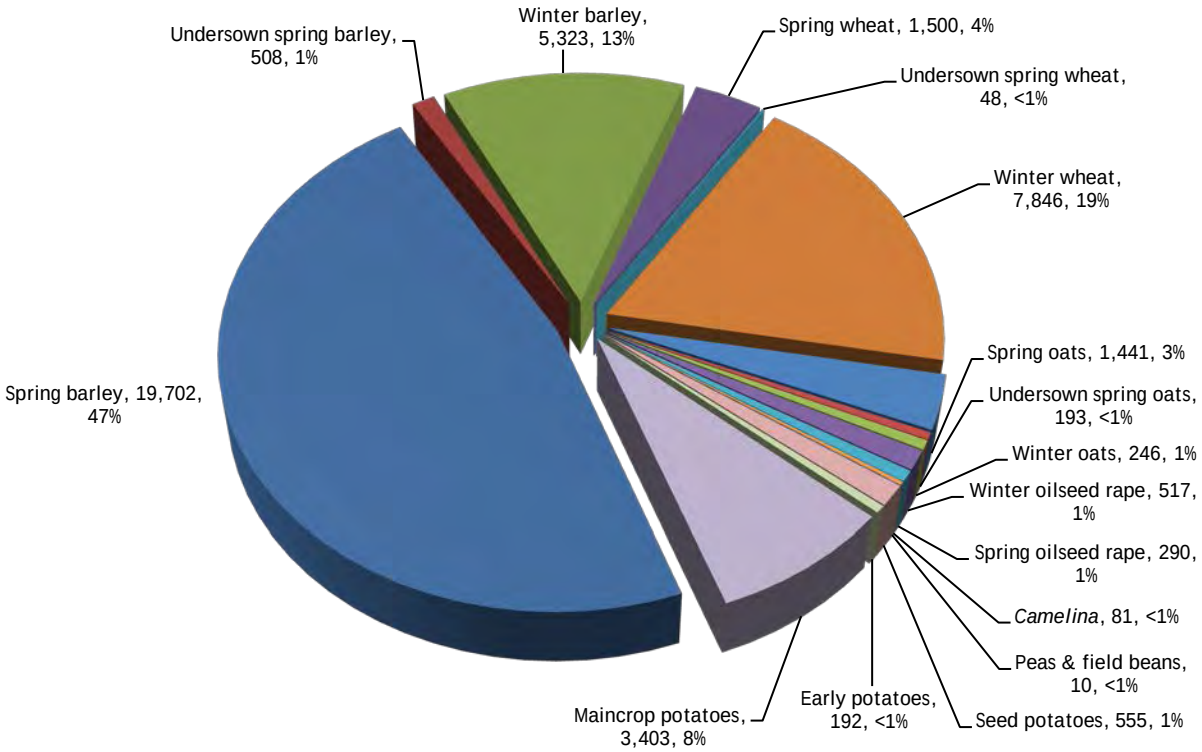


Figure 5: Comparison of the areas of cereal crops grown in Northern Ireland (ha), 1990 - 2012.

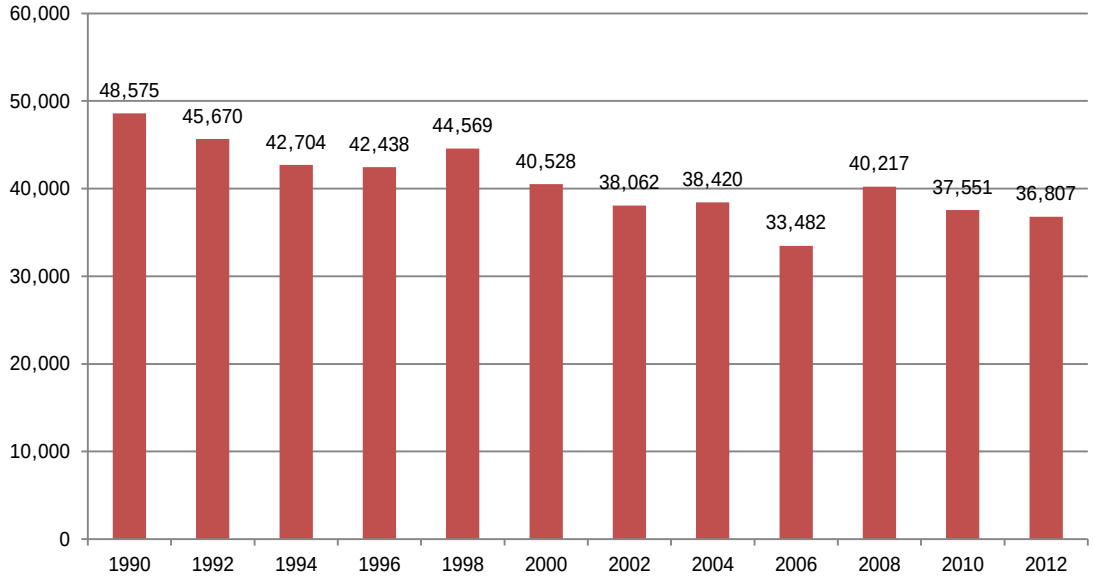


Figure 6: Regional distribution of cereal crops grown in Northern Ireland (ha), 2012.

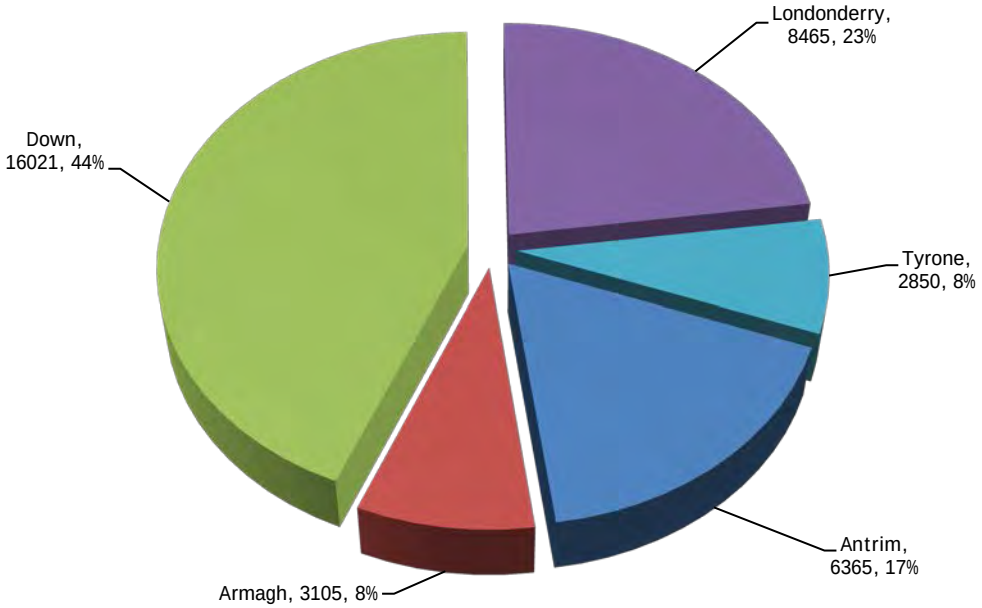


Figure 7: Comparison of the areas of potato crops grown in Northern Ireland (ha), 1990 - 2012.

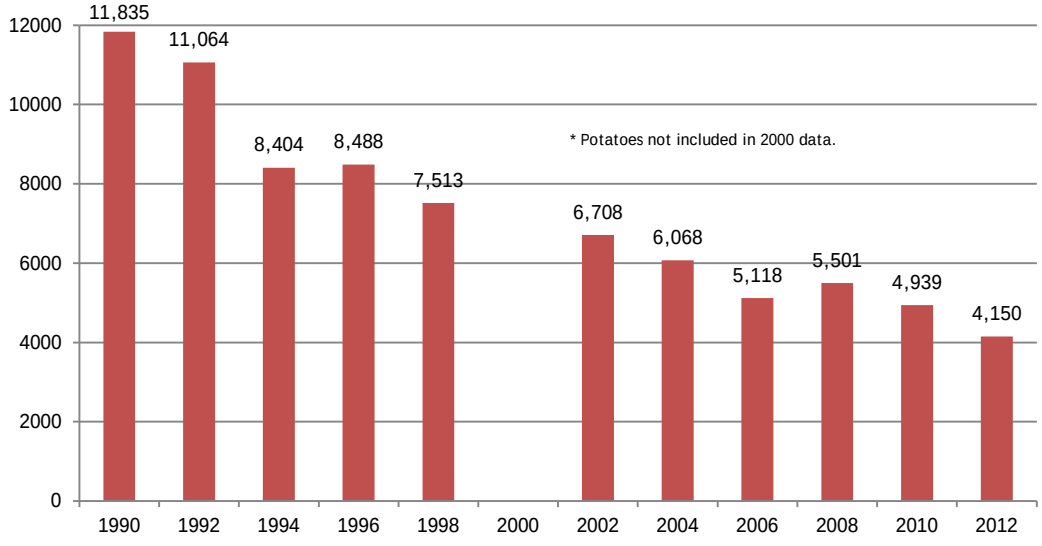


Figure 8: Regional distribution of potato crops grown in Northern Ireland (ha), 2012.

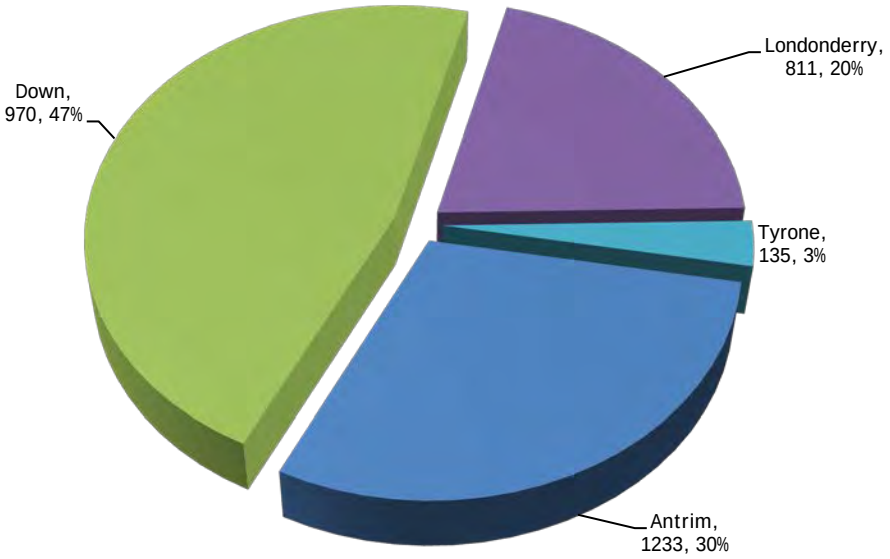
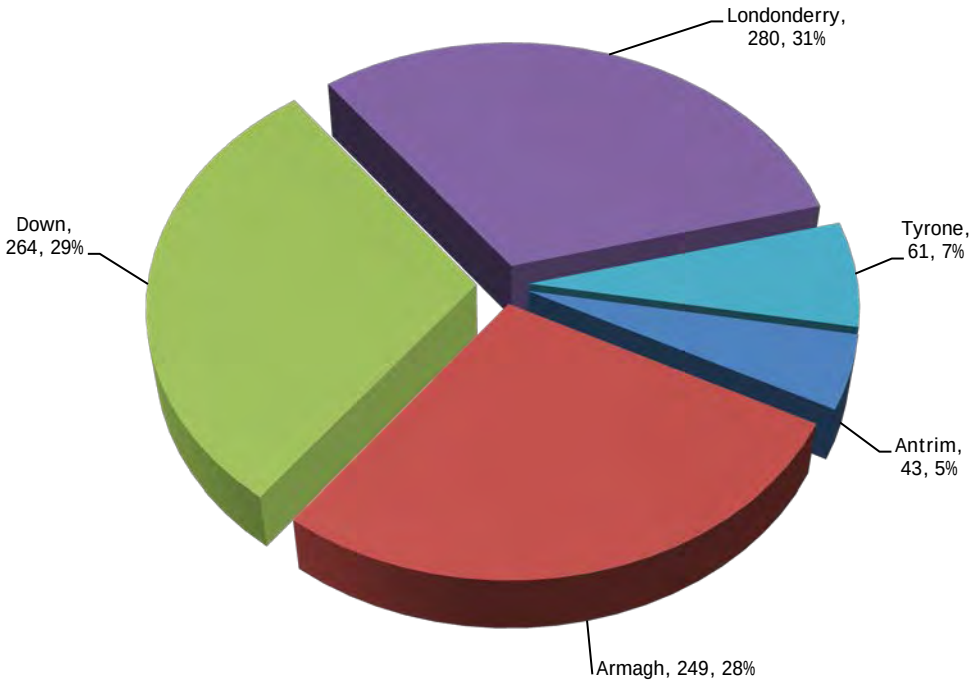


Figure 9: Regional distribution of other arable (oilseed rape, peas & field beans, *Camelina*) crops grown in Northern Ireland (ha), 2012.



Pesticide usage

Figure 10: Comparison of the areas of arable crops treated in Northern Ireland (spha), 1990 - 2012.

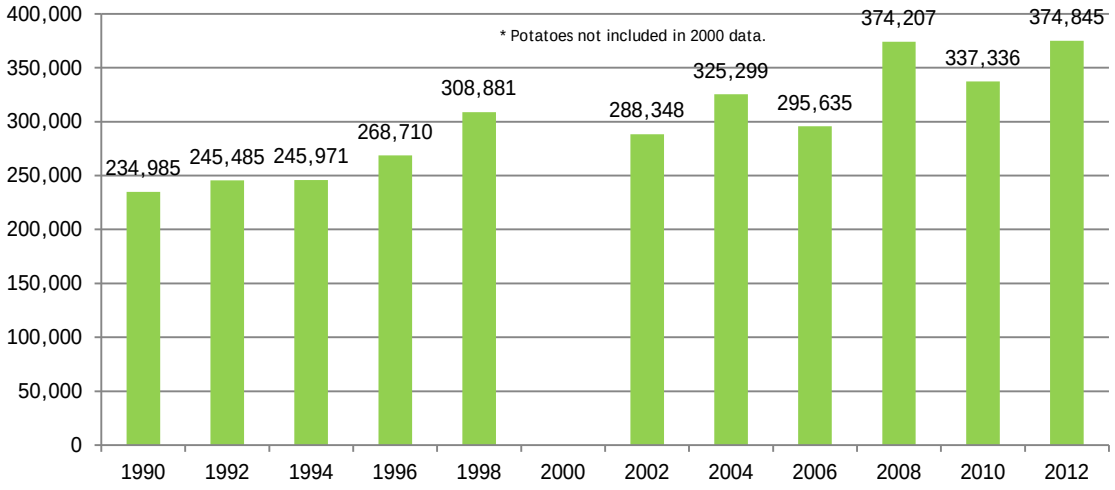


Figure 11: Pesticide usage (spha) on arable crops in Northern Ireland, 2012.

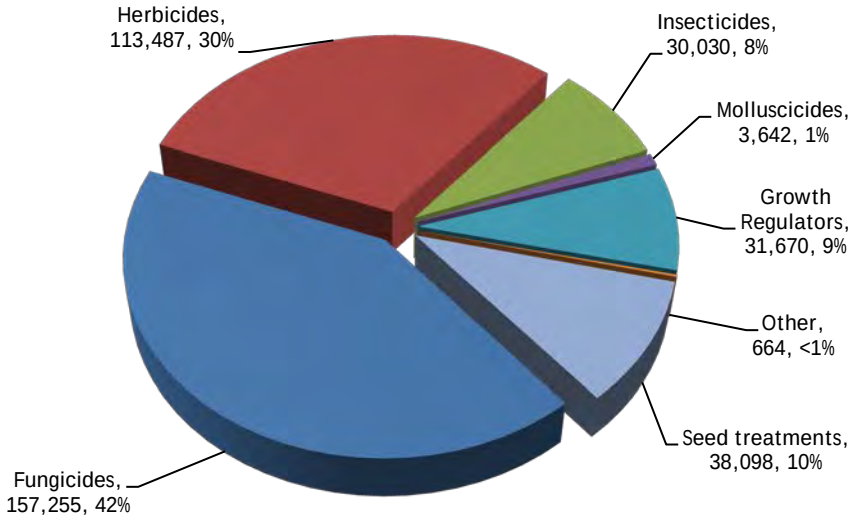


Figure 12: Comparison of the weight of pesticides applied (tonnes) to arable crops in Northern Ireland, 1990 - 2012.

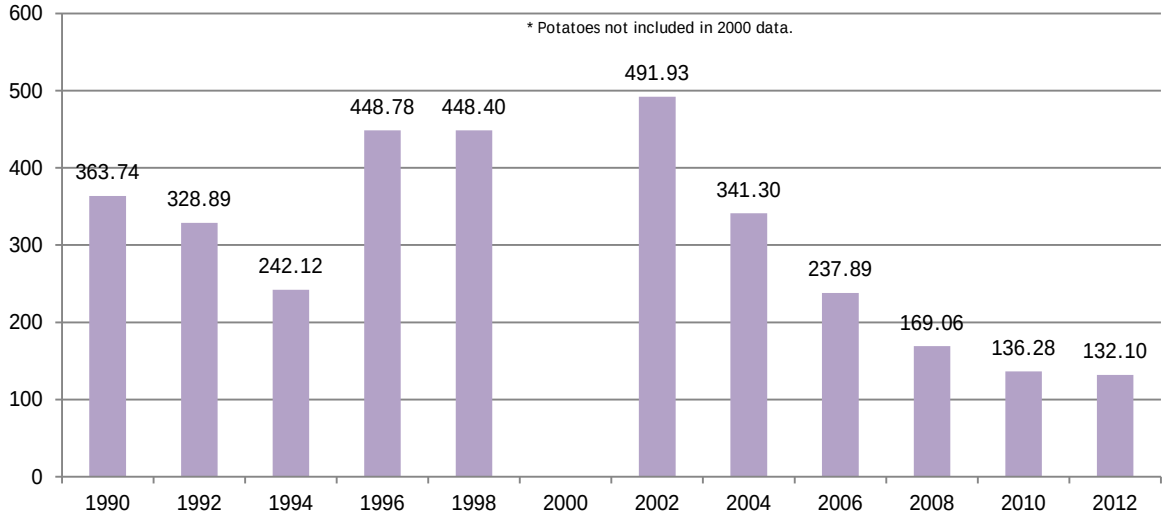


Figure 13: Weight (tonnes) of pesticides applied to arable crops in Northern Ireland, 2012.

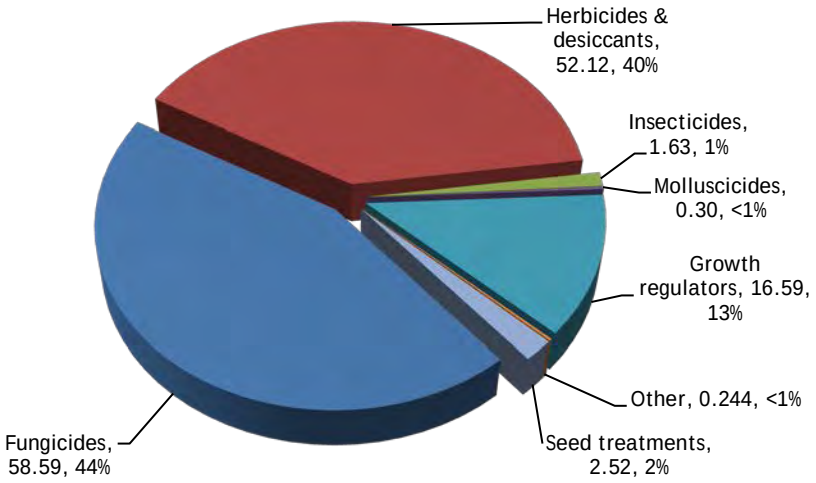


Figure 14: Area (spha) of arable crops treated with each pesticide type in Northern Ireland, 2012, by region.

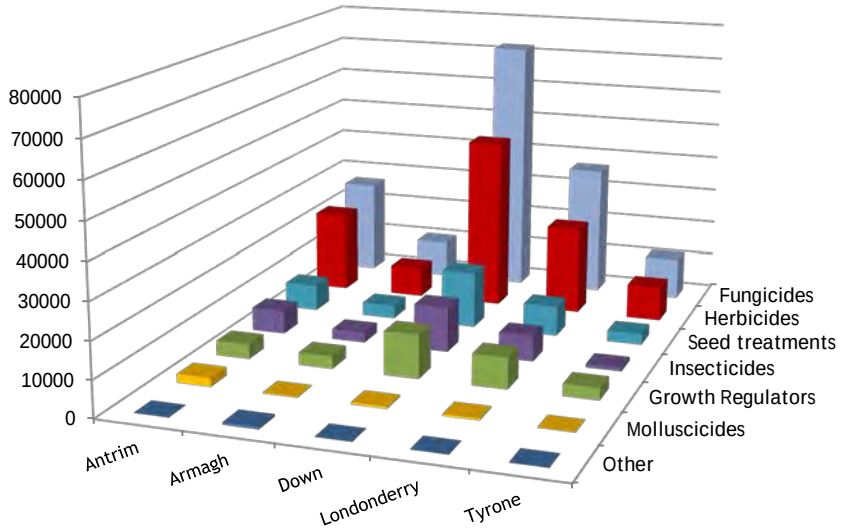


Figure 15: Weight (kg) of each pesticide type applied to arable crops in Northern Ireland, 2012, by region.

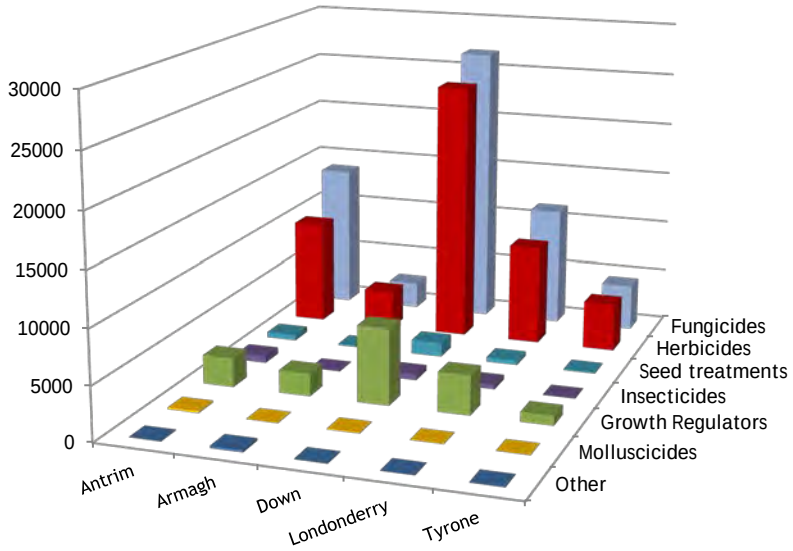


Figure 16: Comparison of the areas of cereal crops treated (spha) in Northern Ireland, 1990 - 2012.

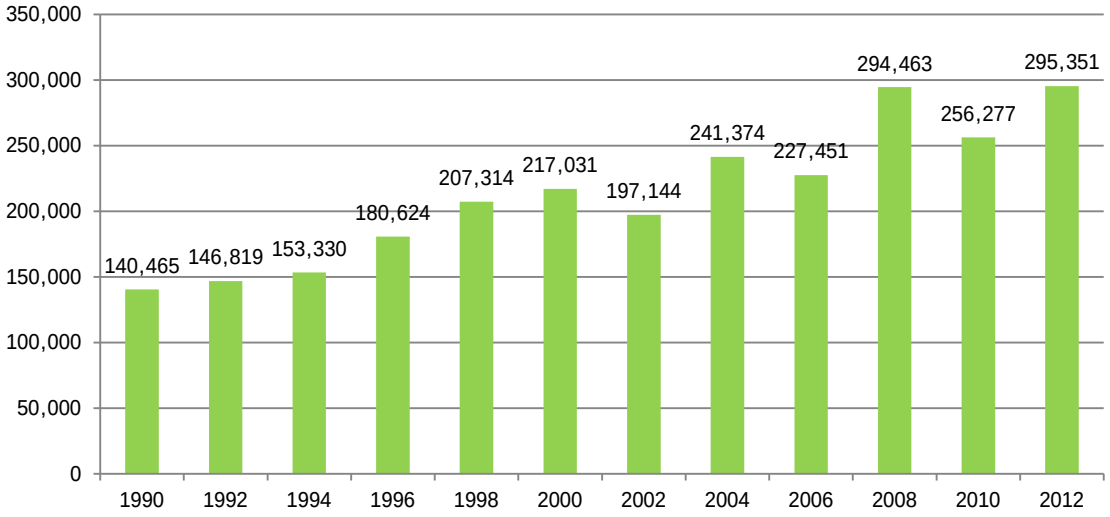


Figure 17: Pesticide usage (spha) on cereal crops in Northern Ireland, 2012.

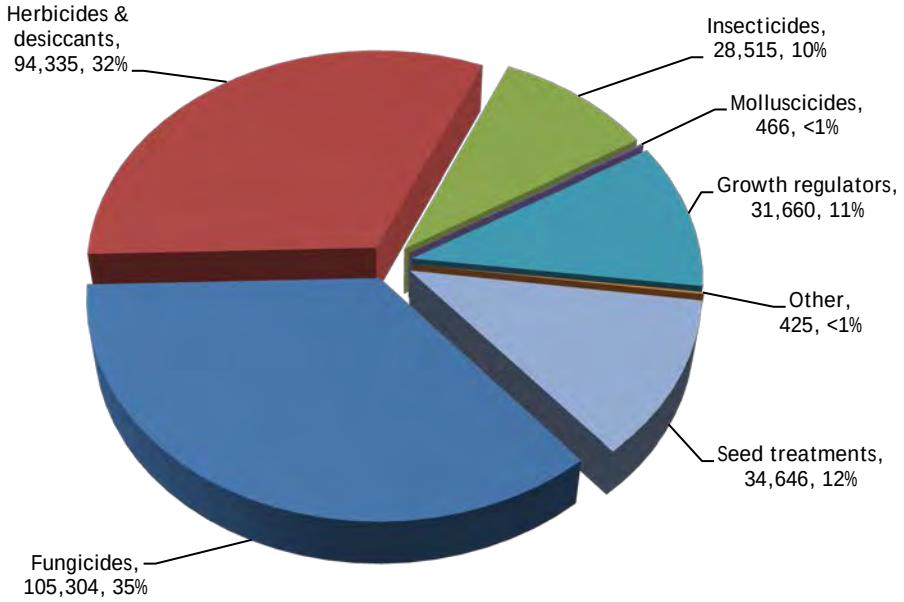


Figure 18: Comparison of the weight of pesticides applied (tonnes) to cereal crops in Northern Ireland, 1990 - 2012.

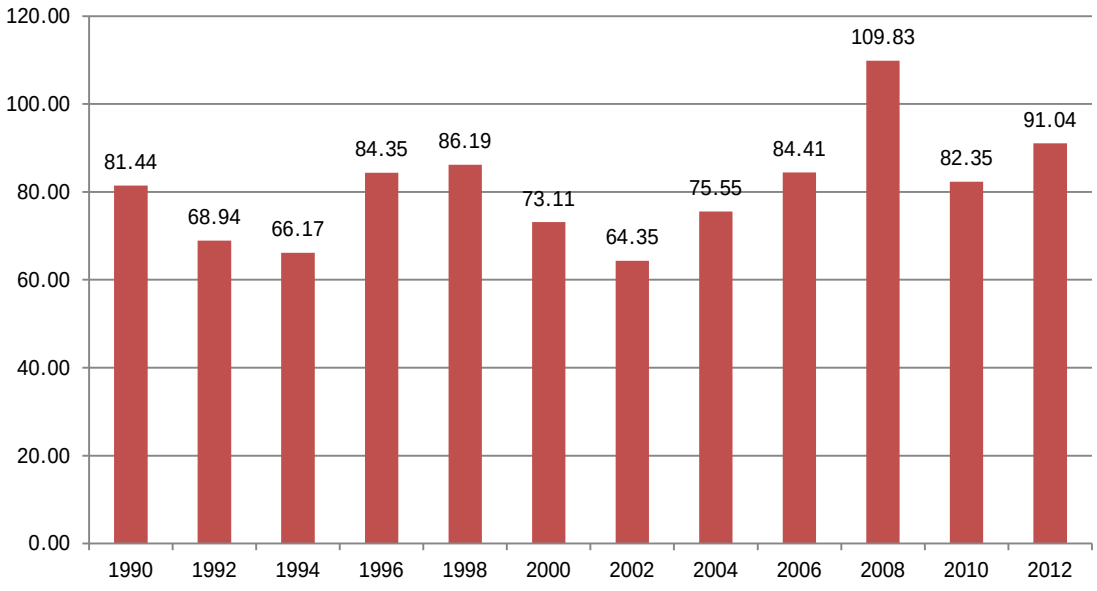


Figure 19: Weight of pesticides (tonnes) applied to cereal crops in Northern Ireland, 2012.

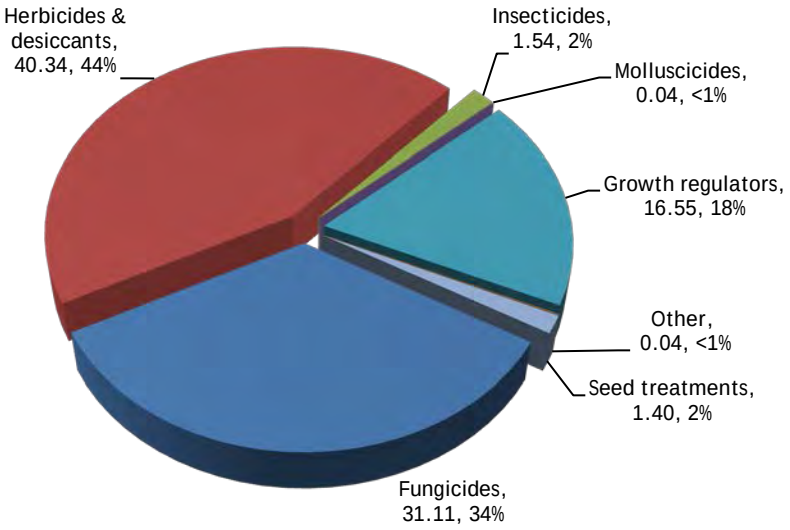


Figure 20: Pesticide usage (spha) on other arable crops in Northern Ireland, 2012.

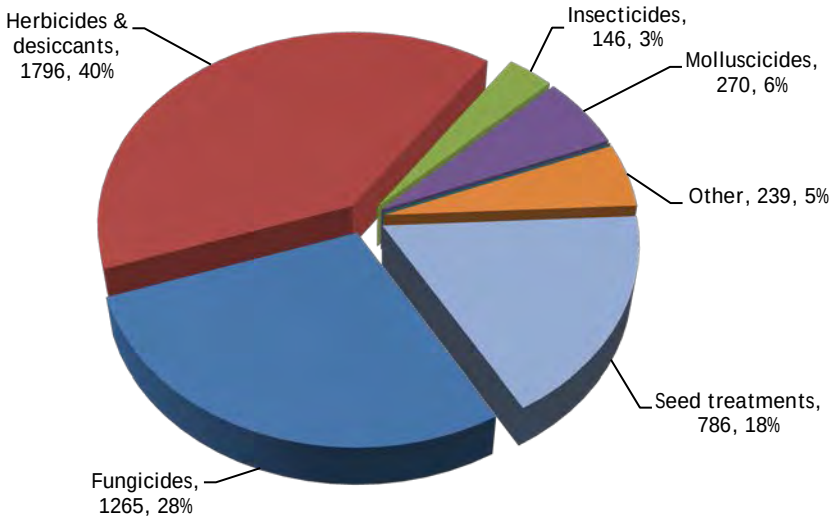


Figure 21: Weight of pesticides (kg) applied to other arable crops in Northern Ireland, 2012.

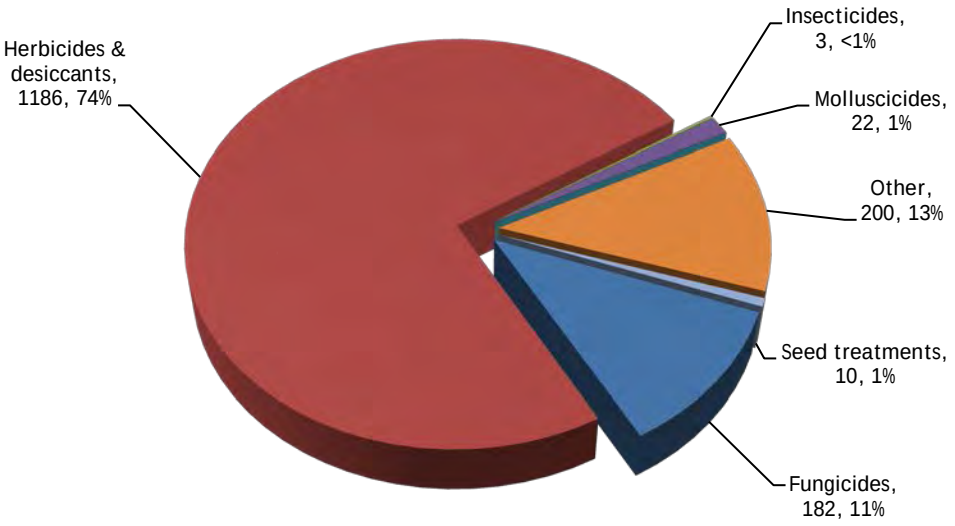


Figure 22: Comparison of the areas of potato crops treated (spha) in Northern Ireland, 1990 - 2012.

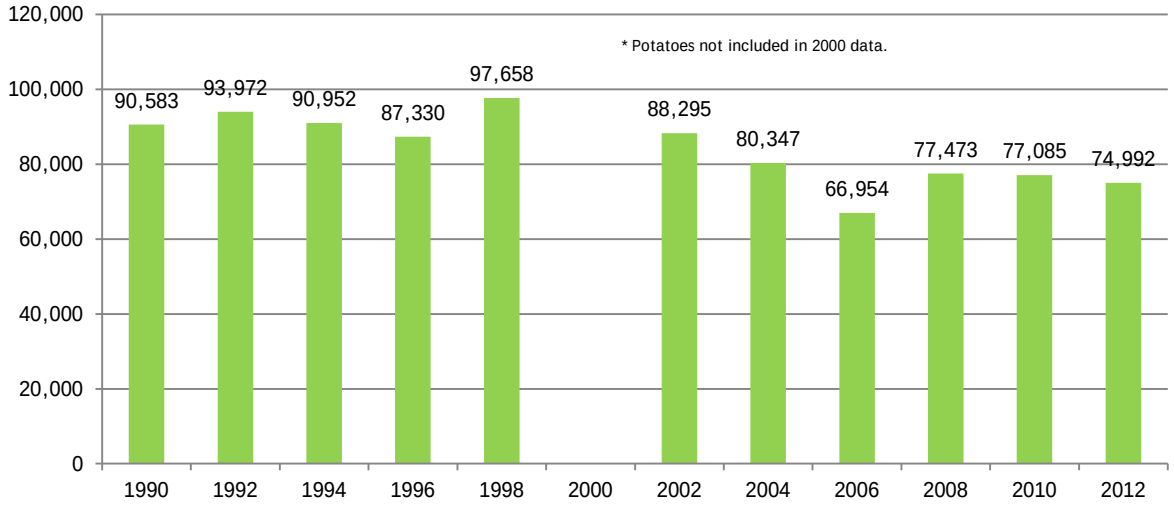


Figure 23: Pesticide usage (spha) on potato crops in Northern Ireland, 2012.

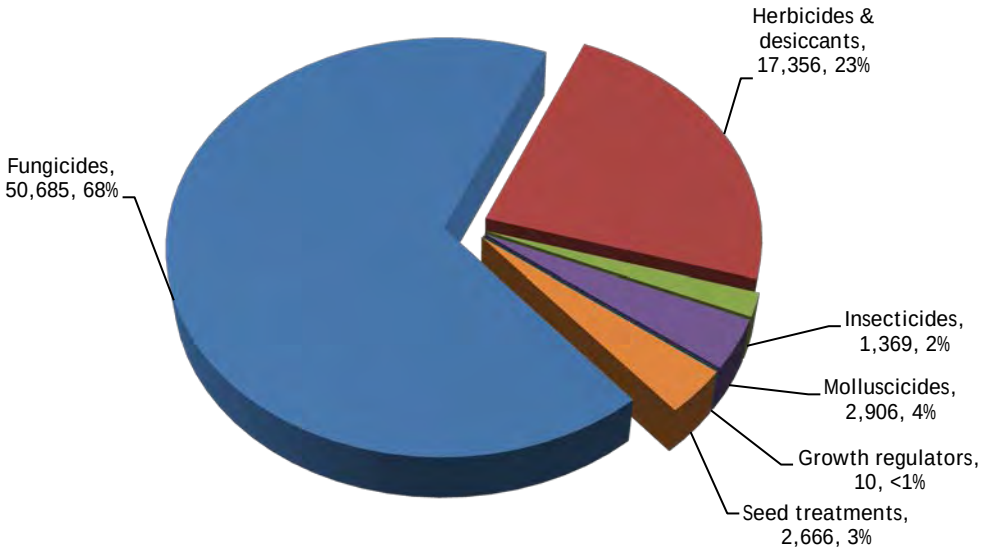


Figure 24: Comparison of the weight of pesticides applied (tonnes) to potato crops in Northern Ireland, 1990 - 2012.

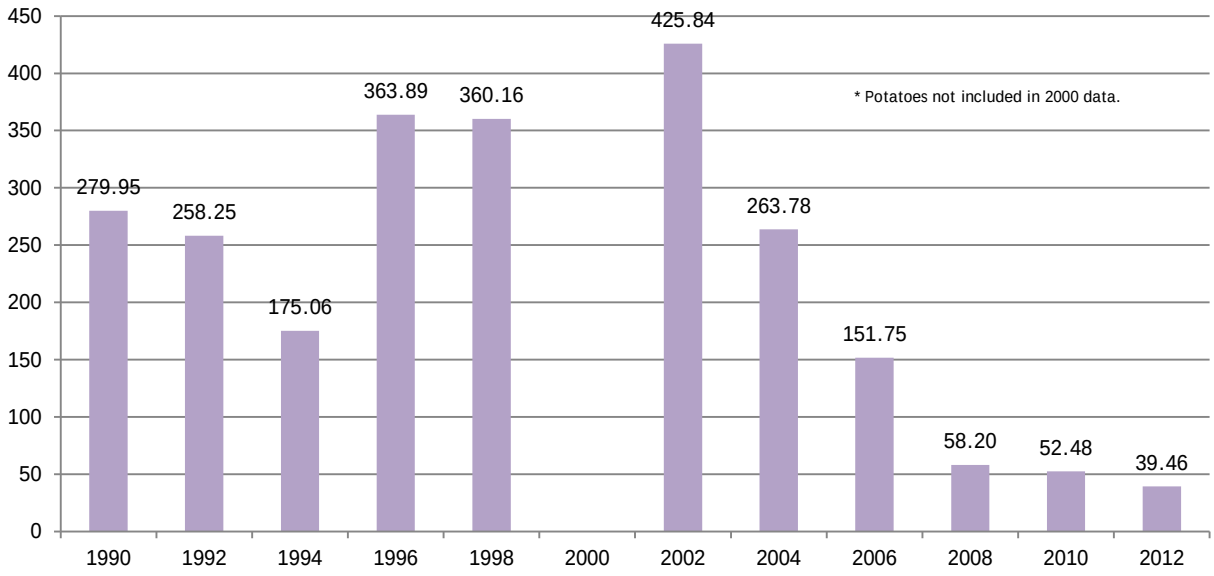
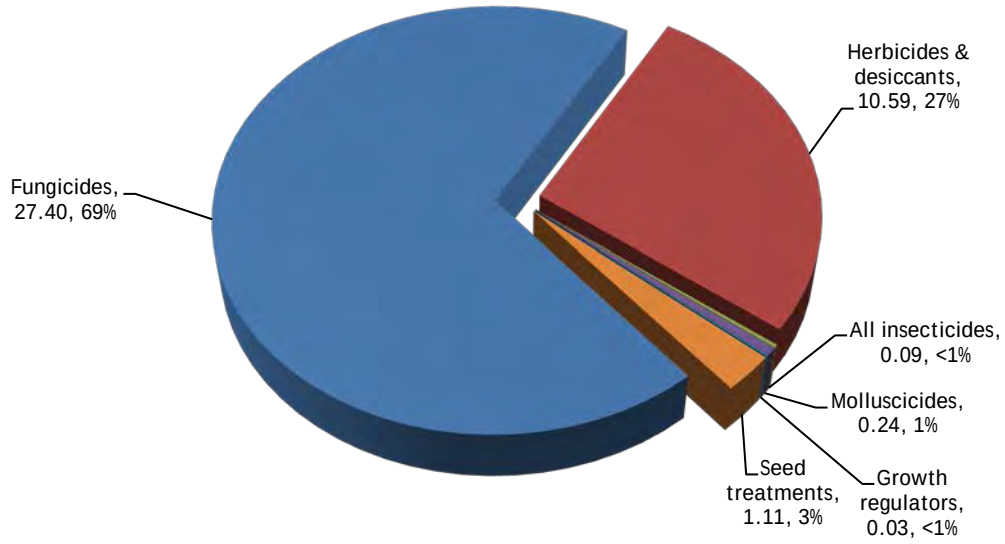


Figure 25: Weight of pesticides (tonnes) applied to potato crops in Northern Ireland,



Pesticide usage on spring barley:

· 19,702 hectares of spring barley grown in Northern Ireland

· 138,523 treated hectares

· 39,826 kilogrammes applied

· 99% of the area of spring barley crops grown received a pesticide treatment

· Spring barley received on average 2.32 fungicide, 2.61 herbicide, 1.32 growth regulator and 1.09 insecticide applications

Figure 26: Comparison of the areas of spring barley crops grown in Northern Ireland (ha), 1990 - 2012.

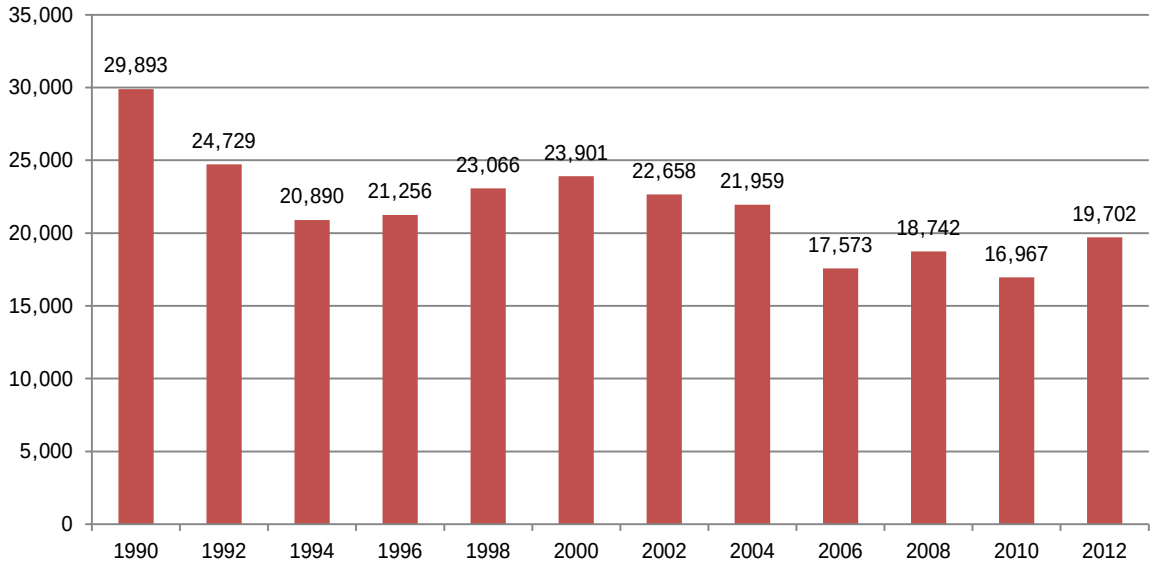


Figure 27: Regional distribution of spring barley crops grown in Northern Ireland (ha), 2012.

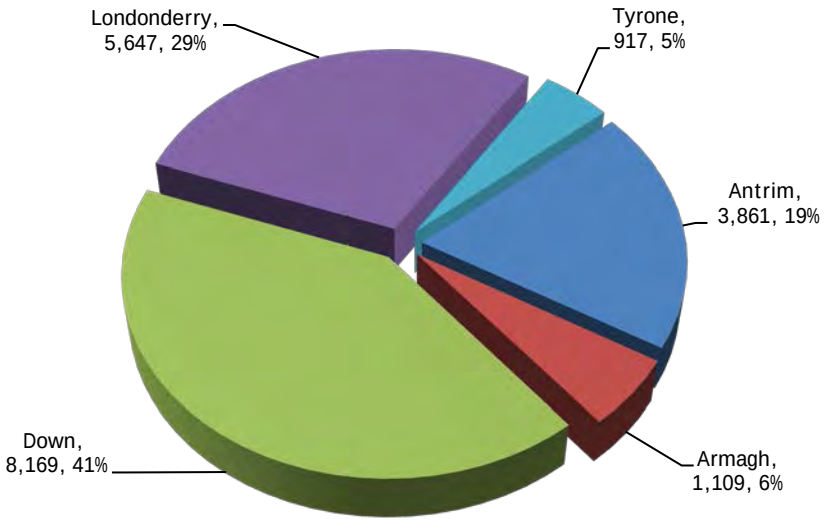


Figure 28: Pesticide usage (spha) on spring barley crops in Northern Ireland, 2012.

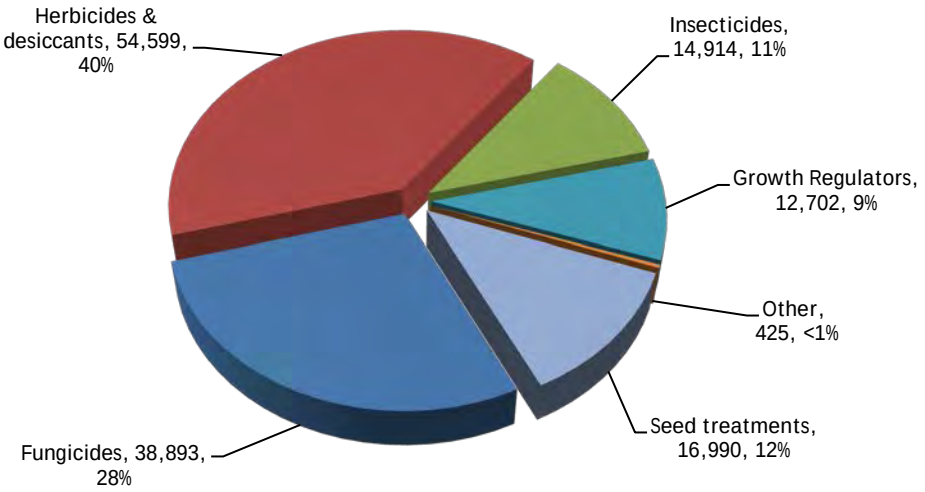


Figure 29: Weight of pesticides (kg) applied to spring barley crops in Northern Ireland, 2012.

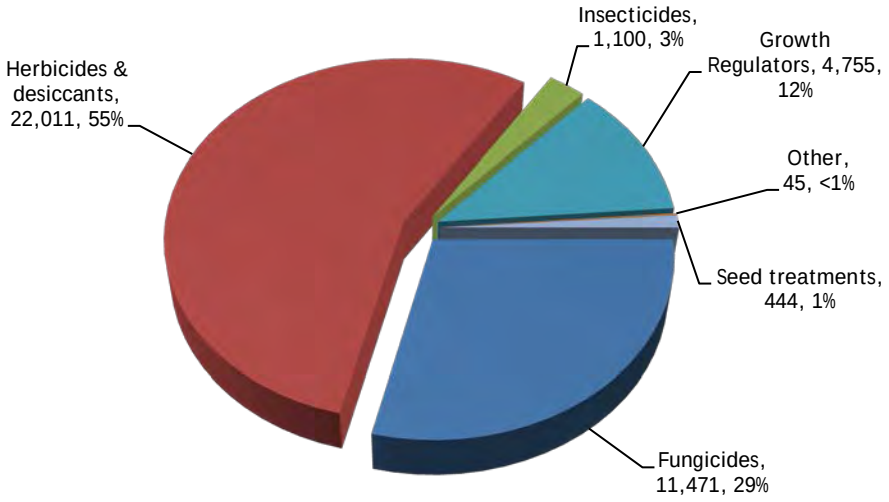
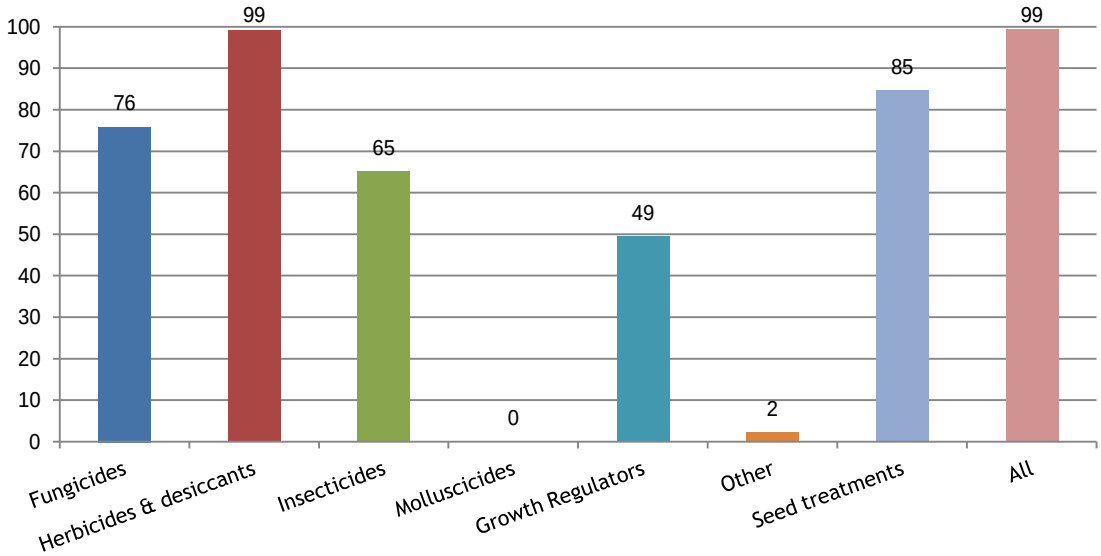


Figure 30: Proportional area (%) of spring barley crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – spring barley

· Basic area treated: 14,942 hectares

· Area treated: 38,893 spray hectares

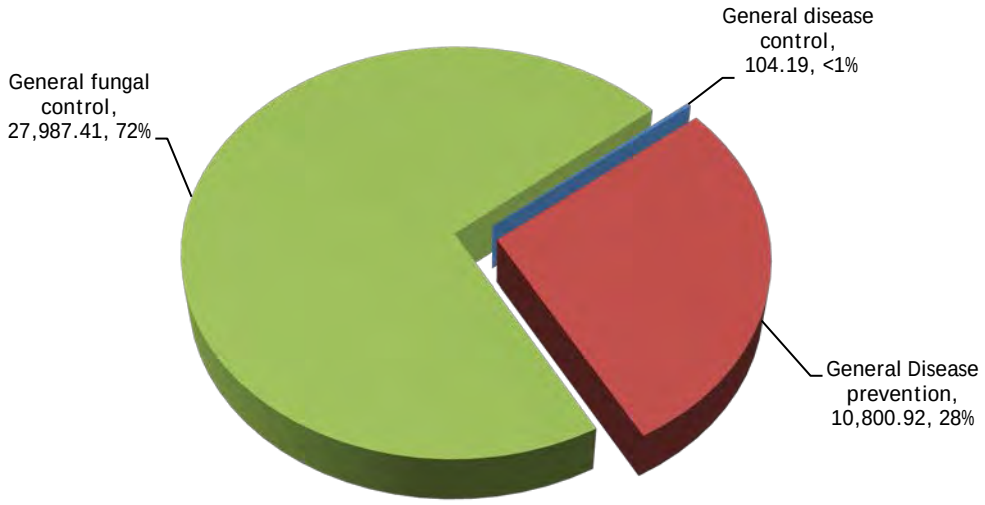
· Weight of active substances applied: 11,471 kilogrammes

· 76% of the area grown treated with fungicides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kgs)	% of the treated area
Chlorothalonil	7,594.94	6,419.14	3,760.15	19.53
Fluoxastrobin/prothioconazole	3,591.81	3,168.49	597.74	9.24
Prothioconazole/trifloxystrobin	3,412.52	2,947.73	595.30	8.77
Cyprodinil/isopyrazam	3,067.79	2,168.06	1,078.35	7.89
Prothioconazole	2,246.25	1,699.45	241.40	5.78

Figure 31: Spring barley: reasons for fungicide use (spha), 2012.



Herbicide & desiccants – spring barley

· Basic area treated: 19,517 hectares

· Area treated: 54,599 spray hectares

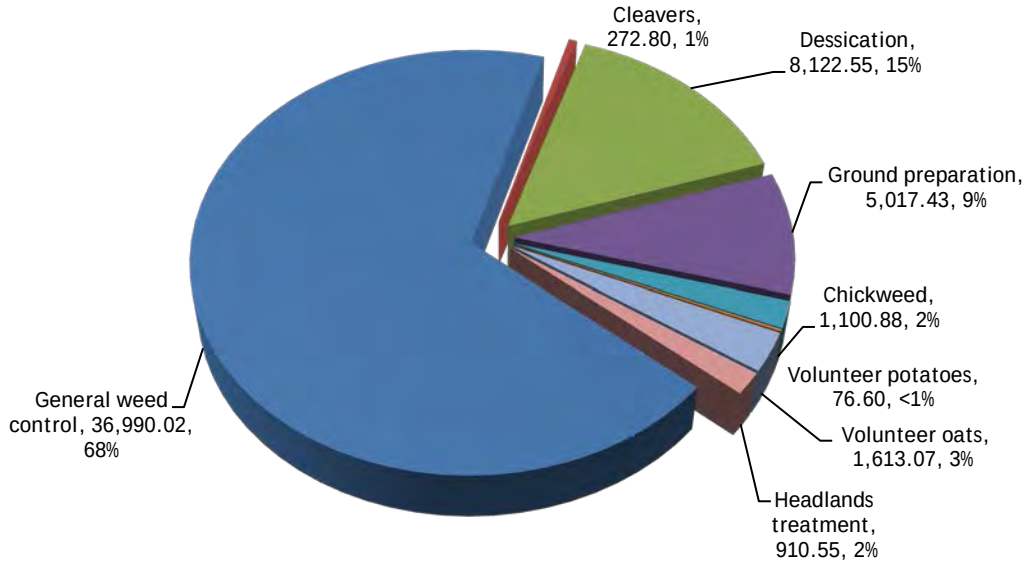
· Weight of active substances applied: 22,011 kilogrammes

· 99% of the area grown treated with herbicides & desiccants

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Glyphosate	14,957.87	12,657.54	10,042.61	27.40
Mecoprop-P	7,987.61	7,833.31	7,959.66	14.63
Fluroxypyr	6,069.37	6,057.48	796.43	11.12
Metsulfuron-methyl/tribenuron-methyl	5,938.78	5,911.23	63.22	10.88
Metsulfuron-methyl	5,091.25	5,091.25	32.21	9.32

Figure 32: Spring barley: reasons for herbicide & desiccant use (spha), 2012.



Insecticides – spring barley

· Basic area treated: 12,835 hectares

· Area treated: 14,914 spray hectares

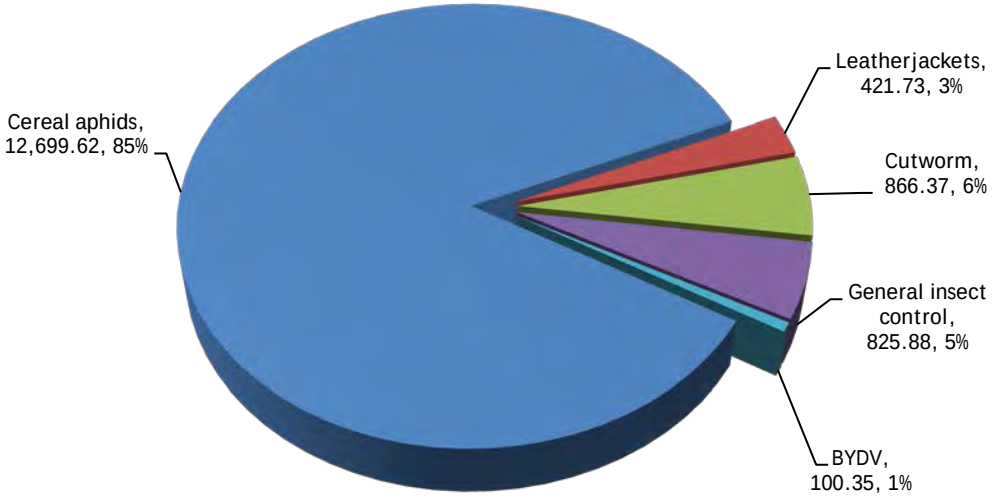
· Weight of active substances applied: 1,100 kilogrammes

· 65% of the area grown treated with insecticides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Esfenvalerate	7,612.70	6,478.07	31.03	51.04
Lambda-cyhalothrin	3,755.41	3,515.11	23.98	25.18
Chlorpyrifos	1,774.01	1,774.01	1,010.97	11.89
Cypermethrin	1,198.56	841.80	28.05	8.04
Deltamethrin	226.42	187.85	0.94	1.52

Figure 33: Spring barley: reasons for insecticide use (spha), 2012.



Growth regulators – spring barley

· Basic area treated: 9,746 hectares

· Area treated: 12,702 spray hectares

· Weight of active substances applied: 4,755 kilogrammes

· 49% of the area grown treated with growth regulators

· All reasons for use were given as growth regulation

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Trinexapac-ethyl	5,451.20	4,772.43	302.66	42.92
Chlormequat	4,894.23	4,773.81	3,743.95	38.53
2-chloroethylphosphonic acid	2,097.32	2,097.32	329.98	16.51
Chlormequat with choline chloride	221.87	221.87	357.76	1.75
Chlormequat/2-chloroethylphosphonic acid	37.63	37.63	20.32	0.30

Seed treatments – spring barley

· Area treated: 16,684 hectares

· Weight of active substances applied: 444 kilogrammes

· 85% of the area grown was sown with treated seed

· The most commonly applied active substances were:

	Treated area (ha)	Quantity applied (kgs)	% of the treated area
Fludioxonil	6,547.78	58.85	38.54
Prochloraz/triticonazole	6,402.78	205.77	37.69
Fludioxonil/flutriafol	2,107.30	34.34	12.40
Unknown seed treatment	476.53	.	2.80
Carboxin/thiram	386.71	83.57	2.28

Pesticide usage on undersown barley:

· 508 hectares of undersown barley grown in Northern Ireland

· 1,382 treated hectares

· 592 kilogrammes applied

· 100% of the area of undersown barley crops grown received a pesticide treatment

· Spring barley received on average 1.45 fungicide, 1.17 herbicide, 1 insecticide and 1 growth regulator applications

Figure 34: Comparison of the areas of undersown barley crops grown in Northern Ireland (ha), 1990 - 2012.

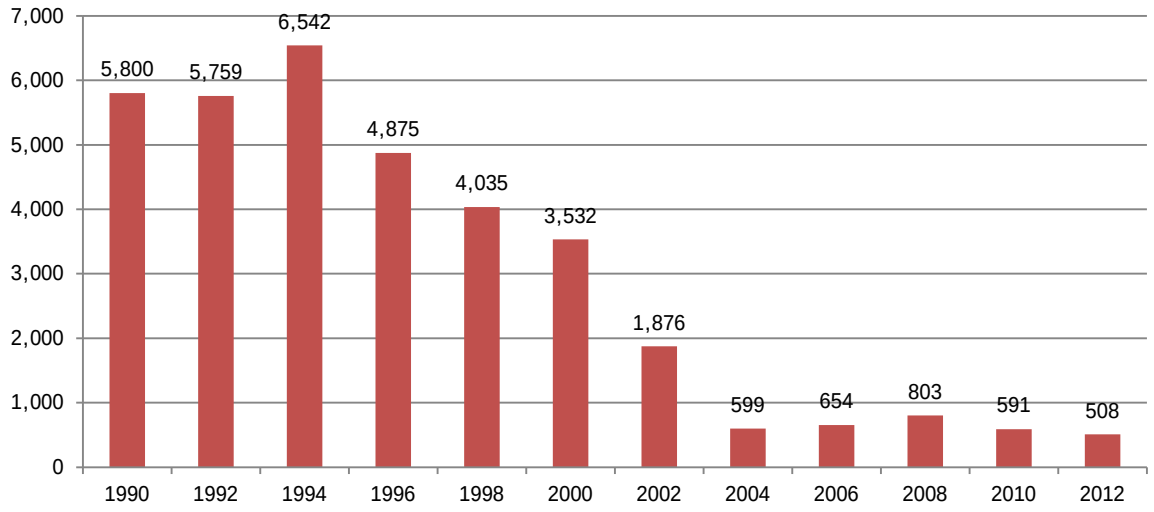


Figure 35: Regional distribution of undersown barley crops grown in Northern Ireland (ha), 2012.

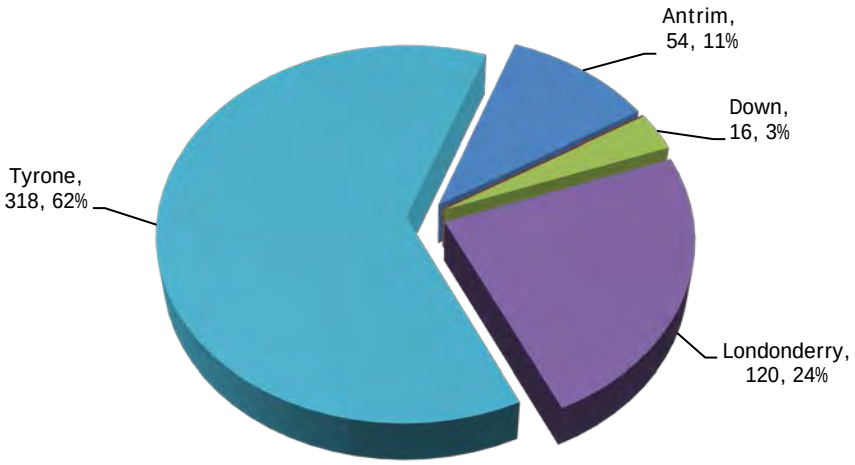


Figure 36: Pesticide usage (spha) on undersown barley crops in Northern Ireland, 2012.

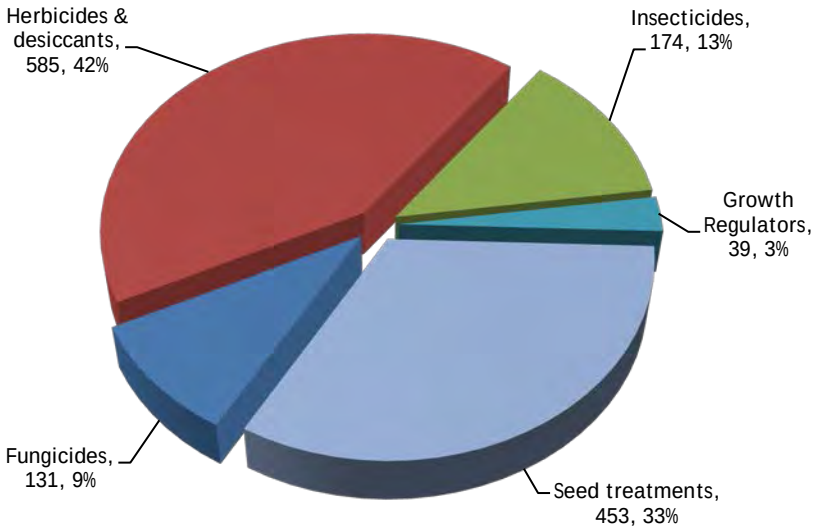


Figure 37: Weight of pesticides (kg) applied to undersown barley crops in Northern Ireland, 2012.

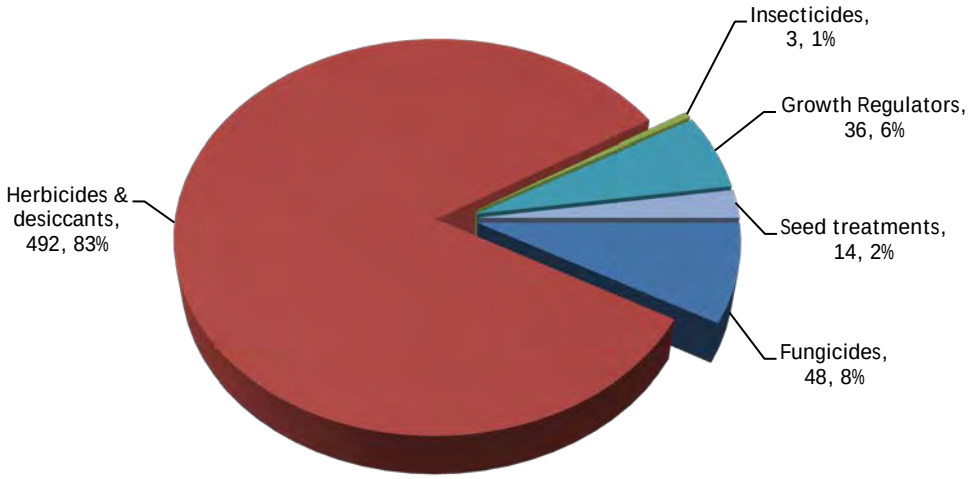
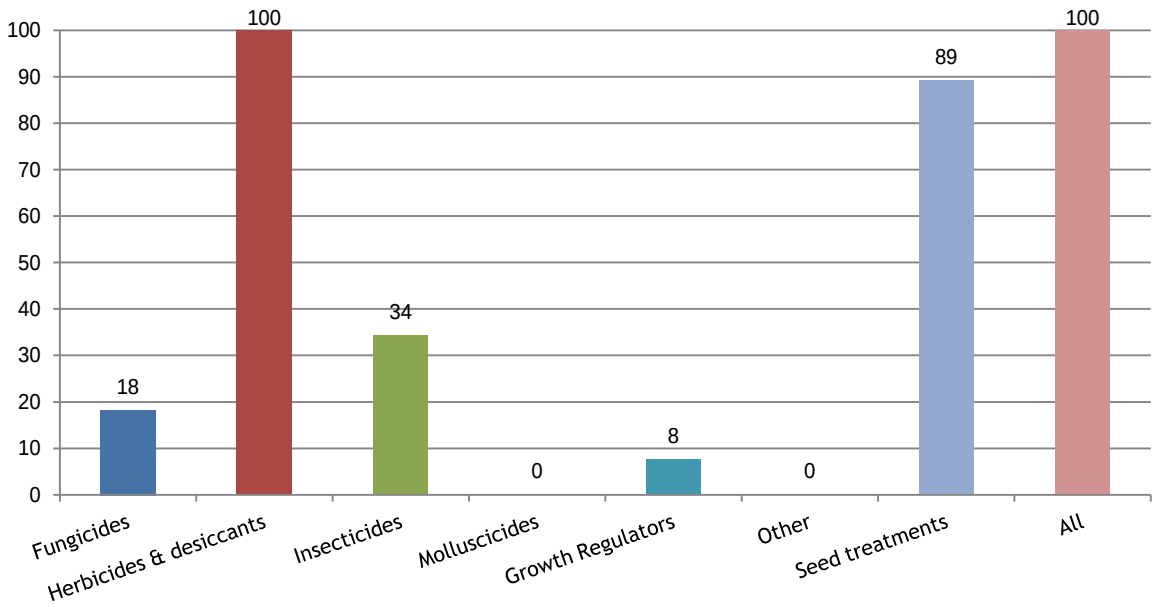


Figure 38: Proportional area (%) of undersown barley crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – undersown barley

· Basic area treated: 93 hectares

· Area treated: 131 spray hectares

· Weight of active substances applied: 48 kilogrammes

· 18% of the area grown were treated with fungicide

· All applications were for disease prevention

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Boscalid/epoxiconazole	53.95	53.95	18.99	41.07
Chlorothalonil	38.70	38.70	19.35	29.46
Prothioconazole/tebuconazole	38.70	38.70	9.68	29.46

Herbicides & desiccants – undersown barley

· Basic area treated: 508 hectares

· Area treated: 585 spray hectares

· Weight of active substances applied: 492 kilogrammes

· 100% of the area grown treated with herbicides & desiccants

· All applications were for general weed control

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
2,4-DB/linuron/MCPA	453.63	453.63	444.56	77.55
Tribenuron-methyl	76.87	76.87	0.38	13.14
2,4-DB	38.17	38.17	34.35	6.53
Mecoprop-P	16.29	16.29	12.22	2.78

Insecticides – undersown barley

· Basic area treated: 174 hectares

· Area treated: 174 spray hectares

· Weight of active substances applied: 3 kilogrammes

· 34% of the area grown treated with insecticides

· All applications were to control aphids

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kgs)	% of the treated area
Esfenvalerate	97.15	97.15	0.35	55.83
Cypermethrin	38.70	38.70	0.63	22.24
Lambda-cyhalothrin	38.17	38.17	1.91	21.93

Growth regulators – undersown barley

· Basic area treated: 39 hectares

· Area treated: 39 spray hectares

· Weight of active substances applied: 36 kilogrammes

· 8% of the area grown treated with growth regulators

· All reasons for use were given as growth regulation

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Chlormequat	38.70	38.70	35.85	100.00

Seed treatments – undersown barley

· Area treated: 453 hectares

· Weight of active substances applied: 14 kilogrammes

· 89% of the area grown was sown with treated seed

· The most commonly applied active substances were:

	Treated area (ha)	Quantity applied (kgs)	% of the treated area
Prochloraz/triticonazole	453.10	13.52	100

Pesticide usage on winter barley:

· 5,323 hectares of winter barley grown in Northern Ireland

· 46,642 treated hectares

· 17,056 kilogrammes applied

· 100% of the area of winter barley crops grown received a pesticide treatment

· Winter barley received on average 3.44 fungicide, 2.47 herbicide, 1.47 growth regulator, 1.25 insecticide and 1 molluscide applications.

Figure 39: Comparison of the areas of winter barley crops grown in Northern Ireland (ha), 1990 - 2012.

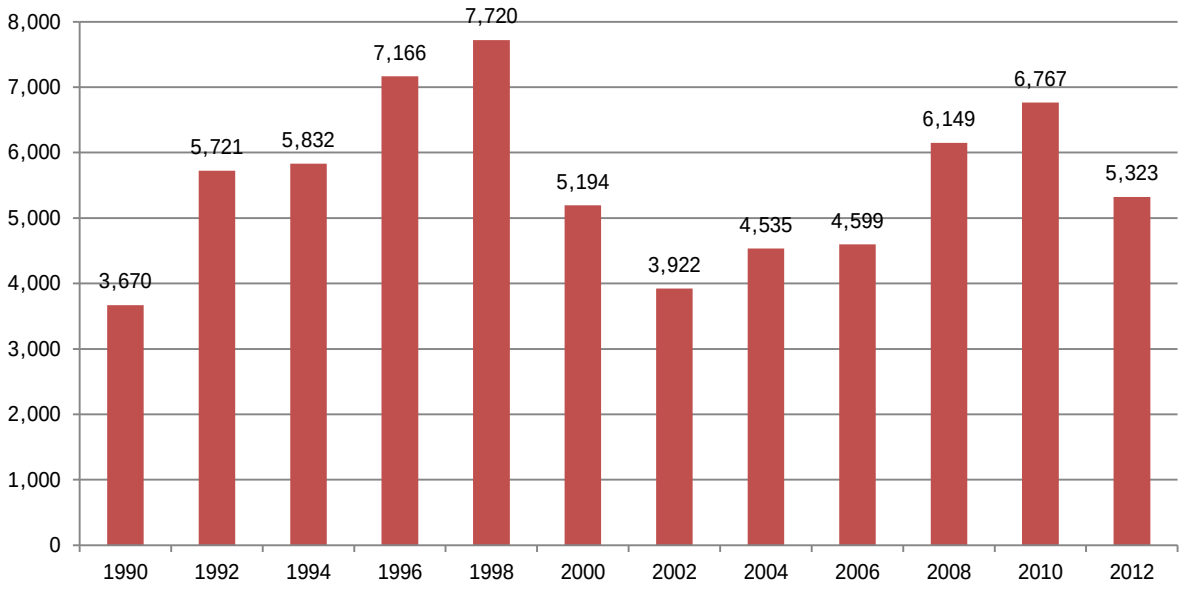


Figure 40: Regional distribution of winter barley crops grown in Northern Ireland (ha), 2012.

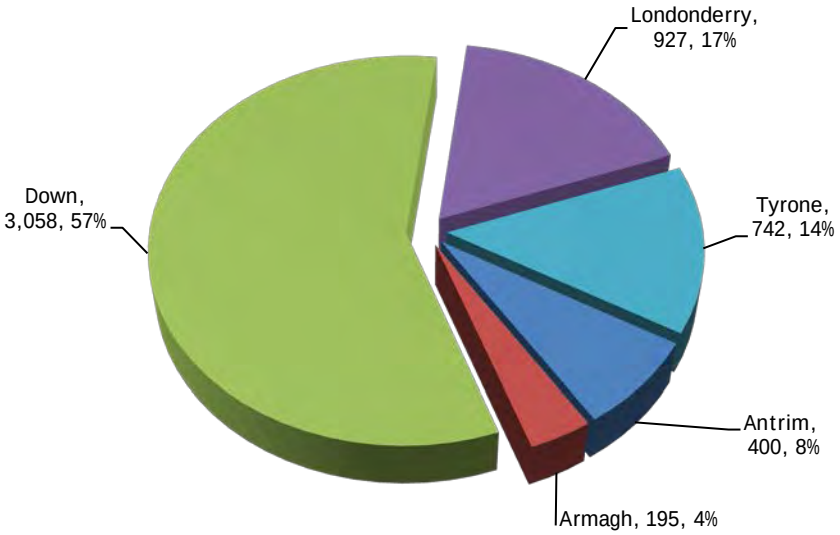


Figure 41: Pesticide usage (spha) on winter barley crops in Northern Ireland, 2012.

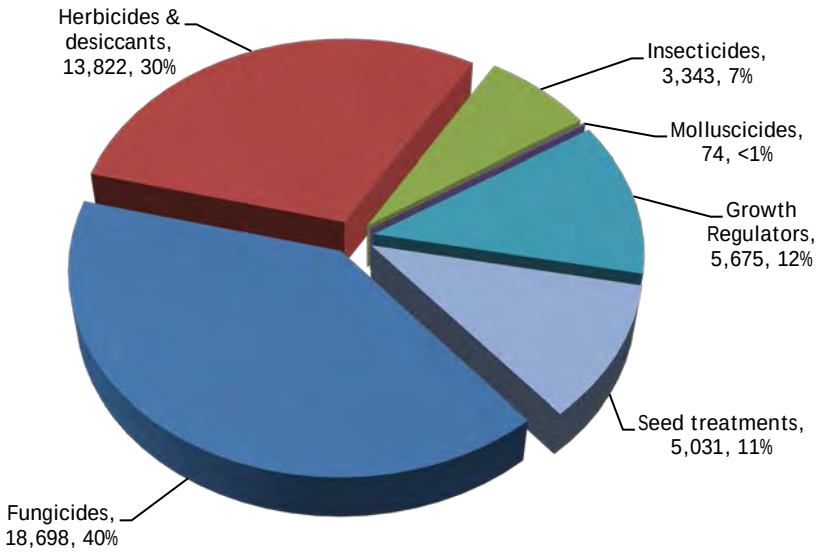


Figure 42: Weight of pesticides (kg) applied to winter barley crops in Northern Ireland, 2012.

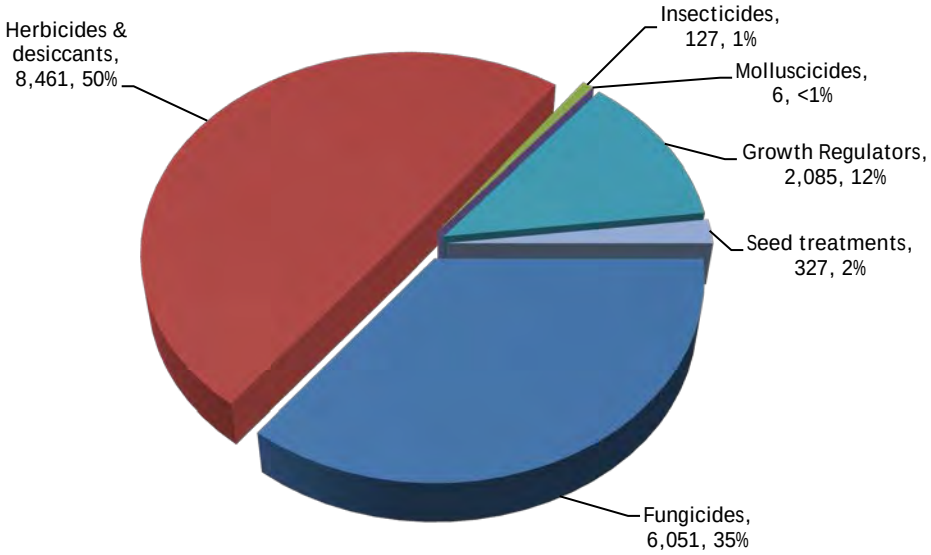
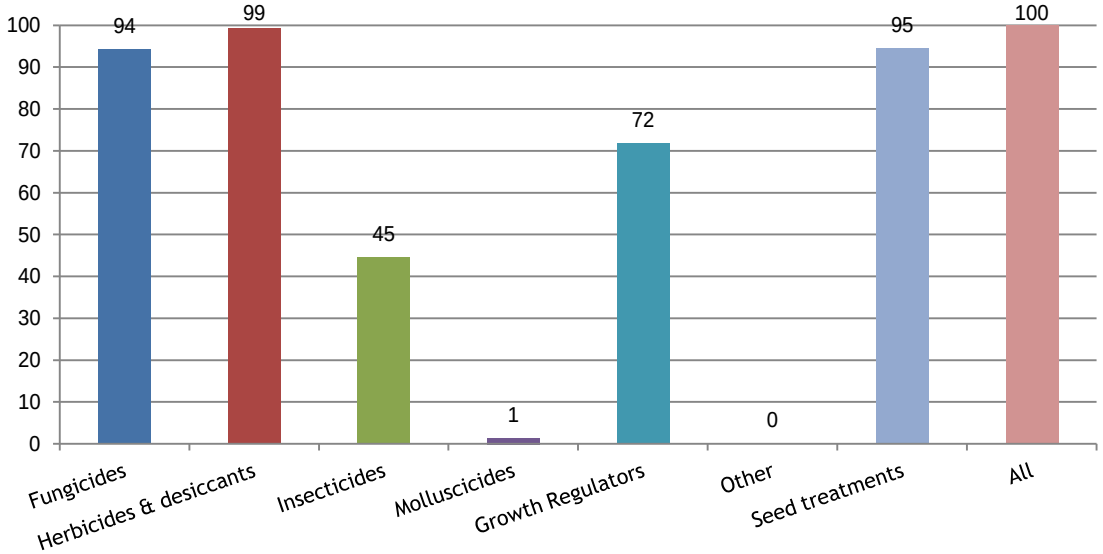


Figure 43: Proportional area (%) of winter barley crops treated with each pesticide group in Northern Ireland. 2012.



Fungicides – winter barley

· Basic area treated: 5,017 hectares

· Area treated: 18,698 spray hectares

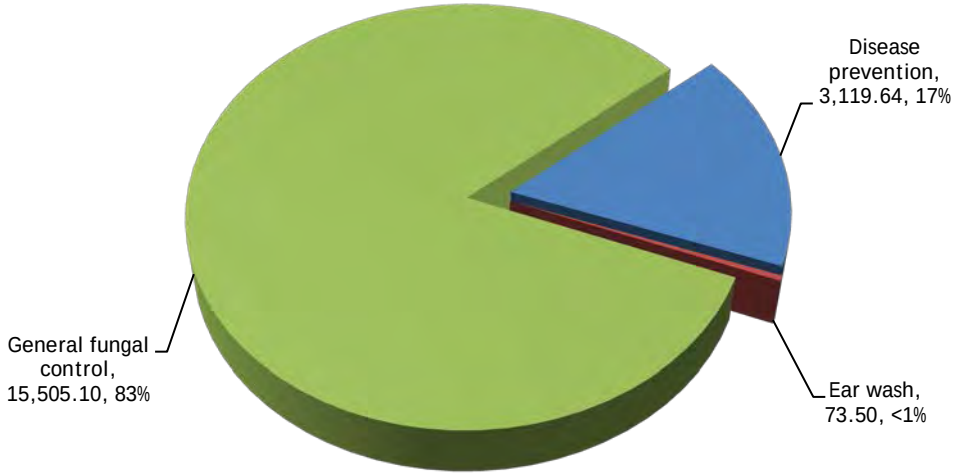
· Weight of active substances applied: 6,051 kilogrammes

· 94% of the area grown treated with fungicides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Chlorothalonil	3,676.38	2,752.64	1,757.02	19.66
Cyprodinil/isopyrazam	2,343.49	1,434.76	824.43	12.53
Prothioconazole	1,385.59	1,061.54	199.31	7.41
Prothioconazole/trifloxystrobin	1,280.05	979.40	216.19	6.85
Chlorothalonil/picoxystrobin	1,220.41	789.53	892.90	6.53

Figure 44: Winter barley: reasons for fungicide use (spha), 2012.



Herbicides & desiccants – winter barley

· Basic area treated: 5,280 hectares

· Area treated: 13,822 spray hectares

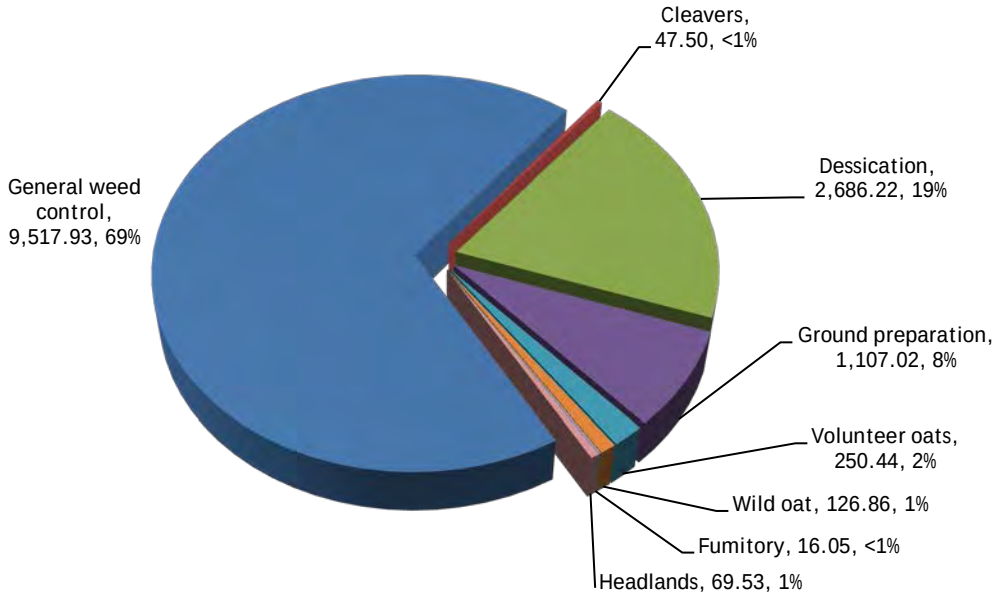
· Weight of active substances applied: 8,461 kilogrammes

· 99% of the area grown treated with herbicides & desiccants

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Glyphosate	3,820.26	3,279.99	2,548.07	27.64
Diflufenican	1,313.45	1,313.45	113.76	9.50
Mecoprop-P	1,010.04	889.60	930.49	7.31
Flufenacet/pendimethalin	951.80	951.80	947.83	6.89
Chlorotoluron/diflufenican	730.45	730.45	1,388.30	5.28

Figure 45: Winter barley: reasons for herbicide & desiccant use (spha), 2012.



Insecticides - winter barley

· Basic area treated: 2,374 hectares

· Area treated: 3,343 spray hectares

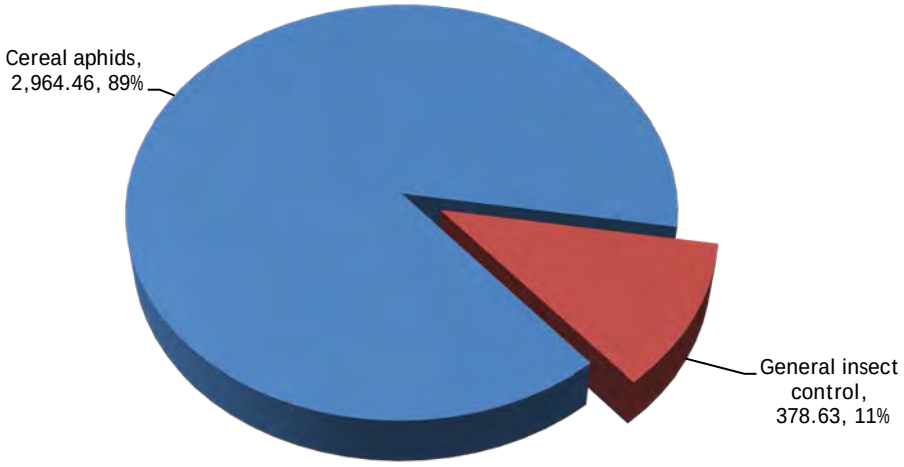
· Weight of active substances applied: 127 kilogrammes

· 45% of the area sown treated with insecticides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Esfenvalerate	1,542.35	1,208.95	5.99	46.14
Lambda-cyhalothrin	891.04	807.65	4.31	26.65
Cypermethrin	612.89	231.24	13.54	18.33
Chlorpyrifos	153.66	153.66	102.69	4.60
Deltamethrin	118.36	118.36	0.38	3.54

Figure 46: Winter barley: reasons for insecticide use (spha), 2012.



Molluscicides - winter barley

· Basic area treated: 74 hectares

· Area treated: 74 spray hectares

· Weight of active substances applied: 6 kilogrammes

· 1% of the area grown treated with molluscicides

· All applications were to control slugs

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Methiocarb	73.50	73.50	5.51	100

Growth regulators - winter barley

· Basic area treated: 3,817 hectares

· Area treated: 5,675 spray hectares

· Weight of active substances applied: 2,085 kilogrammes

· 72% of area grown treated with growth regulators

· All applications were for growth regulation

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Trinexapac-ethyl	3,120.55	2,782.77	183.71	54.99
Chlormequat	1,257.59	1,257.59	1,412.76	22.16
2-chloroethylphosphonic acid	1,004.44	1,004.44	255.76	17.70
Chlormequat with choline chloride	133.72	133.72	176.81	2.36
Mepiquat chloride/Prohexadione-calcium	104.30	104.30	18.25	1.84

Seed treatments – winter barley

· Area treated: 5,031 hectares

· Weight of active substances applied: 327 kilogrammes

· 95% of the area grown was sown with treated seed

· The most commonly applied active substances were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Clothianidin/prothioconazole	2,901.03	271.33	57.66
Prochloraz/triticonazole	1,000.36	26.76	19.88
Fludioxonil/flutriafol	835.49	12.88	16.61
Prothioconazole	173.21	3.05	3.44
Imidacloprid/tebuconazole/triazoxide	73.50	4.73	1.46

Pesticide usage on spring wheat:

· 1,500 hectares of spring wheat grown in Northern Ireland

· 12,656 treated hectares

· 4,682 kilogrammes applied

· 100% of the area of spring wheat crops grown received a pesticide treatment

· Spring wheat received on average 2.86 fungicide, 2.84 herbicide, 1.03 growth regulator, 1.39 insecticide and 1 molluscicide applications.

Figure 47: Comparison of the areas of spring wheat crops grown in Northern Ireland (ha), 1990 - 2012.

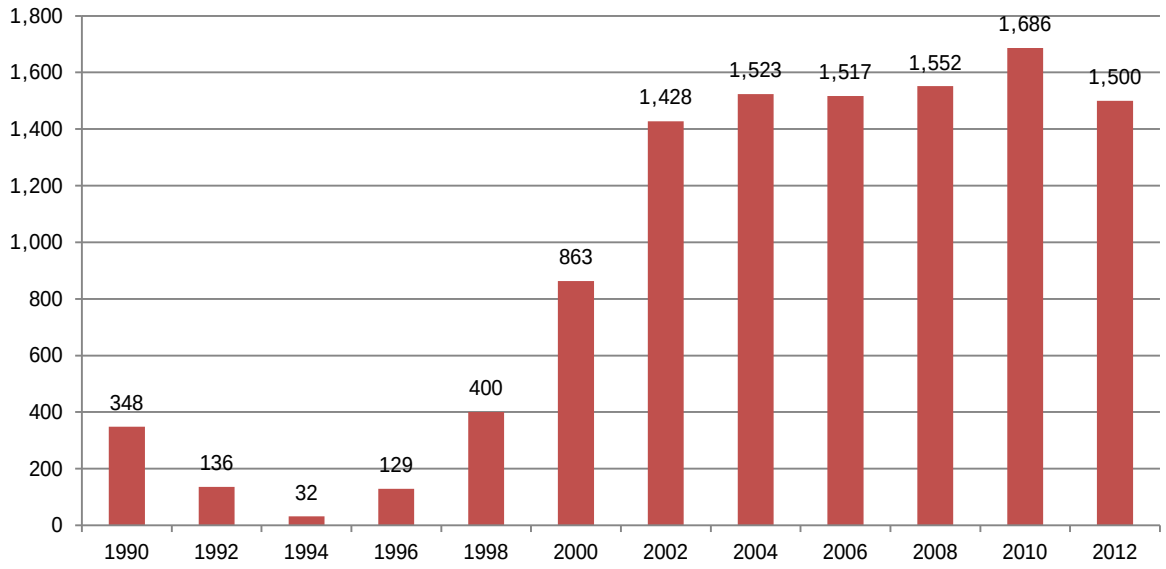


Figure 48: Regional distribution of spring wheat crops grown in Northern Ireland (ha), 2012.

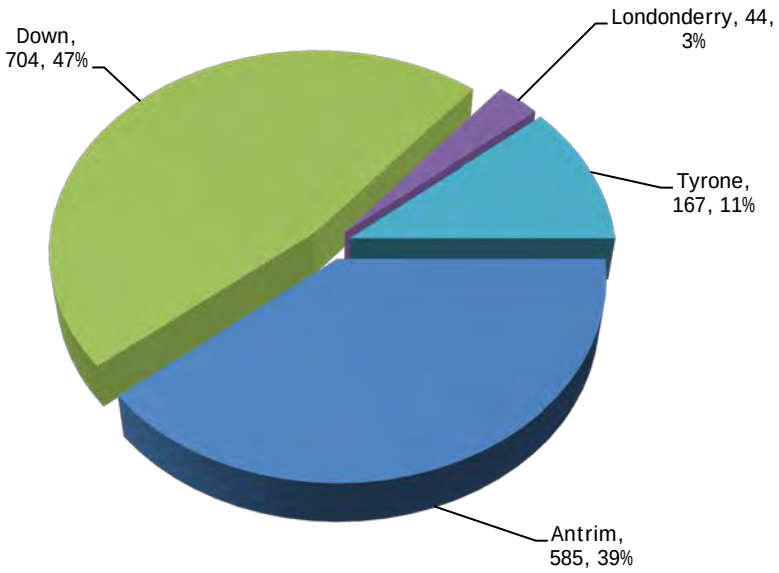


Figure 49: Pesticide usage (spha) on spring wheat crops in Northern Ireland, 2012.

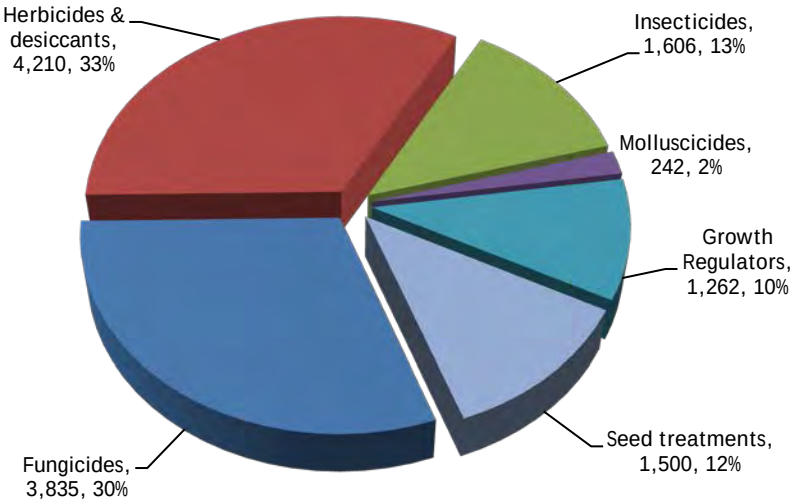


Figure 50: Weight of pesticides (kg) applied to spring wheat crops in Northern Ireland, 2012.

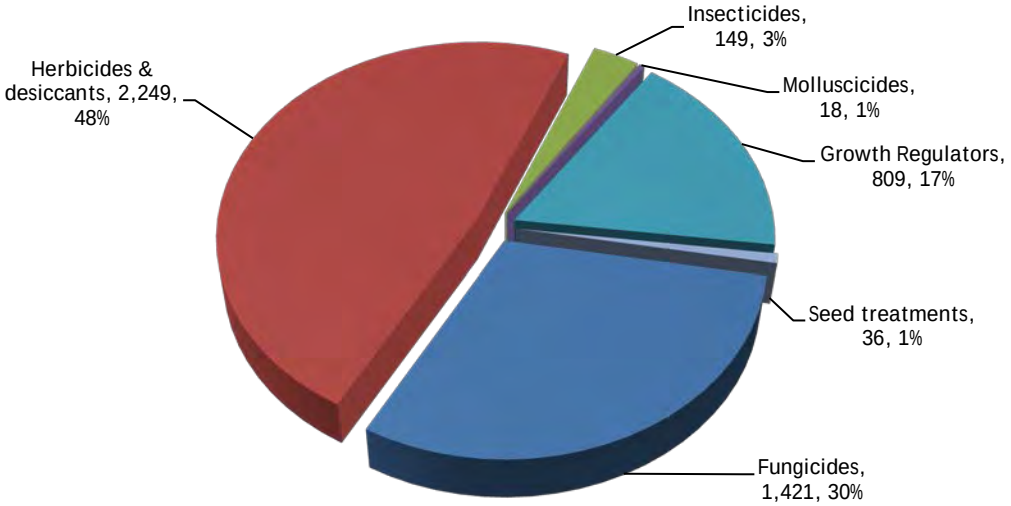
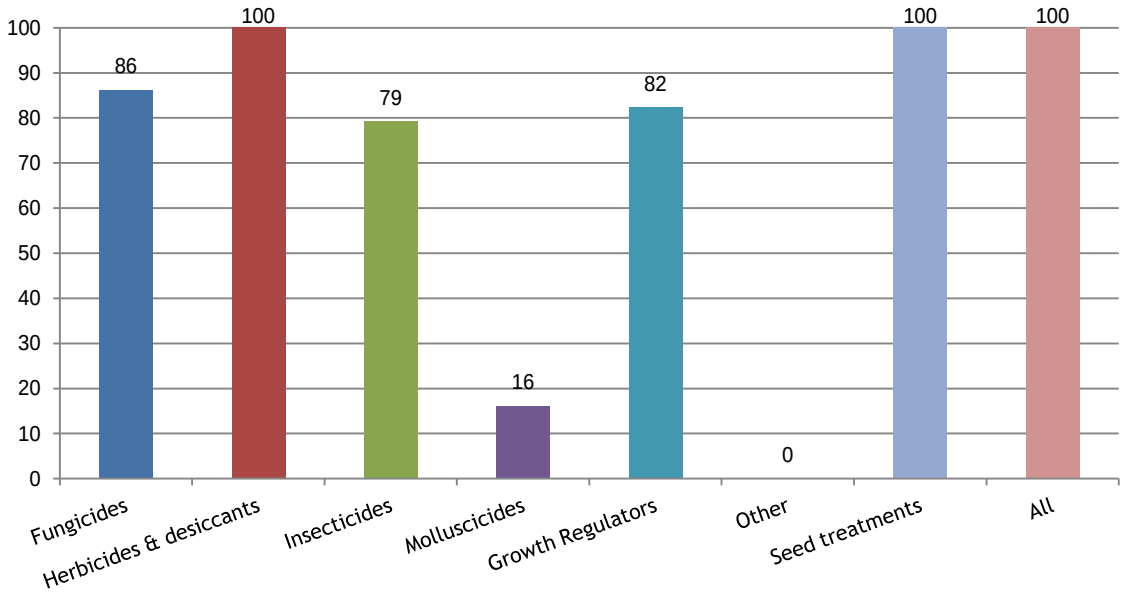


Figure 51: Proportional area (%) of spring wheat crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – spring wheat

· Basic area treated: 1,293 hectares

· Area treated: 3,835 spray hectares

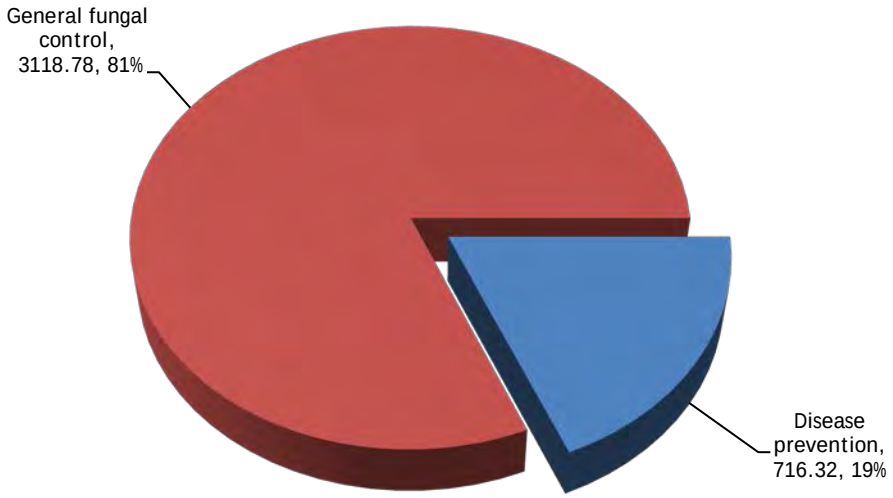
· Weight of active substances applied: 1,421 kilogrammes

· 86% of the area grown treated with fungicides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Chlorothalonil	567.45	482.35	291.66	14.80
Azoxystrobin/chlorothalonil	491.95	296.95	529.17	12.83
Epoxiconazole/metconazole	474.10	279.60	50.33	12.36
Tebuconazole	325.93	325.93	58.35	8.50
Epoxiconazole	293.23	293.23	26.85	7.65

Figure 52: Spring wheat: reasons for fungicide use (spha), 2012.



Herbicides & desiccants – spring wheat

· Basic area treated: 1,500 hectares

· Area treated: 4,210 spray hectares

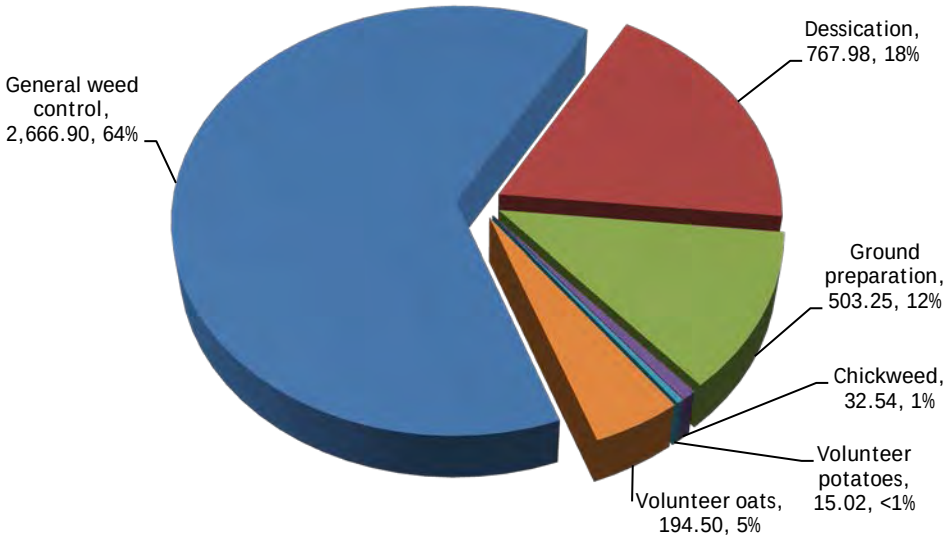
· Weight of active substances applied: 2,249 kilogrammes

· 100% of the area grown treated with herbicides & desiccants

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Glyphosate	1,301.27	1,109.02	956.53	30.91
Mecoprop-P	821.96	816.26	861.19	19.52
Metsulfuron-methyl/tribenuron-methyl	520.06	520.06	5.77	12.35
Fluroxypyr	407.93	407.93	54.10	9.69
Bromoxynil/ioxynil	245.07	245.07	34.07	5.82

Figure 53: Spring wheat: reasons for herbicide & desiccant use (spha), 2012.



Insecticides – spring wheat

· Basic area treated: 1,188 hectares

· Area treated: 1,606 spray hectares

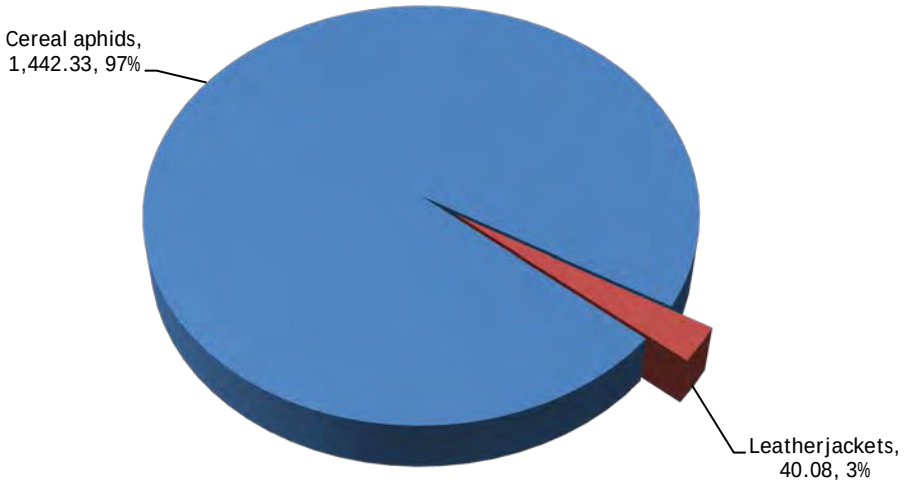
· Weight of active substances applied: 149 kilogrammes

· 79% of the area grown treated with insecticides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Esfenvalerate	825.48	707.19	3.85	51.41
Dimethoate	264.58	264.58	84.67	16.48
Deltamethrin	242.19	242.19	2.62	15.08
Lambda-cyhalothrin	175.65	169.96	0.88	10.94
Chlorpyrifos	97.81	68.94	56.57	6.09

Figure 54: Spring wheat: reasons for insecticide use (spha), 2012.



Molluscicides – spring wheat

· Basic area treated: 242 hectares

· Area treated: 242 spray hectares

· Weight of active substances applied: 18 kilogrammes

· 16% of the area grown treated with molluscicides

· All applications were to control slugs

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Methiocarb	242.19	242.19	18.16	100

Growth regulators – spring wheat

· Basic area treated: 1,234 hectares

· Area treated: 1,262 spray hectares

· Weight of active substances applied: 809 kilogrammes

· 82% of the area grown treated with growth regulators

· All applications were for growth regulation

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Chlormequat	1233.55	1233.55	807.16	97.71
Trinexapac-ethyl	28.86	28.86	1.44	2.29

Seed treatments – spring wheat

· Area treated: 1,500 hectares

· Weight of active substances applied: 36 kilogrammes

· 100% of the area grown was sown with treated seed

· The active substances applied were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Fludioxonil	1,160.49	10.68	77.36
Prochloraz/triticonazole	237.09	6.88	15.80
Carboxin/thiram	70.08	14.53	4.67
Clothianidin/prothioconazole	32.54	4.14	2.17

Pesticide usage on undersown wheat:

· 48 hectares of undersown wheat grown in Northern Ireland

· 96 treated hectares

· 0.42 kilogrammes applied

· 100% of the area of undersown wheat crops grown received a pesticide treatment

· Undersown wheat received on average 1.0 herbicide application.

Figure 55: Comparison of the areas of undersown wheat crops grown in Northern Ireland (ha), 1990 – 2012.

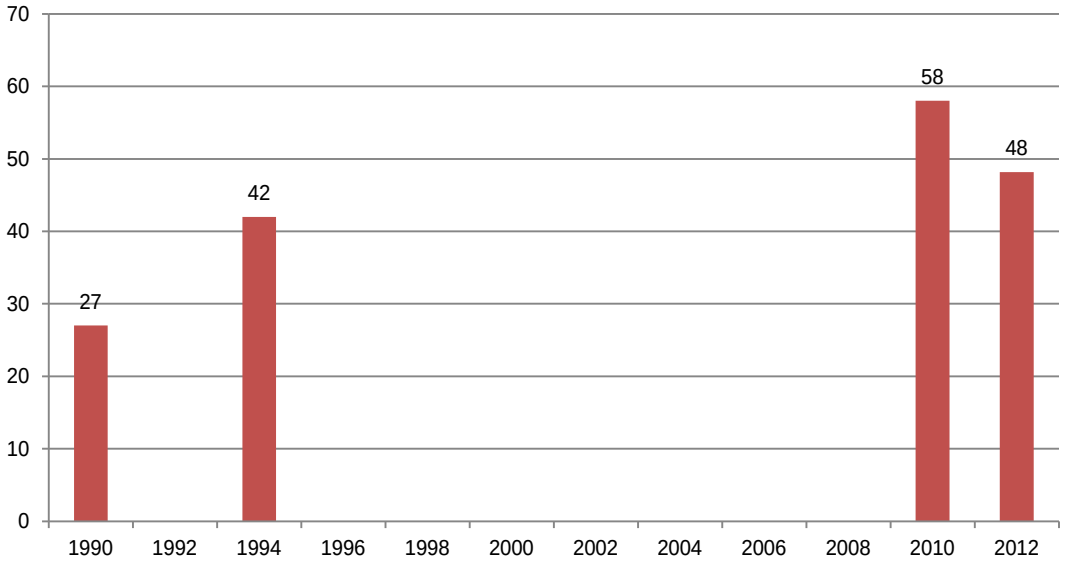


Figure 56: Regional distribution of undersown wheat crops grown in Northern Ireland (ha), 2010.

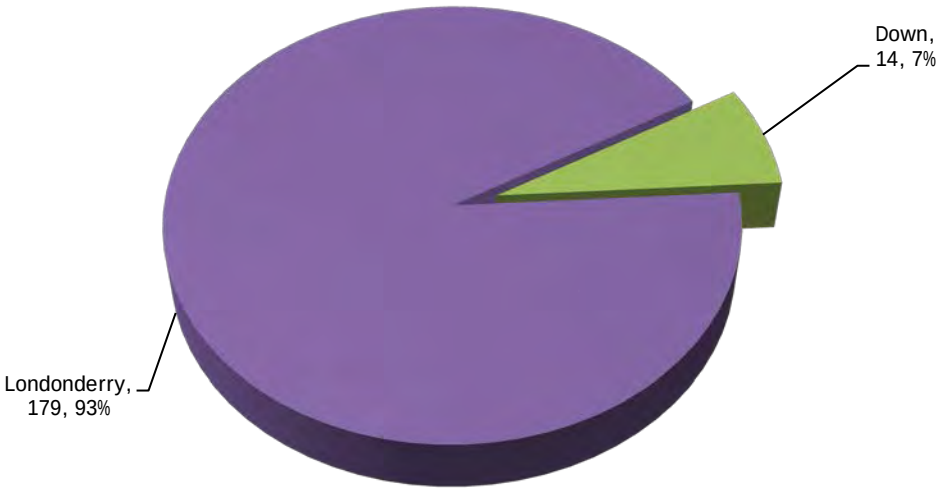


Figure 57: Pesticide usage (spha) on undersown wheat crops in Northern Ireland, 2012.

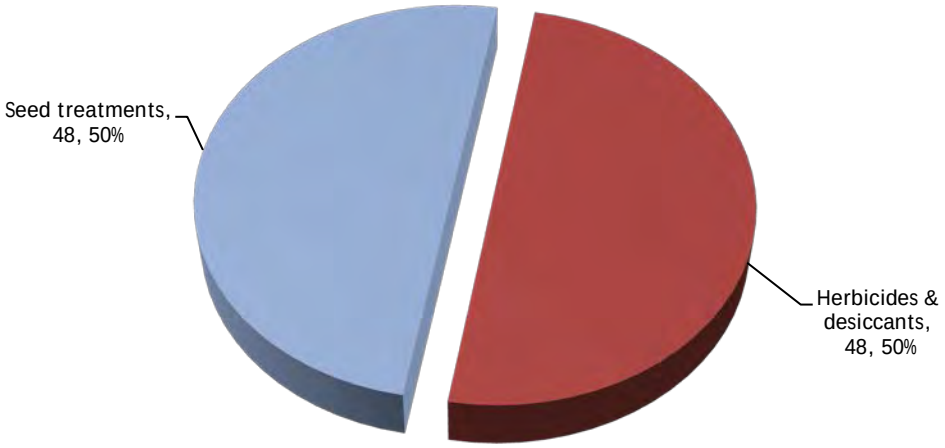


Figure 58: Weight of pesticides (kg) applied to undersown wheat crops in Northern Ireland, 2012.

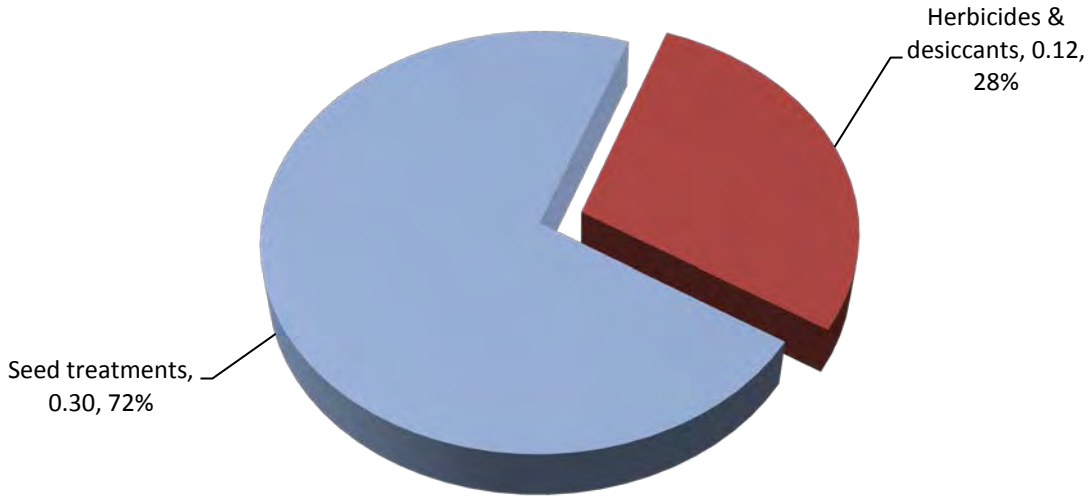
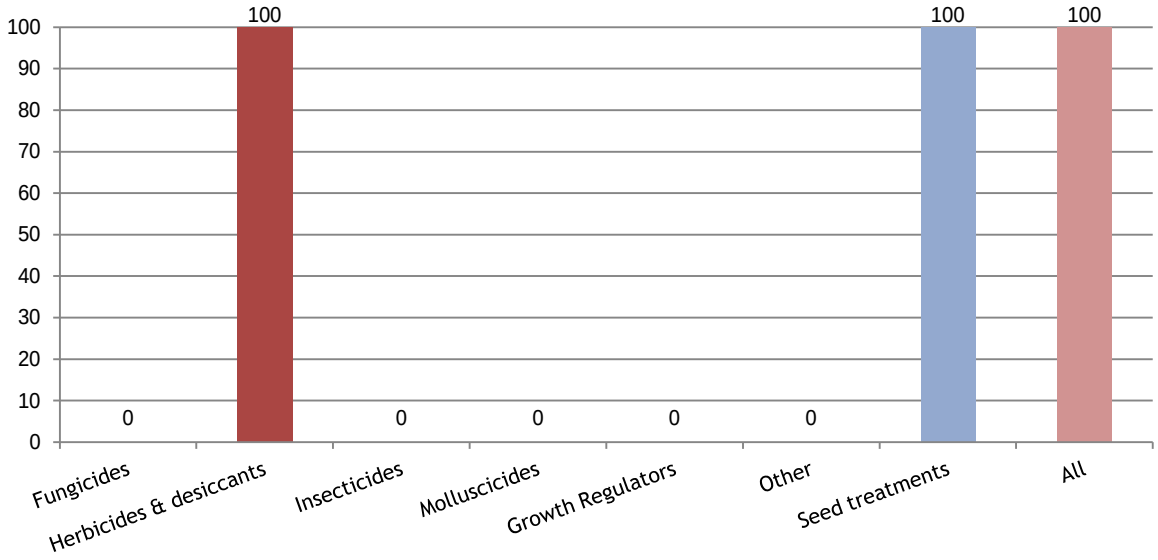


Figure 59: Proportional area (%) of undersown wheat crops treated with each pesticide group in Northern Ireland, 2012.



Herbicides & desiccants – undersown wheat

· Basic area treated: 48 hectares

· Area treated: 148 spray hectares

· Weight of active substances applied: 0.12 kilogrammes

· 100% of the area grown treated with herbicides & desiccants

· All applications were for general weed control

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Tribenuron-methyl	48.19	48.19	0.12	100.00

Seed treatments – undersown wheat

· Area treated: 48 hectares

· Weight of active substances applied: 0.30 kilogrammes

· 100% of the area grown was sown with treated seed

· The only active substance applied was:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Fludioxonil	48.19	0.30	100

Pesticide usage on winter wheat:

· 7,846 hectares of winter wheat grown in Northern Ireland

· 87,110 treated hectares

· 26,535 kilogrammes applied

· 100% of the area of winter wheat crops grown received a pesticide treatment

· Winter wheat received on average 4.63 fungicide, 2.54 herbicide, 1.47 insecticide, 1 molluscicide and 1.56 growth regulator applications.

Figure 60: Comparison of the areas of winter wheat crops grown in Northern Ireland (ha), 1990 – 2012.

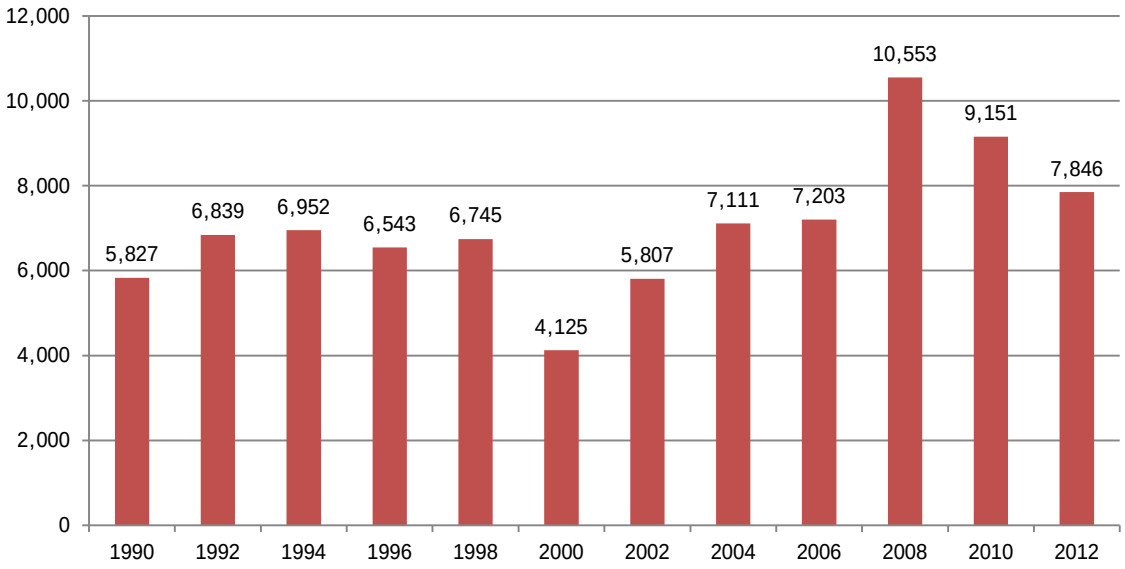


Figure 61: Regional distribution of winter wheat crops grown in Northern Ireland (ha), 2012.

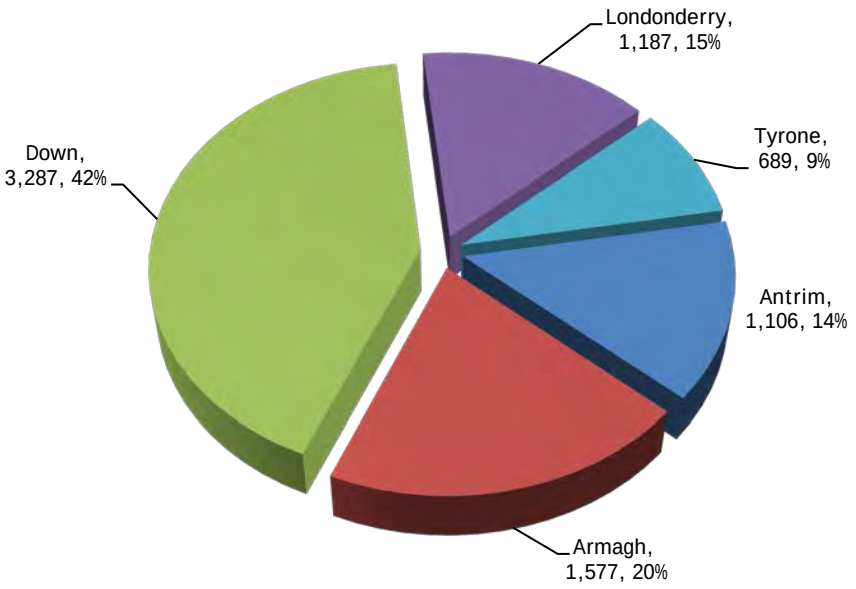


Figure 62: Pesticide usage (spha) on winter wheat crops in Northern Ireland, 2012.

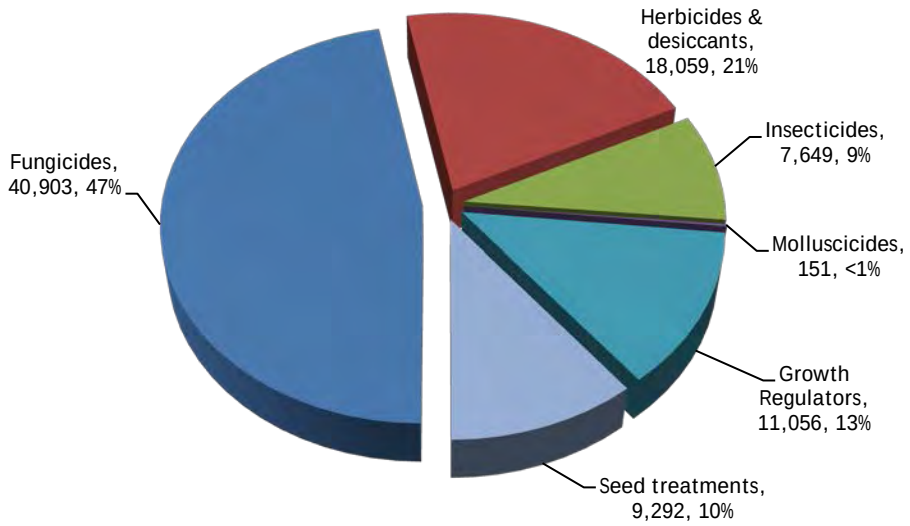


Figure 63: Weight of pesticides (kg) applied to winter wheat crops in Northern Ireland, 2012.

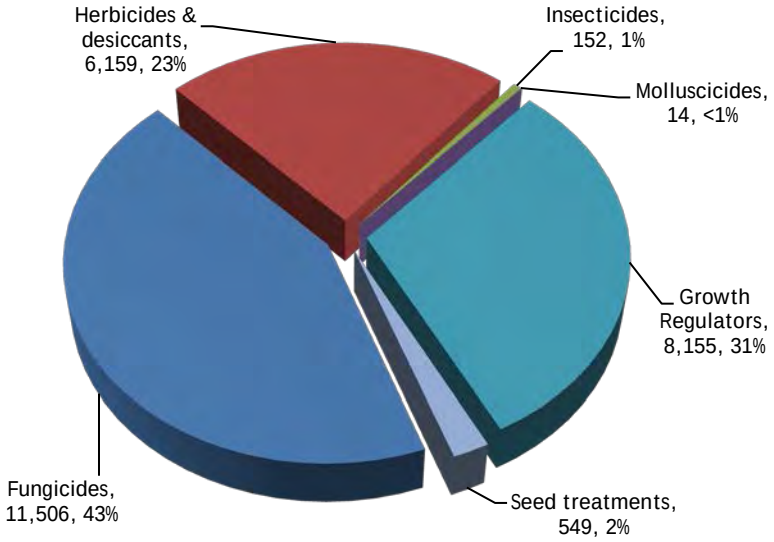
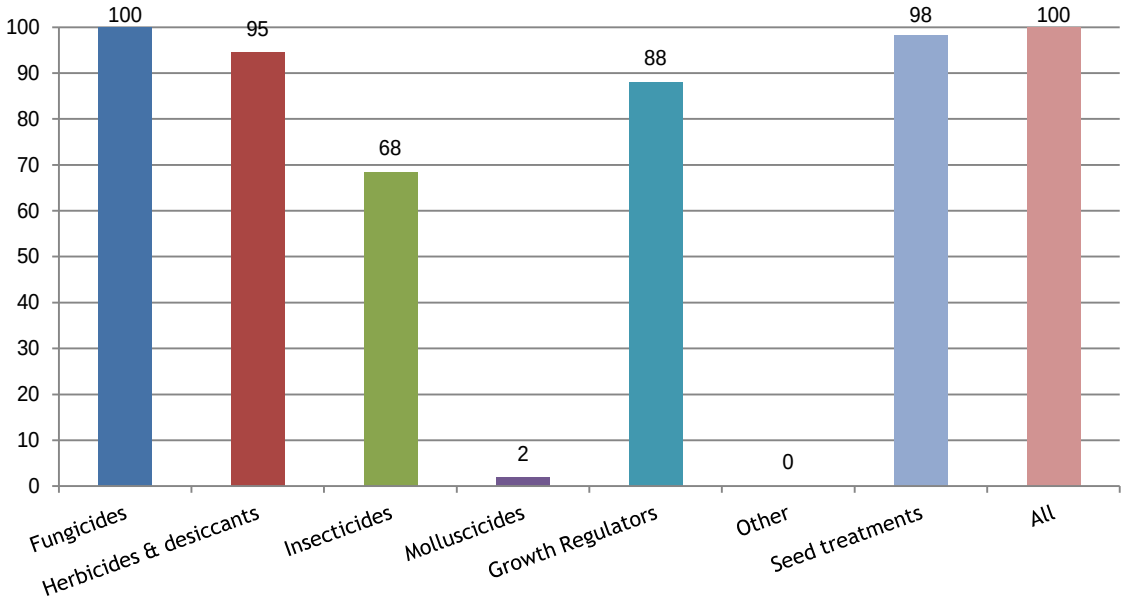


Figure 64: Proportional area (%) of winter wheat crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – winter wheat

· Basic area treated: 7,846 hectares

· Area treated: 40,903 spray hectares

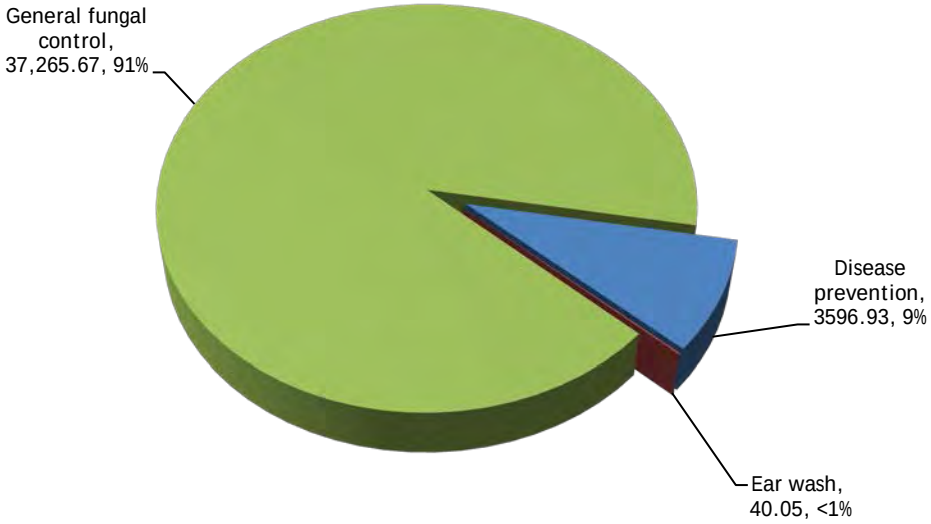
· Weight of active substances applied: 11,506 kilogrammes

· 100% of the area grown treated with fungicides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Chlorothalonil	8,105.99	5,168.66	4,367.91	19.82
Prothioconazole/tebuconazole	6,005.29	3,237.86	1,118.86	14.68
Tebuconazole	2,833.76	2,686.37	372.73	6.93
Epoxiconazole	2,344.03	1,633.30	233.57	5.73
Prothioconazole	2,223.51	1,509.19	299.91	5.44

Figure 65: Winter wheat: reasons for fungicide use (spha), 2012.



Herbicides & desiccants – winter wheat

· Basic area treated: 7,415 hectares

· Area treated: 18,059 spray hectares

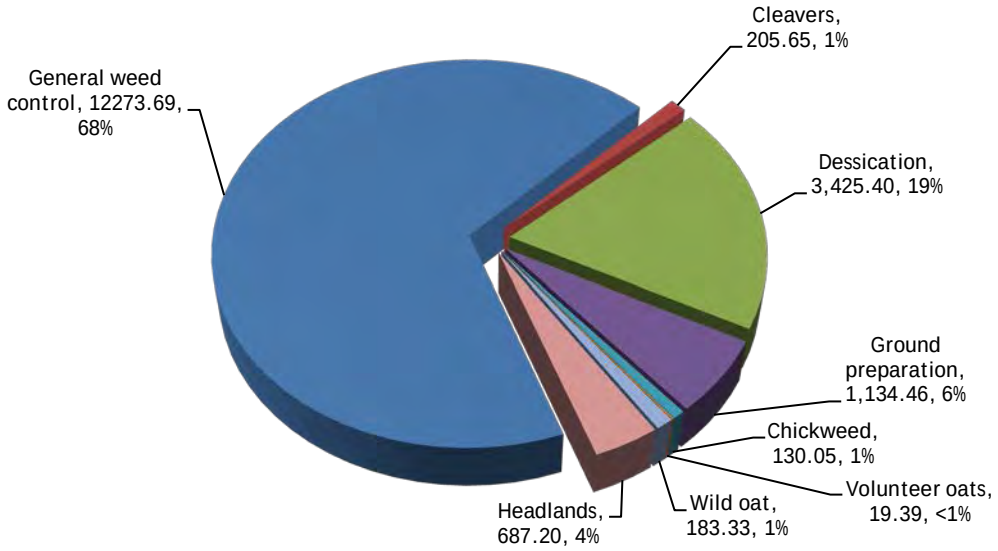
· Weight of active substances applied: 6,159 kilogrammes

· 95% of the area grown treated with herbicides & desiccants

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Glyphosate	4,746.46	4,194.18	3,496.49	26.28
Diflufenican/iodosulfron-methyl-sodium/mesosulfuron-methyl	4,545.92	4,545.92	254.64	25.17
Diflufenican	2,025.96	2,025.96	170.90	11.22
Fluroxypyr	1,196.25	1,119.73	165.23	6.62
Mecoprop-P	986.45	986.45	597.51	5.46

Figure 66: Winter wheat: reasons for herbicide & desiccant use (spha), 2012.



Insecticides – winter wheat

· Basic area treated: 5,369 hectares

· Area treated: 7,649 spray hectares

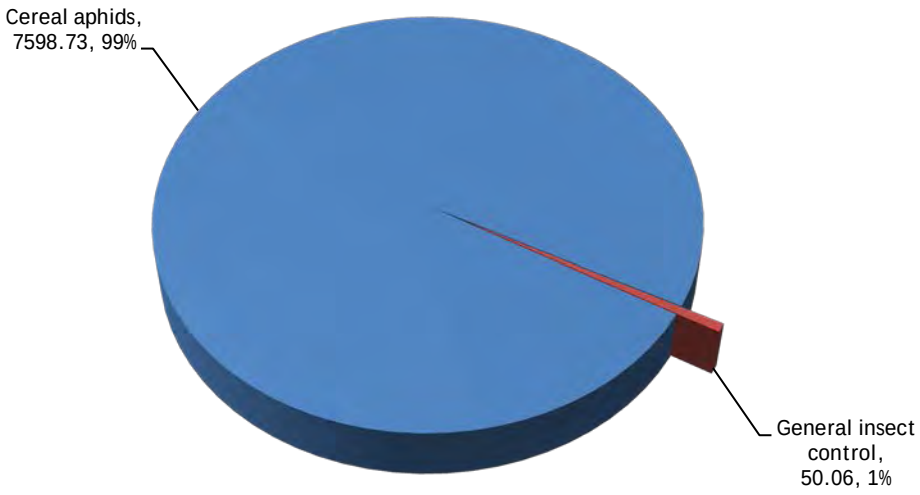
· Weight of active substances applied: 152 kilogrammes

· 68% of the area grown treated with insecticides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Esfenvalerate	3,671.69	2,376.02	11.97	48.00
Lambda-cyhalothrin	2,654.94	2,400.43	20.77	34.71
Cypermethrin	647.62	437.66	15.82	8.47
Alpha-cypermethrin	402.85	402.85	5.08	5.27
Deltamethrin	82.47	82.47	0.21	1.08

Figure 67: Winter wheat: reasons for insecticide use (spha), 2012.



Molluscicides - winter wheat

· Basic area treated: 151 hectares

· Area treated: 151 spray hectares

· Weight of active substances applied: 14 kilogrammes

· 2% of the area grown treated with molluscicides

· All applications were to control slugs

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Metaldehyde	150.69	150.69	13.56	100

Growth regulators – winter wheat

· Basic area treated: 6,915 hectares

· Area treated: 11,056 spray hectares

· Weight of active substances applied: 8,155 kilogrammes

· 88% of the area grown treated with growth regulators

· All applications were for growth regulation

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Chlormequat	6658.13	6,352.01	7,754.14	60.22
Trinexapac-ethyl	3429.33	3,265.16	188.65	31.02
2-chloroethylphosphonic acid	834.11	834.11	159.31	7.54
Mepiquat chloride/Prohexadione-calcium	68.76	68.76	12.25	0.62
Chlormequat/Imazaquin	49.86	49.86	27.58	0.45

Seed treatments – winter wheat

· Area treated: 7,714 hectares

· Weight of active substances applied: 549 kilogrammes

· 98% of the area grown was sown with treated seed

· The most commonly applied active substances were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Prochloraz/triticonazole	3,530.23	95.39	37.99
Clothianidin/prothioconazole	3,355.96	335.69	36.12
Silthiofam	1,578.18	70.15	16.98
Fludioxonil	333.40	3.11	3.59
Carboxin/thiram	177.84	29.50	1.91

Pesticide usage on spring oats:

· 1,441 hectares of spring oat grown in Northern Ireland

· 6,345 treated hectares

· 1,685 kilogrammes applied

· 69% of the area of spring oat crops grown received a pesticide treatment

· Spring oats received on average 2.48 fungicide, 1.93 herbicide, 1.04 insecticide and 1.14 growth regulator applications.

Figure 68: Comparison of the areas of spring oat crops grown in Northern Ireland (ha), 1990 - 2012.

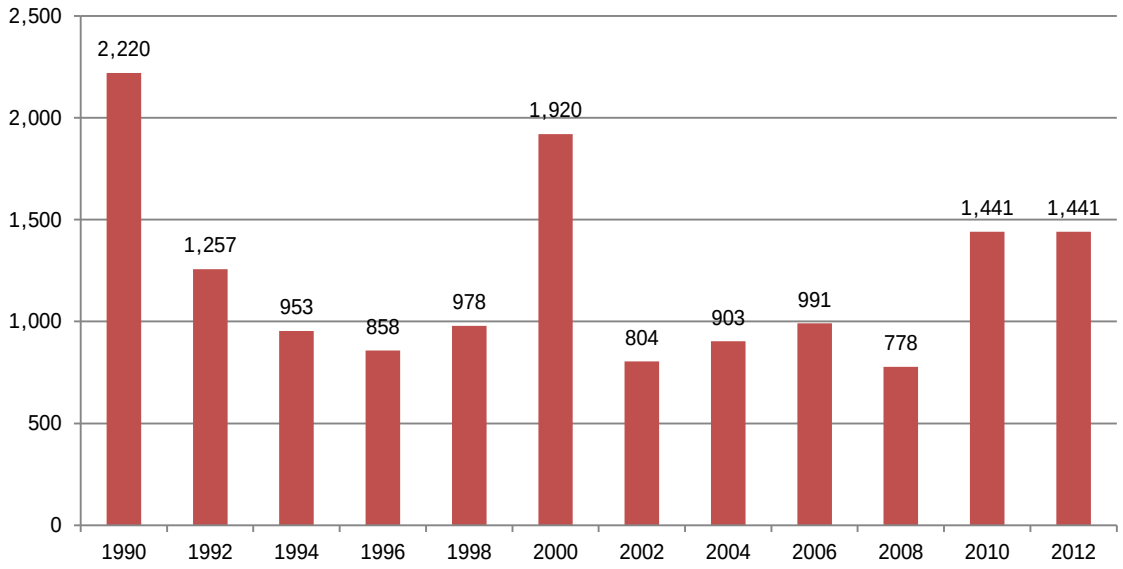


Figure 69: Regional distribution of spring oat crops grown in Northern Ireland (ha), 2012.

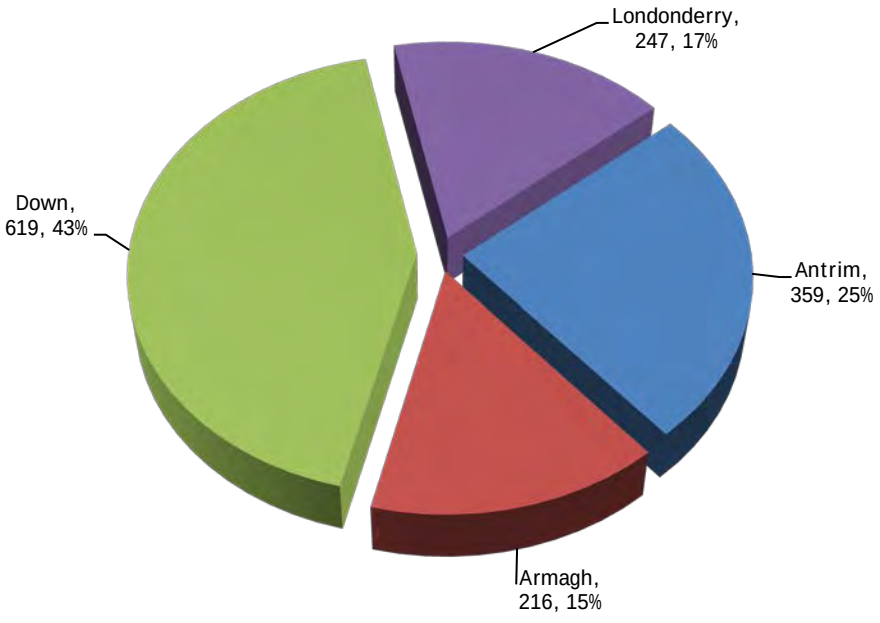


Figure 70: Pesticide usage (spha) on spring oat crops in Northern Ireland, 2012.

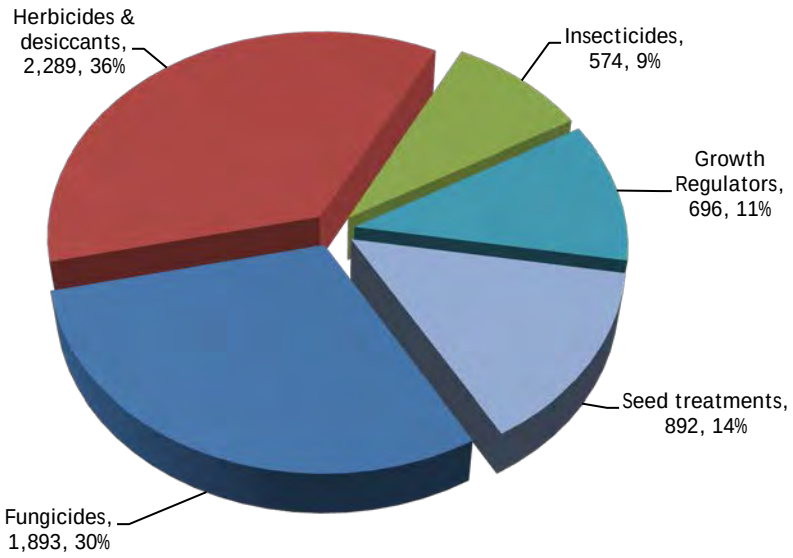


Figure 71: Weight of pesticides (kg) applied to spring oat crops in Northern Ireland, 2012.

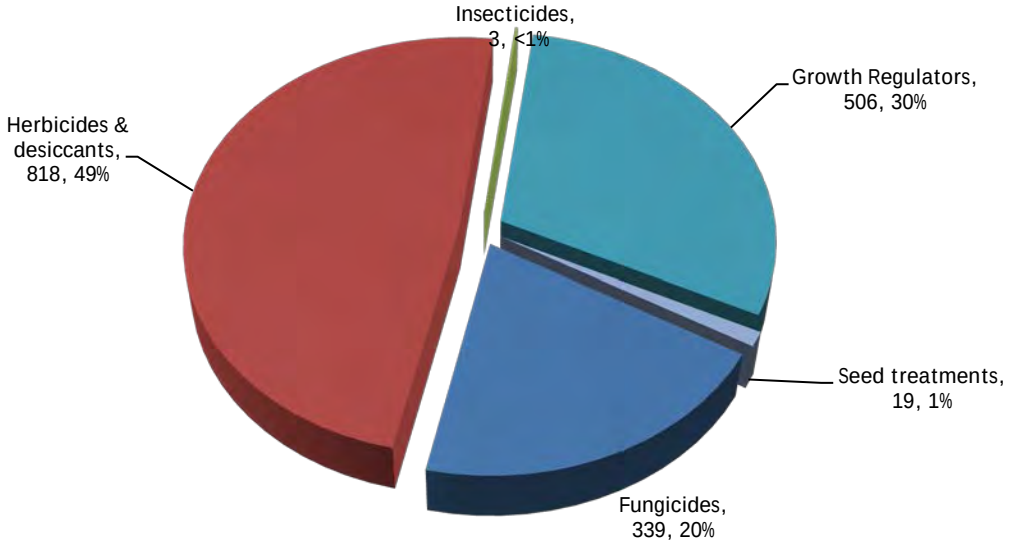
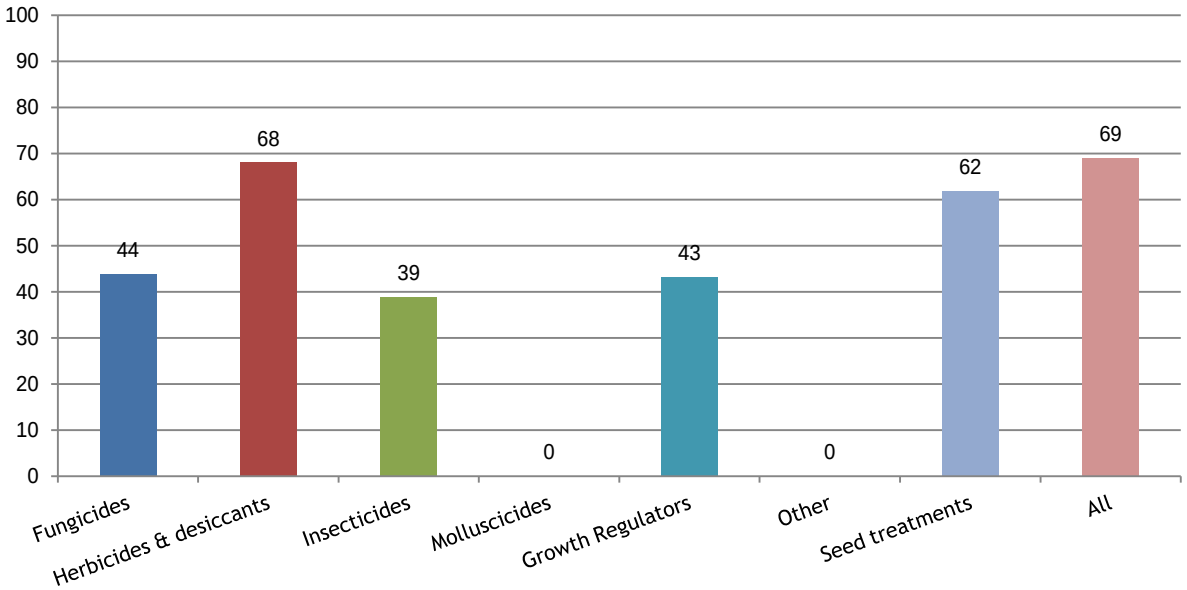


Figure 72: Proportional area (%) of spring oat crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – spring oats

· Basic area treated: 633 hectares

· Area treated: 1,893 spray hectares

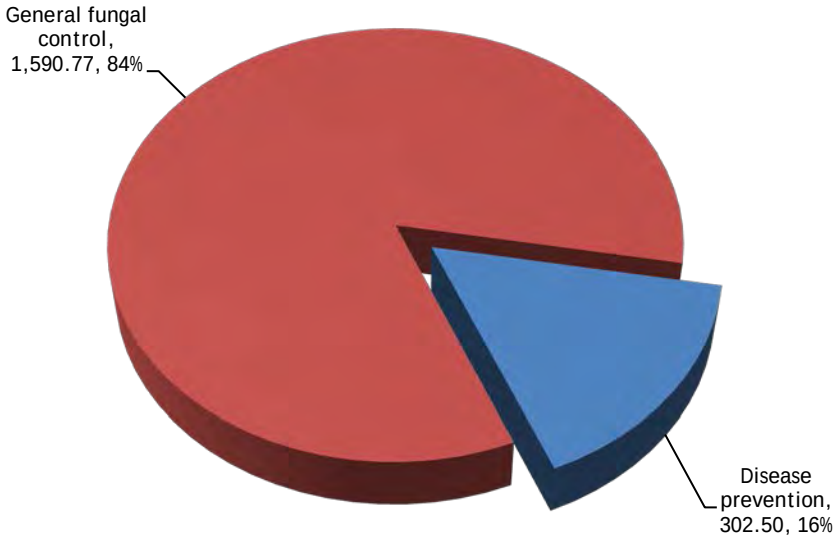
· Weight of active substances applied: 339 kilogrammes

· 44% of the area grown treated with fungicides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Fenpropimorph	602.01	359.85	123.99	31.80
Pyraclostrobin	300.29	300.29	25.69	15.86
Epoxiconazole	295.09	261.33	16.97	15.59
Quinoxyfen	287.01	287.01	28.70	15.16
Epoxiconazole/fenpropimorph/metrafenone	163.90	163.90	59.89	8.66

Figure 73: spring oats: reasons for fungicide use (spha), 2012.



Herbicides & desiccants – spring oats

· Basic area treated: 981 hectares

· Area treated: 2,289 spray hectares

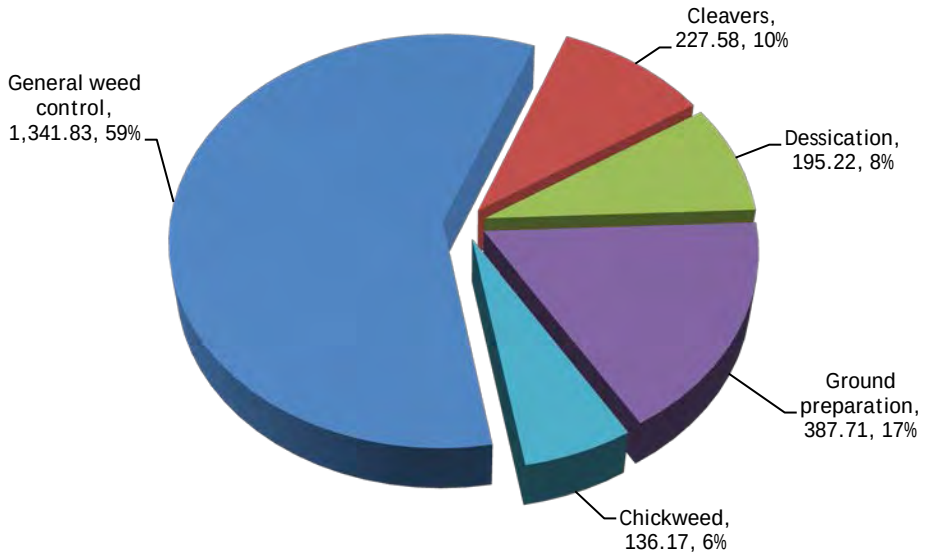
· Weight of active substances applied: 818 kilogrammes

· 68% of the area grown treated with herbicides & desiccants

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Glyphosate	582.93	582.93	396.03	25.47
Mecoprop-P	370.50	370.50	332.62	16.19
Florasulam/fluroxypyr	363.75	363.75	25.75	15.89
Metsulfuron-methyl/tribenuron-methyl	351.51	351.51	3.48	15.36
Thifensulfuron-methyl/tribenuron-methyl	326.09	326.09	16.81	14.25

Figure 74: Spring oats: reasons for herbicide & desiccant use (spha), 2012.



Insecticides – spring oats

· Basic area treated: 560 hectares

· Area treated: 574 spray hectares

· Weight of active substances applied: 3 kilogrammes

· 39% of the area grown treated with insecticides

· All applications were to control aphids

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Lambda-cyhalothrin	440.47	425.88	2.20	76.68
Esfenvalerate	124.95	124.95	0.59	21.75
Deltamethrin	9.01	9.01	0.05	1.57

Growth regulators – spring oats

· Basic area treated: 623 hectares

· Area treated: 696 spray hectares

· Weight of active substances applied: 506 kilogrammes

· 43% of the area grown treated with growth regulators

· All applications were for growth regulation

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Chlormequat	439.31	439.31	494.54	63.11
Trinexapac-ethyl	256.80	242.21	11.68	36.89

Seed treatments – spring oats

· Area treated: 892 hectares

· Weight of active substances applied: 19 kilogrammes

· 62% of the area grown was sown with treated seed

· The most commonly applied active substances were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Prochloraz/triticonazole	356.12	10.50	39.91
Fludioxonil/flutriafol	287.01	4.11	32.17
Fludioxonil	224.37	2.09	25.15
Clothianidin/prothioconazole	24.80	2.34	2.78

Pesticide usage on undersown oats:

· 193 hectares of undersown oats grown in Northern Ireland all of which was in county Londonderry

· 825 treated hectares

· 86.28 kilogrammes applied

· 78% of the area of undersown crops grown received a pesticide treatment

· Undersown oats received on average 2 fungicide, 1.44 herbicide, 1 insecticide and 1 growth regulator applications.

Figure 75: Comparison of the areas of undersown oat crops grown in Northern Ireland (ha), 1990 - 2012.

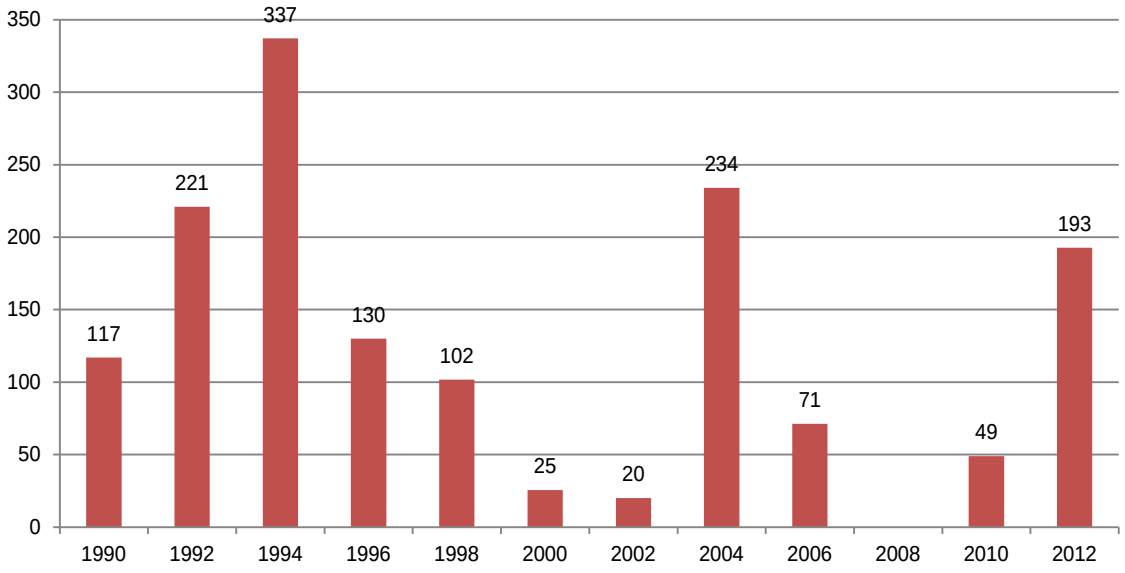


Figure 76: Regional distribution of undersown oat crops grown in Northern Ireland (ha), 2012.

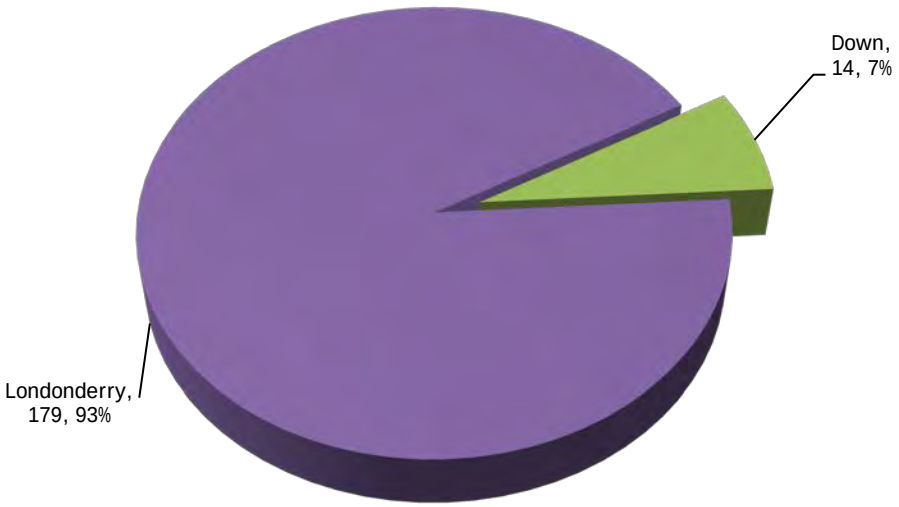


Figure 77: Pesticide usage (spha) on undersown oat crops in Northern Ireland, 2012.

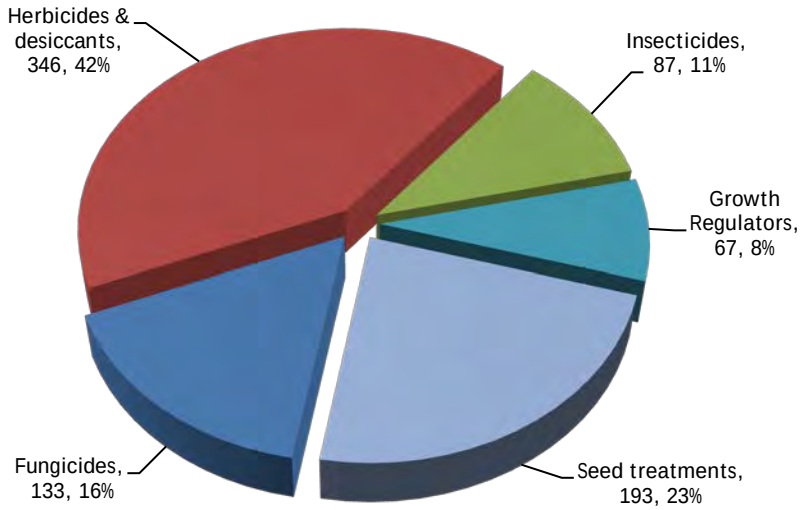


Figure 78: Weight of pesticides (kg) applied to undersown oat crops in Northern Ireland, 2012.

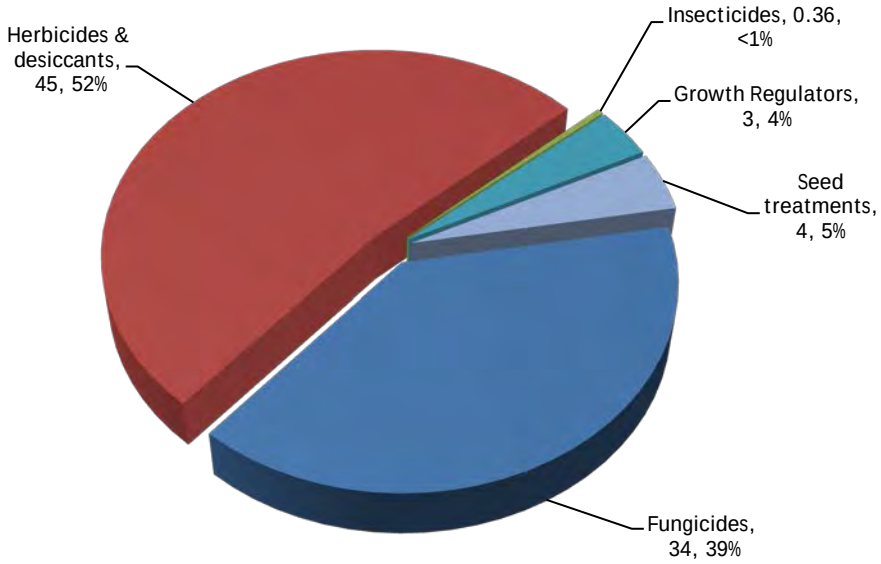
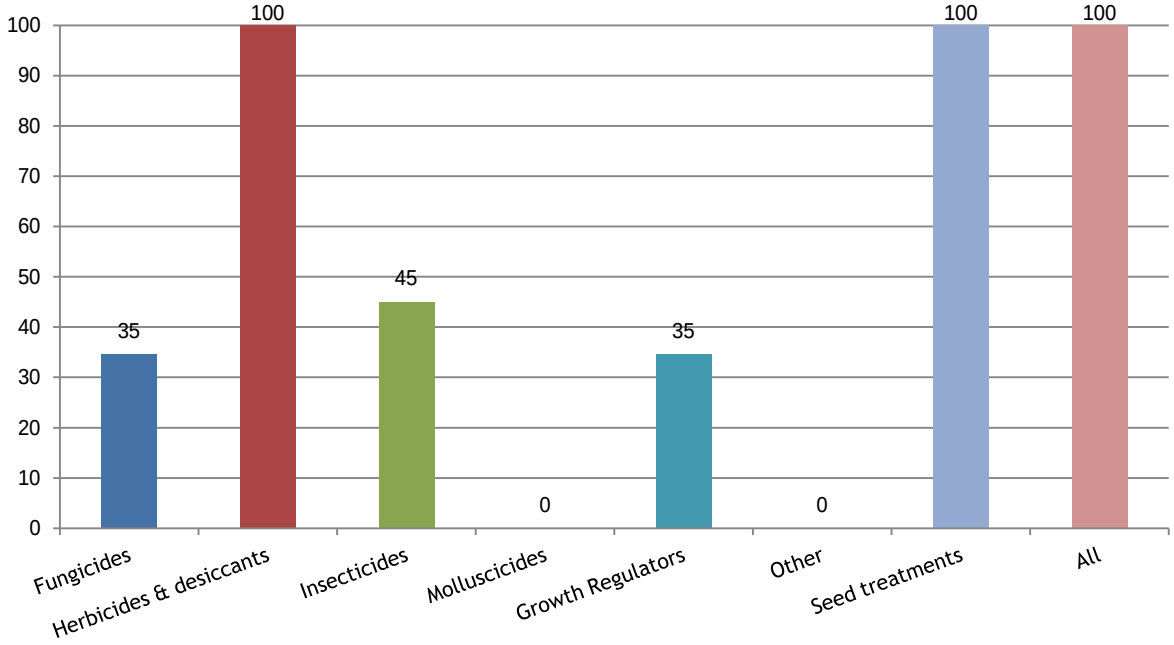


Figure 79: Proportional area (%) of undersown oat crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – undersown oats

· Basic area treated: 67 hectares

· Area treated: 133 spray hectares

· Weight of active substances applied: 34 kilogrammes

· 35% of the area grown treated with fungicides

· All applications were for disease prevention

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Epoxiconazole/fenpropimorph/metrafenone	133.16	66.58	33.71	100.00

Herbicides & desiccants – undersown oats

· Basic area treated: 193 hectares

· Area treated: 346 spray hectares

· Weight of active substances applied: 45 kilogrammes

· 100% of the area grown treated with herbicides & desiccants

· All applications were for general weed control

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Fluroxypyr	153.38	153.38	23.01	44.32
Tribenuron-methyl	101.01	101.01	0.47	29.19
Metsulfuron-methyl	66.58	66.58	0.40	19.24
2,4-DB/linuron/MCPA	25.12	25.12	21.10	7.26

Insecticides – Undersown oats

· Basic area treated: 87 hectares

· Area treated: 87 spray hectares

· Weight of active substances applied: 0.36 kilogrammes

· 45% of the area grown treated with insecticides

· All applications were to control aphids

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Esfenvalerate	86.80	86.80	0.36	100.00

Growth regulators – Undersown oats

· Basic area treated: 67 hectares

· Area treated: 67 spray hectares

· Weight of active substances applied: 3 kilogrammes

· 35% of the area grown treated with growth regulators

· All applications were for growth regulation

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Trinexapac-ethyl	66.58	66.58	3.33	100.00

Seed treatments – undersown oats

· Area treated: 193 hectares

· Weight of active substances applied: 4 kilogrammes

· 100% of the area grown was sown with treated seed

· The active substances applied were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Prochloraz/triticonazole	86.80	2.62	45.04
Fludioxonil/flutriafol	66.58	0.94	34.55
Fludioxonil	39.33	0.35	20.41

Pesticide usage on winter oats:

· 246 hectares of winter oats grown in Northern Ireland

· 1,773 treated hectares

· 574 kilogrammes applied

· 100% of the area of winter oat crops grown received a pesticide treatment

· Winter oats received on average 3.31 fungicide, 2.33 herbicide, 1.54 insecticide and 1.12 growth regulator applications.

Figure 80: Comparison of the areas of winter oat crops grown in Northern Ireland (ha), 1990 - 2012.

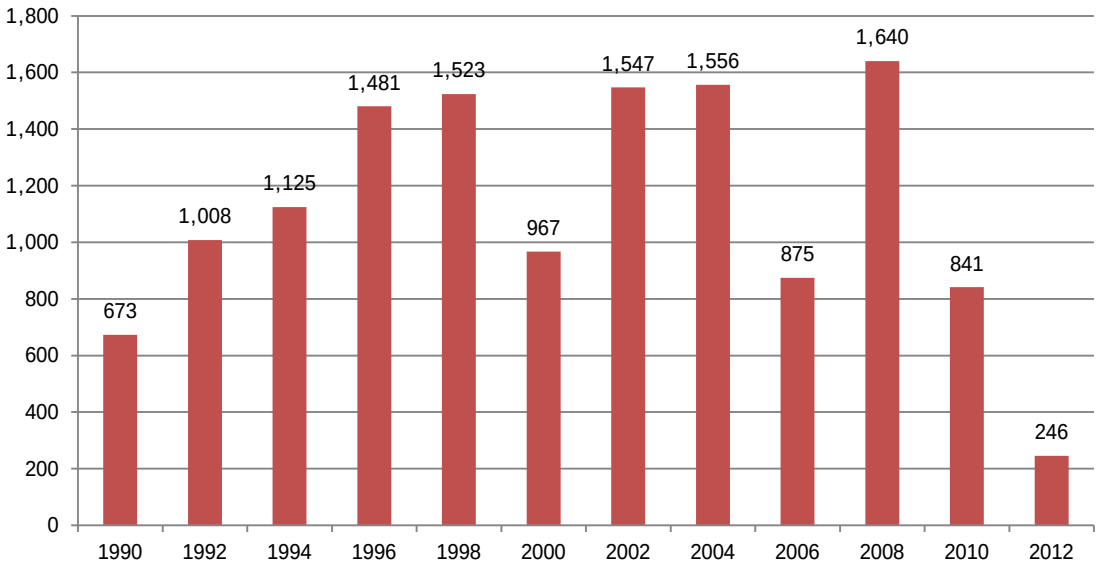


Figure 81: Regional distribution of winter oat crops grown in Northern Ireland (ha), 2012.

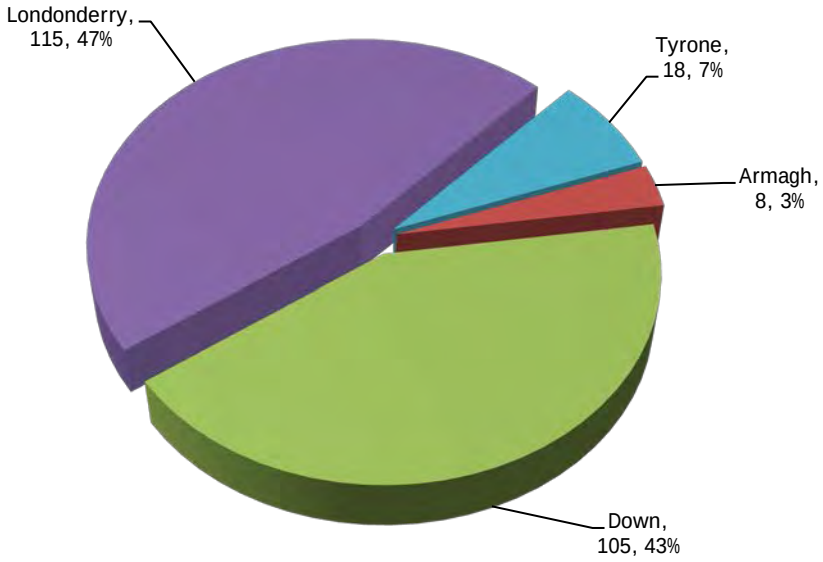


Figure 82: Pesticide usage (spha) on winter oat crops in Northern Ireland, 2012.

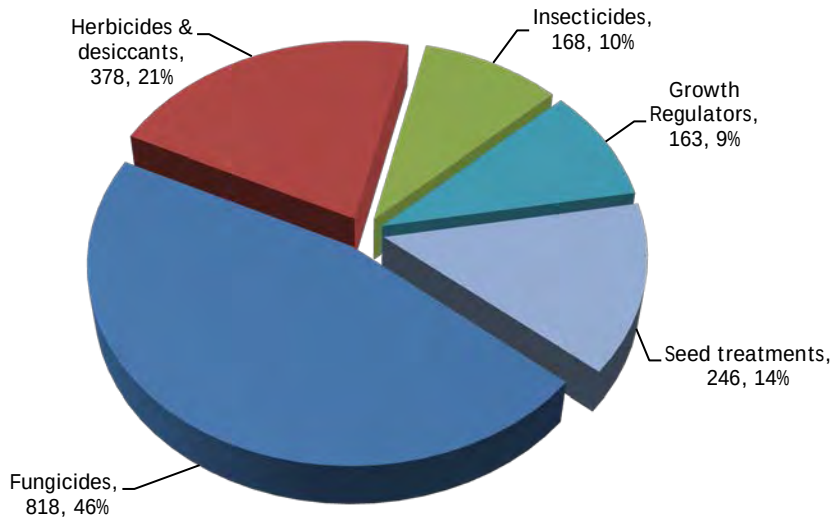


Figure 83: Weight of pesticides (kg) applied to winter oat crops in Northern Ireland, 2012.

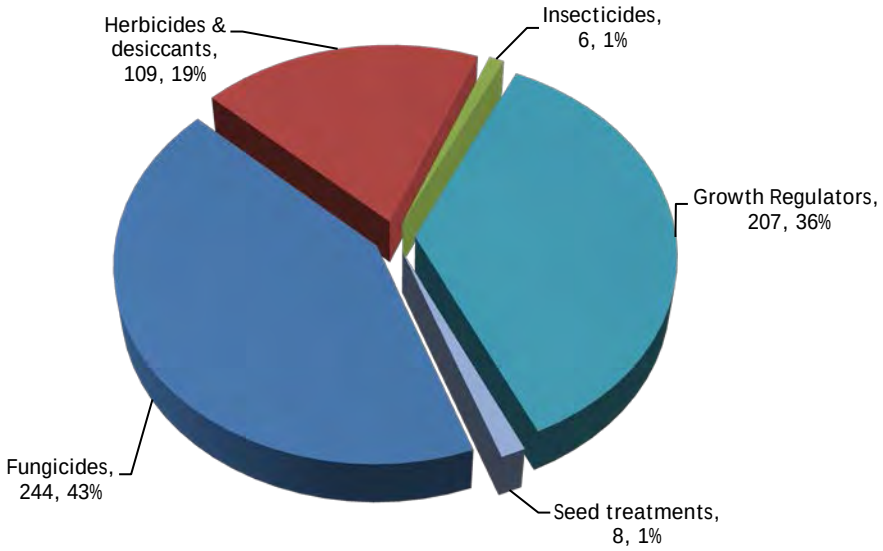
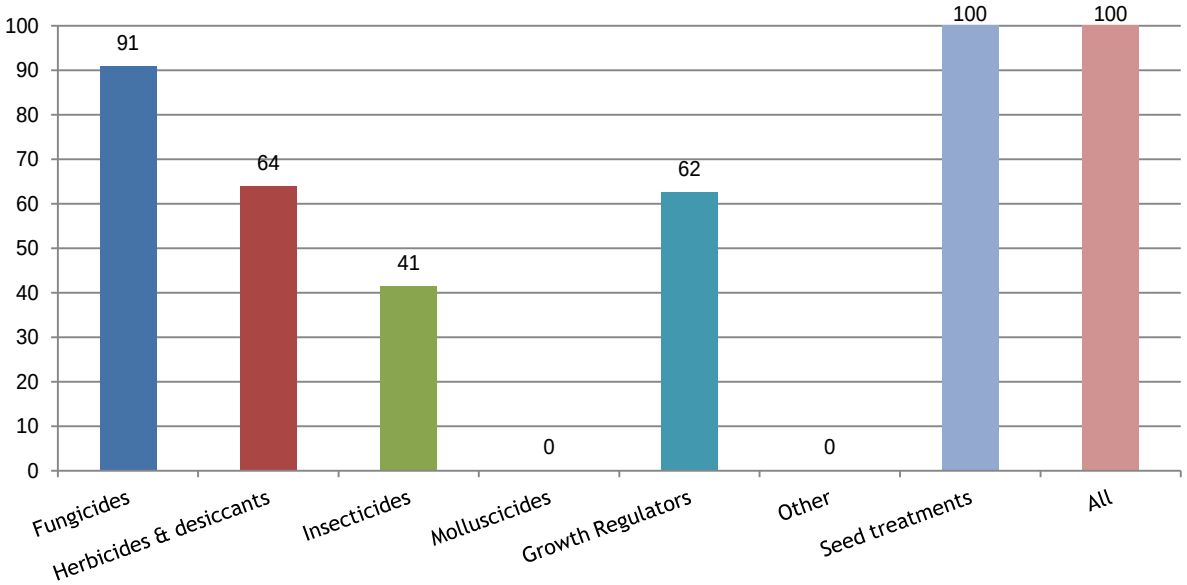


Figure 84: Proportional area (%) of winter oat crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – winter oats

· Basic area treated: 224 hectares

· Area treated: 818 spray hectares

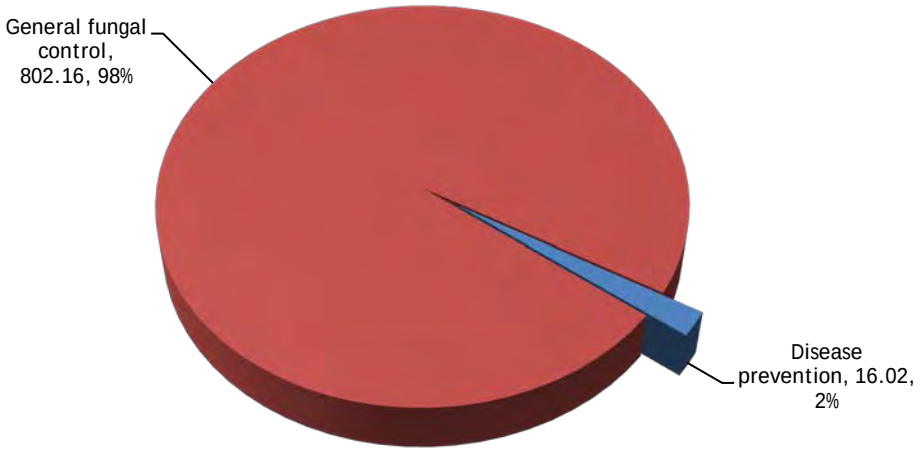
· Weight of active substances applied: 244 kilogrammes

· 91% of the area grown treated with fungicides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Epoxiconazole/fenpropimorph/metrafenone	191.03	95.52	59.26	23.35
Fenpropimorph	173.31	120.54	73.20	21.18
Epoxiconazole/Metrafenone	133.16	66.58	33.51	16.28
Prothioconazole	95.60	95.60	6.97	11.68
Chlorothalonil	66.58	66.58	33.29	8.14

Figure 85: Winter oats: reasons for fungicide use (spha), 2012



Herbicides & desiccants – winter oats

· Basic area treated: 157 hectares

· Area treated: 378 spray hectares

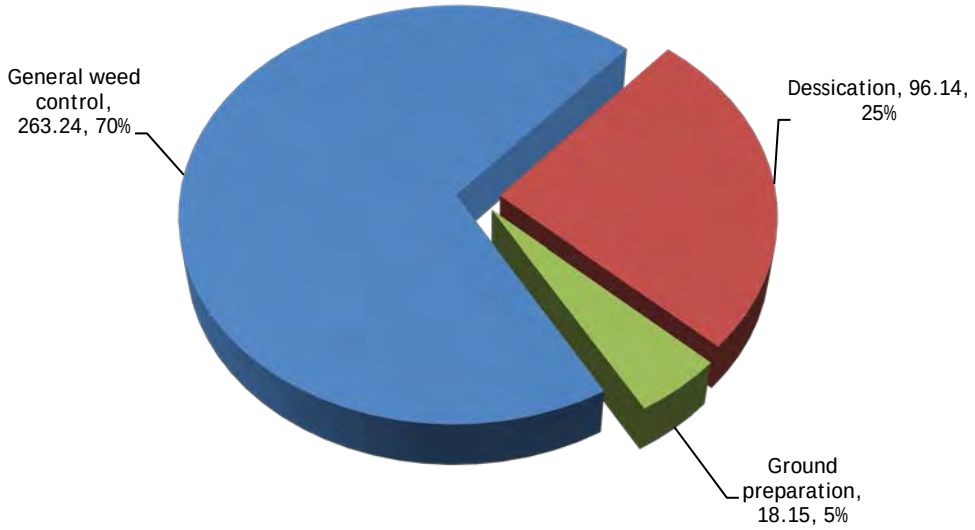
· Weight of active substances applied: 109 kilogrammes

· 64% of the area grown treated with herbicides & desiccants

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Glyphosate	114.29	96.14	52.96	30.27
Amidosulfuron	62.00	62.00	1.86	16.42
Bromoxynil/ioxynil	62.00	62.00	24.80	16.42
Carfentrazone-ethyl/flupyrsulfron-methyl	51.75	51.75	1.55	13.71
Metsulfuron-methyl/tribenuron-methyl	34.16	34.16	0.30	9.05

Figure 86: Winter oats: reasons for herbicide & desiccant use (spha), 2012.



Insecticides – winter oats

· Basic area treated: 102 hectares

· Area treated: 168 spray hectares

· Weight of active substances applied: 6 kilogrammes

· 41% of the area grown treated with insecticides

· All applications were to control aphids

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Cypermethrin	133.16	66.58	5.66	79.11
Lambda-cyhalothrin	26.15	26.15	0.13	15.53
Deltamethrin	9.01	9.01	0.05	5.35

Growth regulators – winter oats

· Basic area treated: 154 hectares

· Area treated: 163 spray hectares

· Weight of active substances applied: 207 kilogrammes

· 62% of the area grown treated with growth regulators

· All applications were for growth regulation

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Chlormequat	127.43	127.43	205.00	78.38
Trinexapac-ethyl	35.16	35.16	1.76	21.62

Seed treatments – winter oats

· Area treated: 246 hectares

· Weight of active substances applied: 8 kilogrammes

· 100% of the area grown was sown with treated seed

· The active substances applied were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Prochloraz/triticonazole	132.00	3.30	53.68
Clothianidin/prothioconazole	43.97	3.80	17.88
Prothioconazole	43.76	0.55	17.80
Fludioxonil/flutriafol	26.15	0.47	10.64

Pesticide usage on winter oilseed rape:

· 517 hectares of winter oilseed rape grown in Northern Ireland

· 3,721 treated hectares

· 1,255 kilogrammes applied

· 100% of the area of winter oilseed rape crops grown received a pesticide treatment

· Winter oilseed rape crops received on average 2.33 fungicide, 2.51 herbicide, 1 insecticide, 1 molluscicide and 1 other applications.

Figure 87: Comparison of the areas of winter oilseed rape crops grown in Northern Ireland (ha), 1990 - 2012.

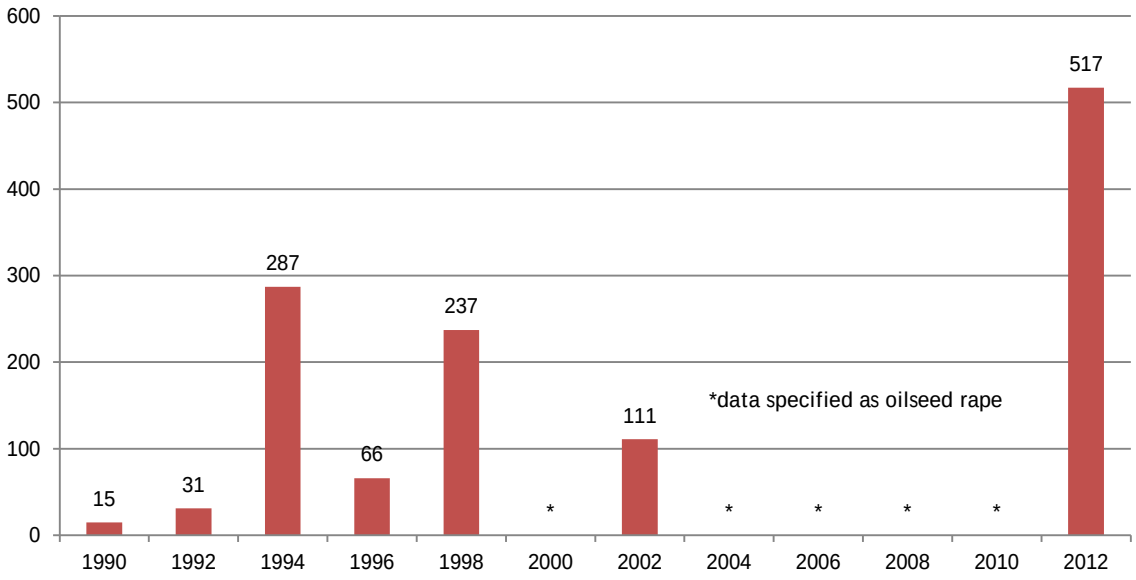


Figure 88: Regional distribution of winter oilseed rape crops grown in Northern Ireland (ha), 2012.

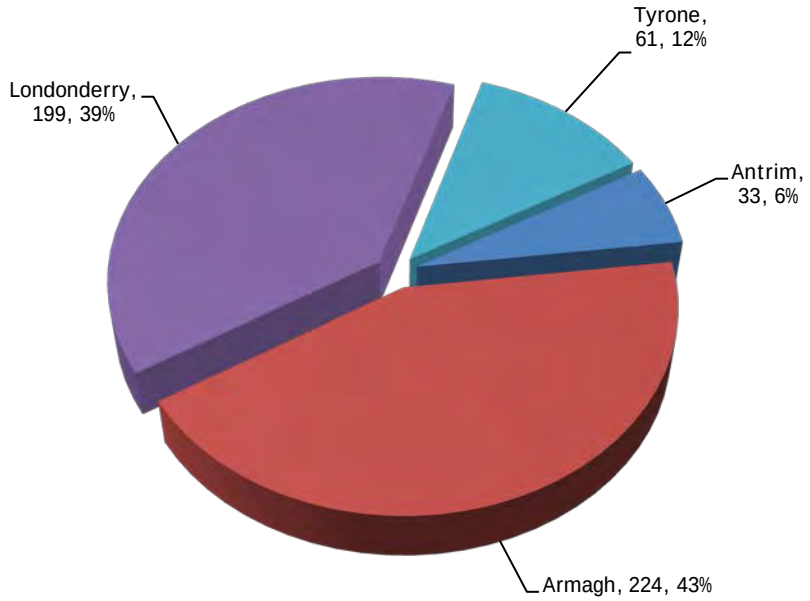


Figure 89: Pesticide usage (spha) on winter oilseed rape crops in Northern Ireland, 2012.

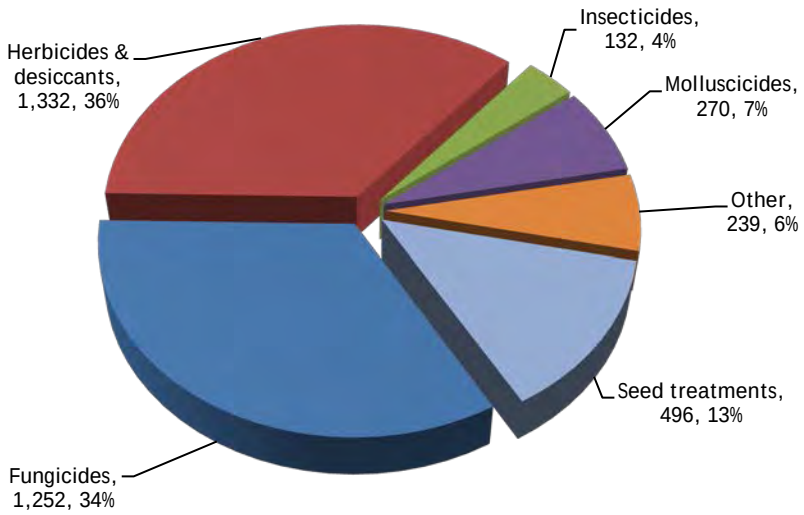


Figure 90: Weight of pesticides (kg) applied to winter oilseed rape crops in Northern Ireland, 2012.

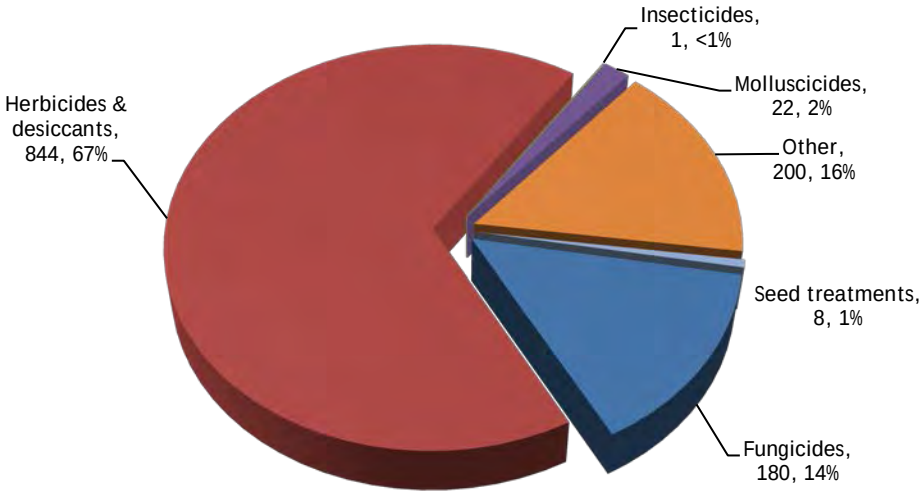
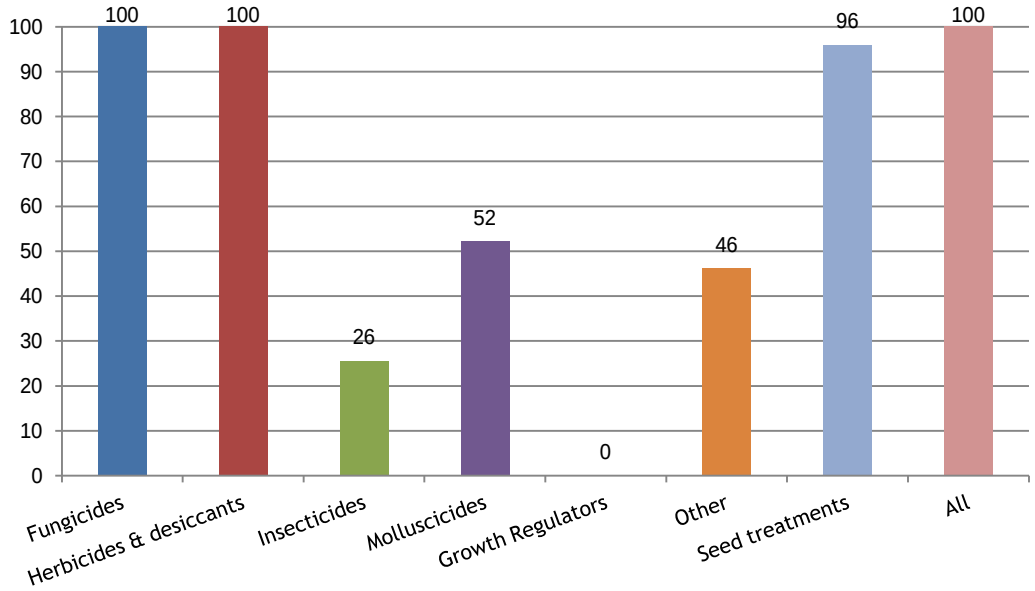


Figure 91: Proportional area (%) of winter oilseed rape crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – winter oilseed rape

· Basic area treated: 517 hectares

· Area treated: 1,252 spray hectares

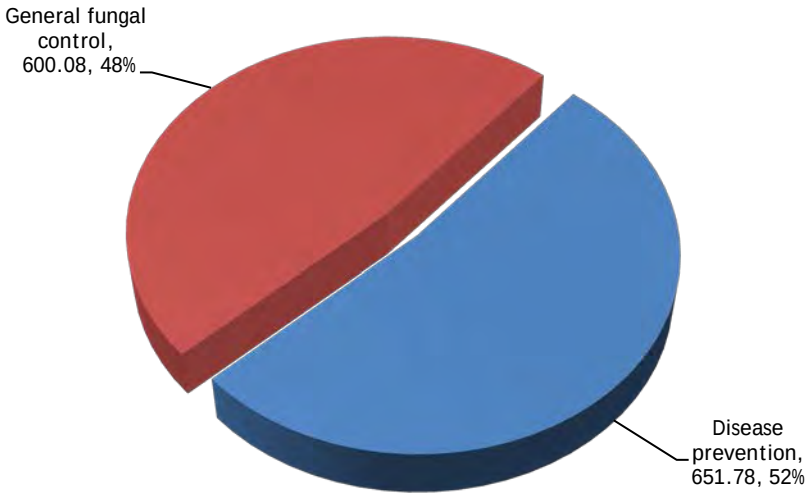
· Weight of active substances applied: 180 kilogrammes

· 100% of the area grown treated with fungicides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Azoxystrobin	432.60	386.81	67.16	34.56
Tebuconazole	431.51	385.73	65.18	34.47
Prothioconazole	289.95	278.16	31.49	23.16
Prothioconazole/tebuconazole	79.28	79.28	14.27	6.33
Flusilazole	18.53	18.53	2.20	1.48

Figure 92: Winter oilseed rape: reasons for fungicide use (spha), 2012.



Herbicides & desiccants – winter oilseed rape

· Basic area treated: 517 hectares

· Area treated: 1,332 spray hectares

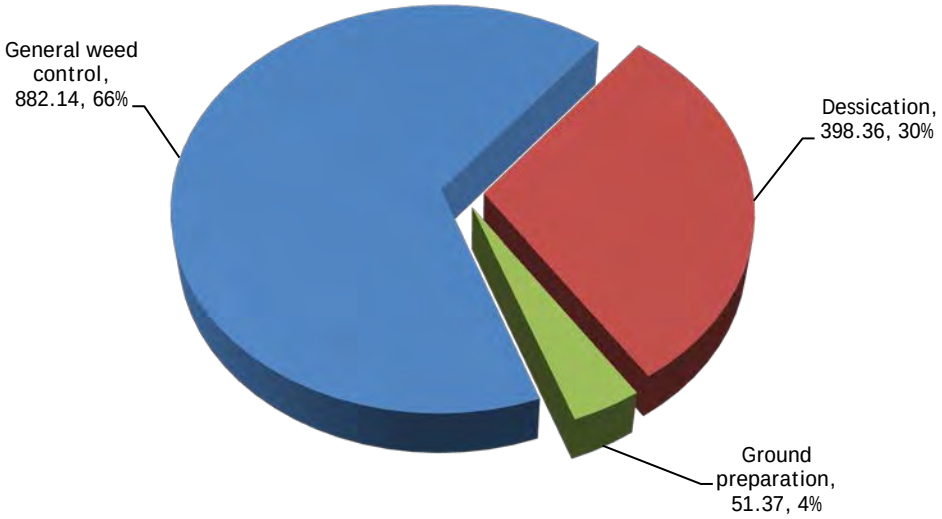
· Weight of active substances applied: 844 kilogrammes

· 100% of the area grown treated with herbicides & desiccants

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Propyzamide	498.69	498.69	333.12	37.44
Glyphosate	469.52	437.94	469.49	35.25
Clopyralid/picloram	223.97	223.97	26.18	16.82
Fluazifop-P-butyl	119.90	119.90	7.49	9.00
Diquat	19.79	19.79	7.92	1.49

Figure 93: Winter oilseed rape: reasons for herbicide & desiccant use (spha), 2012.



Insecticides – oilseed rape

· Basic area treated: 132 hectares

· Area treated: 132 spray hectares

· Weight of active substances applied: 1 kilogrammes

· 26% of the area grown treated with insecticides

· All applications were for general insect control

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Lambda-cyhalothrin	113.69	113.69	0.63	85.99
Deltamethrin	18.53	18.53	0.14	14.01

Molluscicides - winter oilseed rape

· Basic area treated: 270 hectares

· Area treated: 270 spray hectares

· Weight of active substances applied: 22 kilogrammes

· 52% of the area grown treated with molluscicides

· All applications were to control slugs

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Methiocarb	223.72	223.72	19.70	83.01
Metaldehyde	45.78	45.78	2.75	16.99

Other treatment – winter oilseed rape

· Area treated: 239 spray hectares

· Weight of active substances applied: 200 kilogrammes

· 46% of the area grown treated with other treatments.

· These applications were used as 'pod stickers'

· The active substances applied were:

	Treated area (spha)	Quantity applied (kgs)	% of the treated area
Carboxylated styrene-butadiene	21.90	14.92	9.16
Synthetic latex	217.23	184.64	90.84

Seed treatments – winter oilseed rape

· Area treated: 496 hectares

· Weight of active substances applied: 8 kilogrammes

· 96% of the area grown was sown with treated seed

· The active substances applied were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Fludioxonil/metalaxyl-M/thiamethoxam	263.66	5.32	53.14
Beta-cyfluthrin/imidacloprid	192.08	2.33	38.71
Unknown seed treatment	40.42		8.15

Pesticide usage on spring oilseed rape:

· 290 hectares of spring oilseed rape grown in Northern Ireland

· 679 treated hectares

· 297 kilogrammes applied

· 100% of the area of spring oilseed rape crops grown received a pesticide treatment

· Spring oilseed rape crops received on average 1.00 fungicide, 1.52 herbicide and 1.0 insecticide applications.

Figure 94: Comparison of the areas of spring oilseed rape crops grown in Northern Ireland (ha), 1990 - 2012.

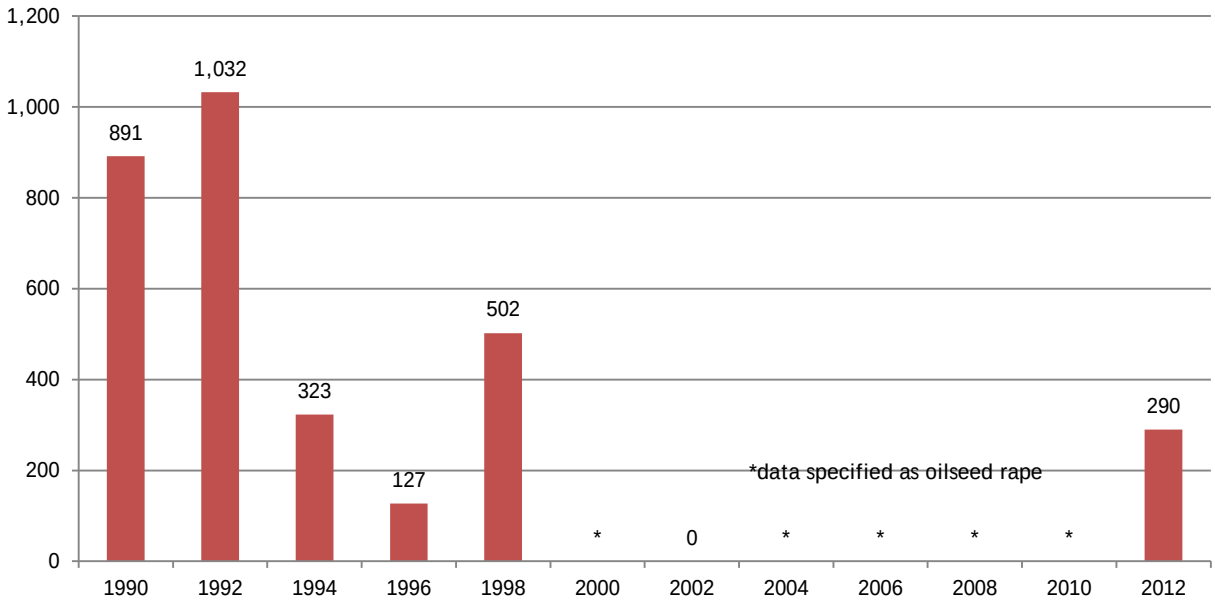


Figure 95: Regional distribution of spring oilseed rape crops grown in Northern Ireland (ha), 2012.

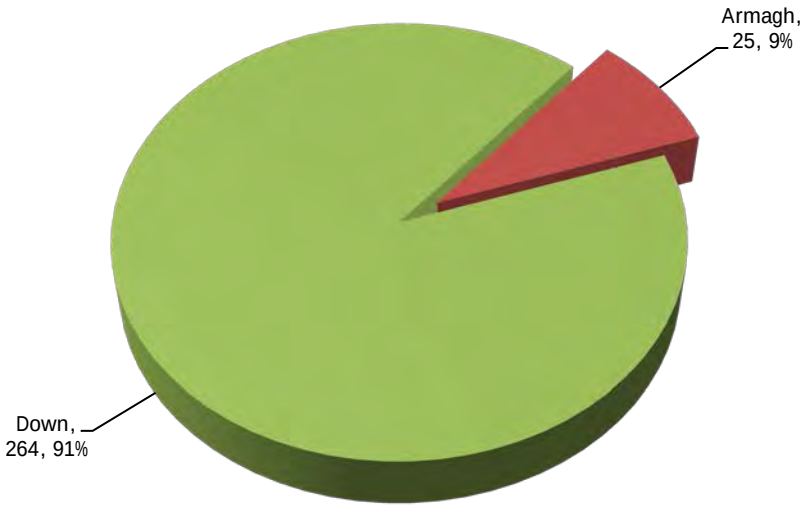


Figure 96: Pesticide usage (spha) on spring oilseed rape crops in Northern Ireland, 2012.

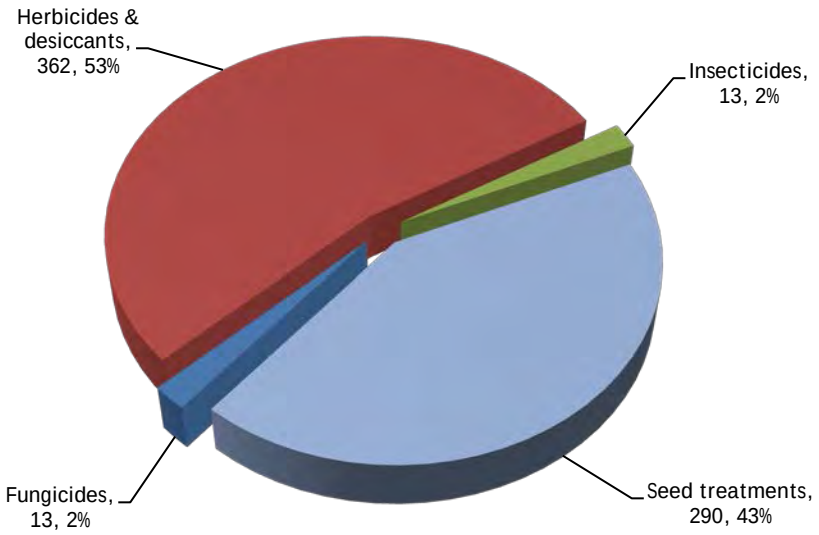


Figure 97: Weight of pesticides (kg) applied to spring oilseed rape crops in Northern Ireland, 2012.

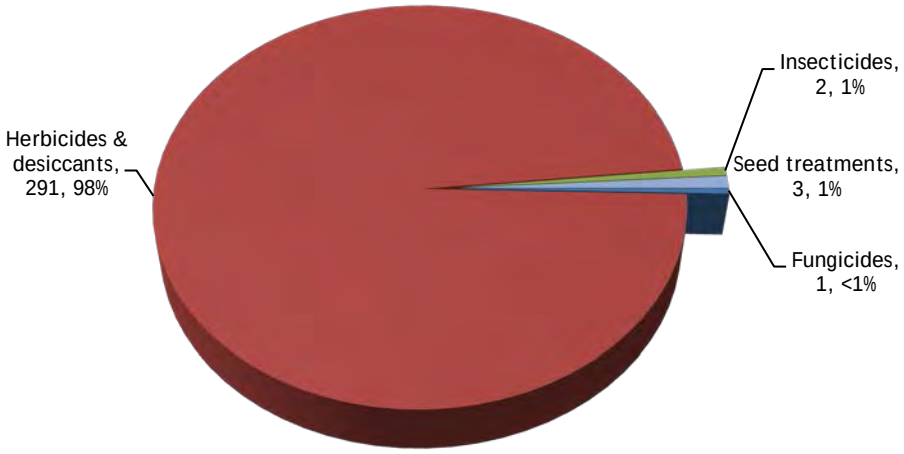
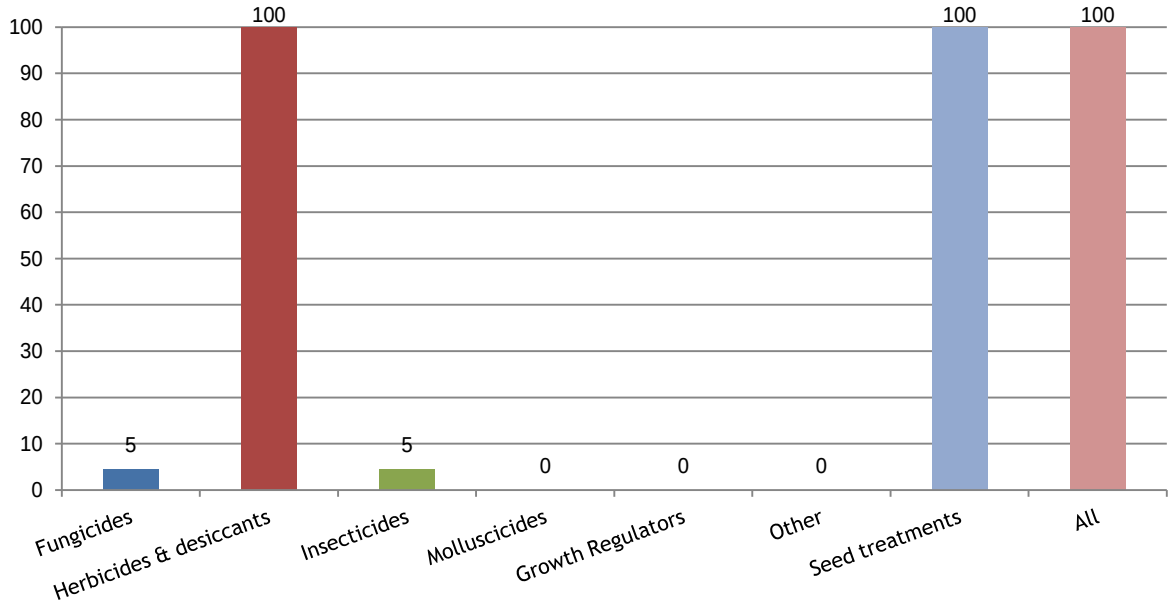


Figure 98: Proportional area (%) of spring oilseed rape crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – spring oilseed rape

· Basic area treated: 13 hectares

· Area treated: 13 spray hectares

· Weight of active substances applied: 1 kilogramme

· 5% of the area grown treated with fungicides

· All fungicide applications were for general fungal control

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Metconazole	13.48	13.48	1.21	100

Herbicides & desiccants – spring oilseed rape

· Basic area treated: 290 hectares

· Area treated: 362 spray hectares

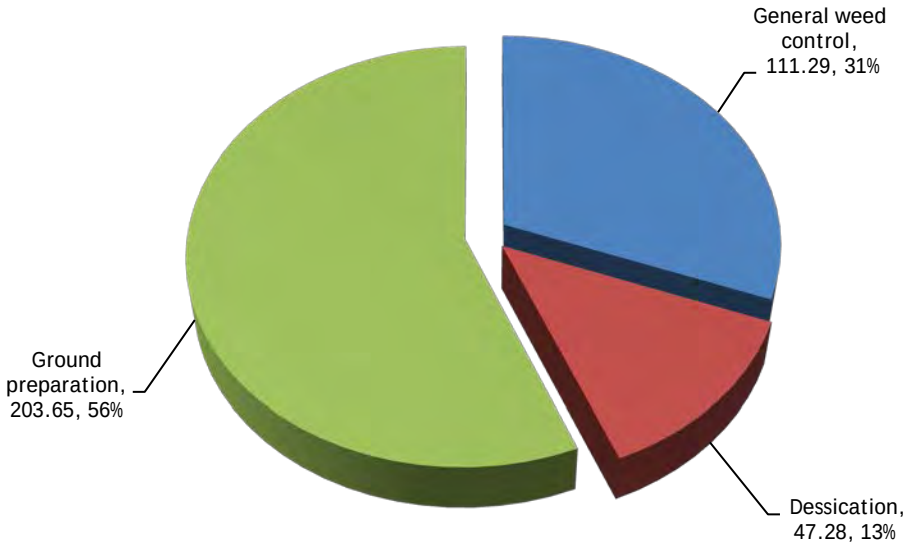
· Weight of active substances applied: 291 kilogrammes

· 100% of the area grown treated with herbicides & desiccants

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Glyphosate	250.93	250.93	225.84	69.28
Metazachlor	86.02	86.02	64.29	23.75
Clomazone	25.27	25.27	1.13	6.98

Figure 99: Spring oilseed rape: reasons for herbicide & desiccant use (spha), 2012.



Insecticides – oilseed rape

· Basic area treated: 13 hectares

· Area treated: 13 spray hectares

· Weight of active substances applied: 2 kilogrammes

· 5% of the area grown treated with insecticides

· All applications were for general insect control

· The only active substances applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Pirimicarb	13.48	13.48	1.95	100

Seed treatments – oilseed rape

· Area treated: 290 hectares

· Weight of active substances applied: 3 kilogrammes

· 100% of the area grown was sown with treated seed

· The active substances applied were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Fludioxonil/metalaxyl-M/thiamethoxam	217.13	2.54	74.96
Beta-cyfluthrin/imidacloprid	47.28	0.28	16.32
Unknown seed treatment	25.27		8.72

Pesticide usage on *Camelina*:

· 81 hectares of *Camelina* grown in Northern Ireland all of which was in county Londonderry

· 81 treated hectares

· 32 kilogrammes applied all of which were herbecides & desiccants

· 100% of the area of *Camelina* crops grown received a pesticide treatment

· *Camelina* crops received on average 1.00 herbicide application.

Figure 100: Comparison of the areas of *Camelina* crops grown in Northern Ireland (ha), 1990 - 2012.

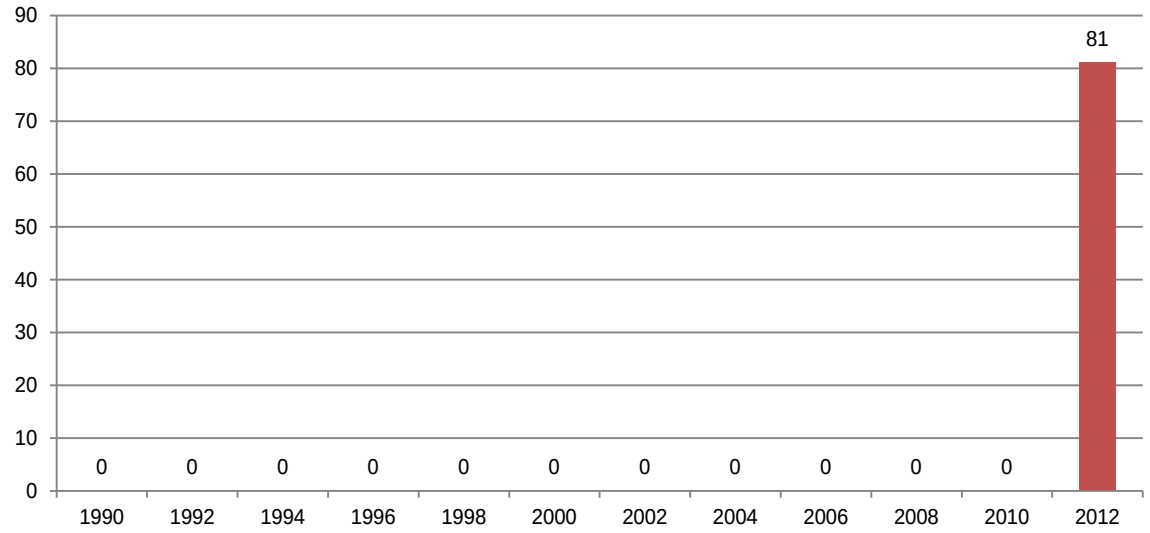
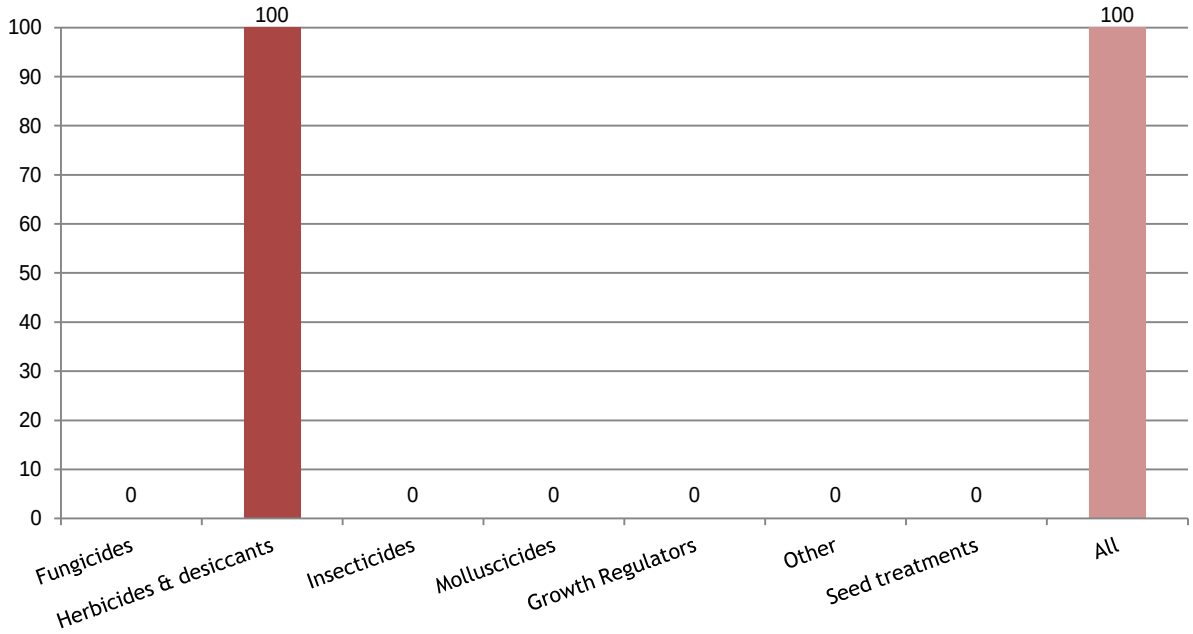


Figure 101: Proportional area (%) of *Camelina* crops treated with each pesticide group in Northern Ireland, 2012.



Herbicide & desiccants – Camelina

· Basic area treated: 81 hectares

· Area treated: 81 spray hectares

· Weight of active substances applied: 32 kilogrammes

· 100% of the area grown treated with herbicide & desiccants

· All applications were for desiccation

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Diquat	80.99	80.99	32.40	100

Pesticide usage on peas & field beans:

· 10 hectares of peas & field bean crops grown in Northern Ireland all of which were in county Antrim

· 21 treated hectares

· 18 kilogrammes applied all of which were herbicides & desiccants.

· 100% of the area of pea & bean crops grown received a pesticide treatment

· Pea & field bean crops received on average 2.00 herbicide applications.

Figure 102: Comparison of the areas of pea & field bean crops grown in Northern Ireland (ha), 1990 - 2012.

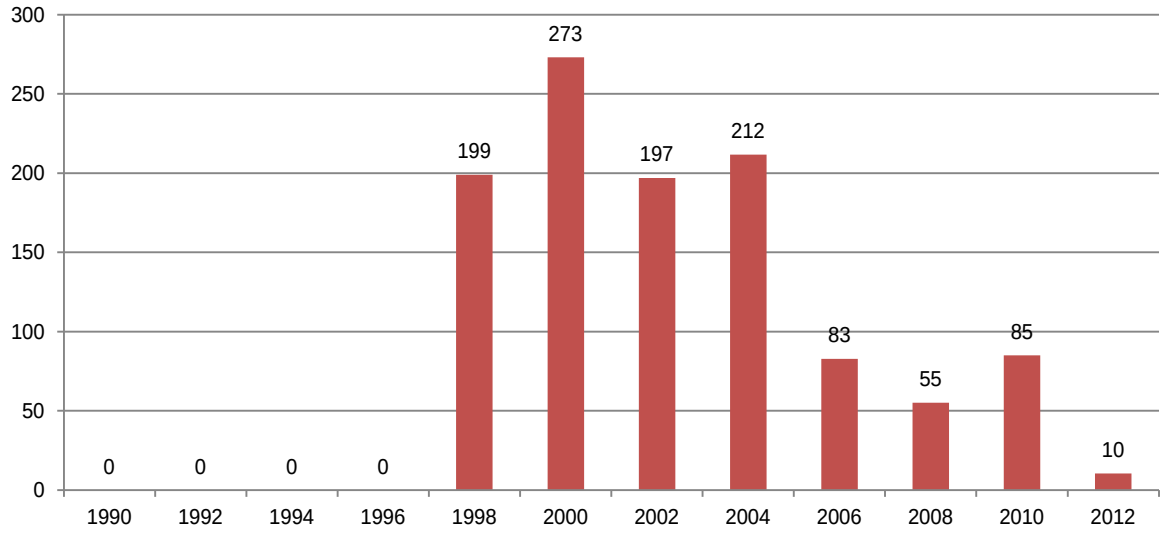
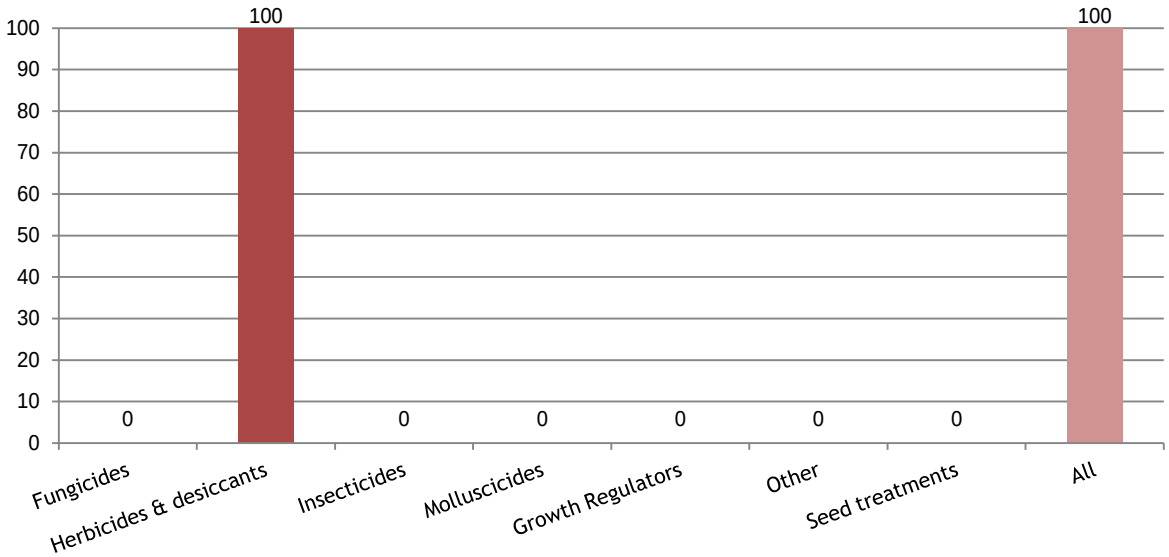


Figure 103: Proportional area (%) of pea & field bean crops treated with each pesticide group in Northern Ireland,



Herbicide & desiccants – peas & field beans

· Basic area treated: 10 hectares

· Area treated: 21 spray hectares

· Weight of active substances applied: 18 kilogrammes

· 100% of the area grown treated with herbicide & desiccants

· All applications were for general weed control

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Linuron	10.36	10.36	10.36	7.77
Pendimethalin	10.36	10.36	10.36	10.26

Pesticide usage on seed potatoes:

· 555 hectares of seed potatoes grown in Northern Ireland

· 9,782 treated hectares

· 4,886 kilogrammes applied

· 100% of the area of seed potato crops grown received a pesticide treatment

· Seed potato crops received on average 11.18 fungicide, 3.87 herbicide & desiccant, 3.12 insecticide and 1.0 molluscicide applications

Figure 104: Comparison of the areas of seed potato crops grown in Northern Ireland (ha), 1990 - 2012.

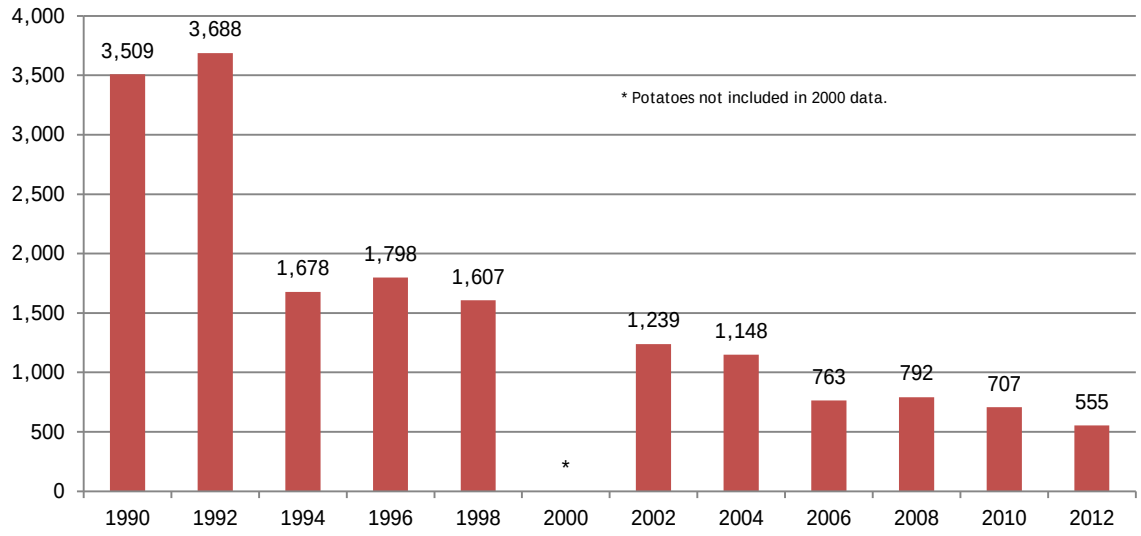


Figure 105: Regional distribution of seed potato crops grown in Northern Ireland (ha), 2012.

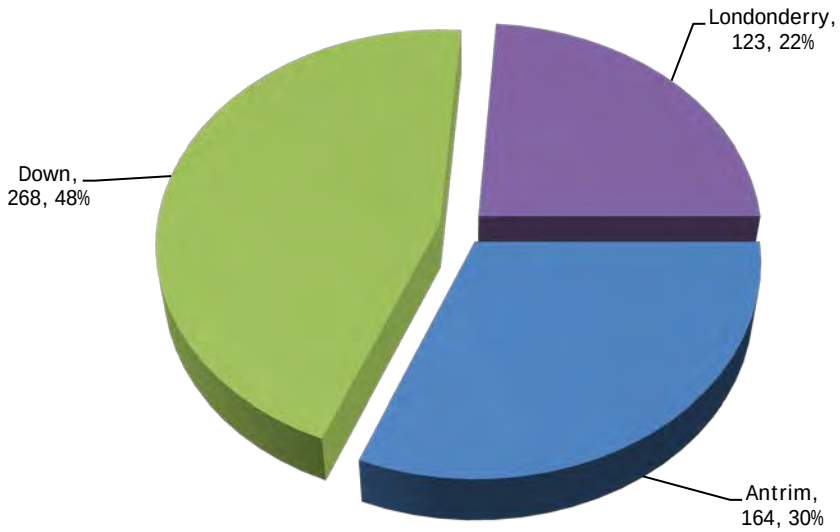


Figure 106: Pesticide usage (spha) on seed potato crops in Northern Ireland, 2012.

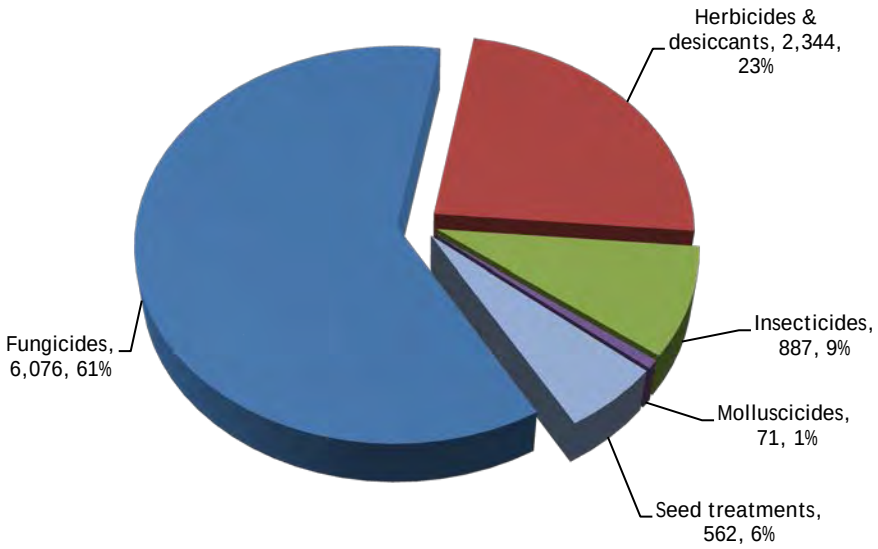


Figure 107: Weight of pesticides (kg) applied to seed potato crops in Northern Ireland, 2012.

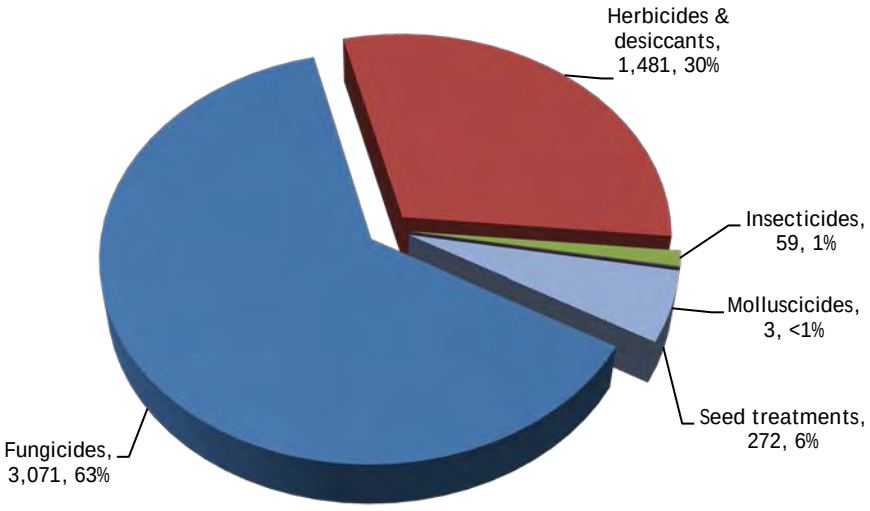
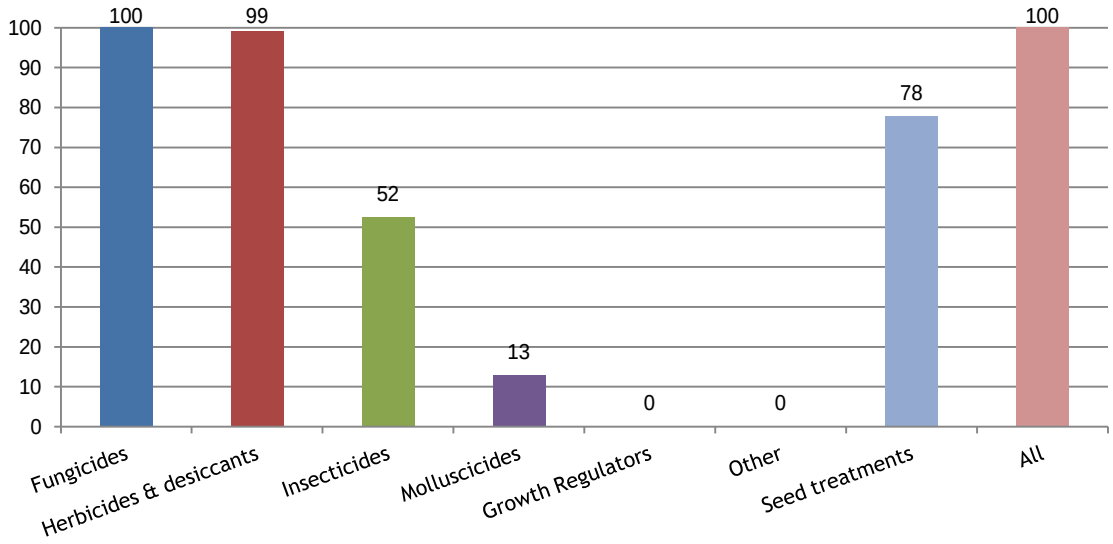


Figure 108: Proportional area (%) of seed potato crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – seed potatoes

· Basic area treated: 555 hectares

· Area treated: 6,076 spray hectares

· Weight of active substances applied: 3,071 kilogrammes

· 100% of the area grown treated with fungicides

· All fungicide applications were to control blight

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Fluazinam	1,853.72	515.80	325.00	30.51
Mandipropamid	906.37	361.14	119.21	14.92
Fluopicolide/propamocarb hydrochloride	572.72	320.79	624.35	9.43
Cymoxanil/mancozeb	510.54	326.42	688.88	8.40
Ametoctradin/Dimethomorph	494.56	337.76	206.41	8.14

Herbicides & desiccants – seed potatoes

· Basic area treated: 550 hectares

· Area treated: 2,344 spray hectares

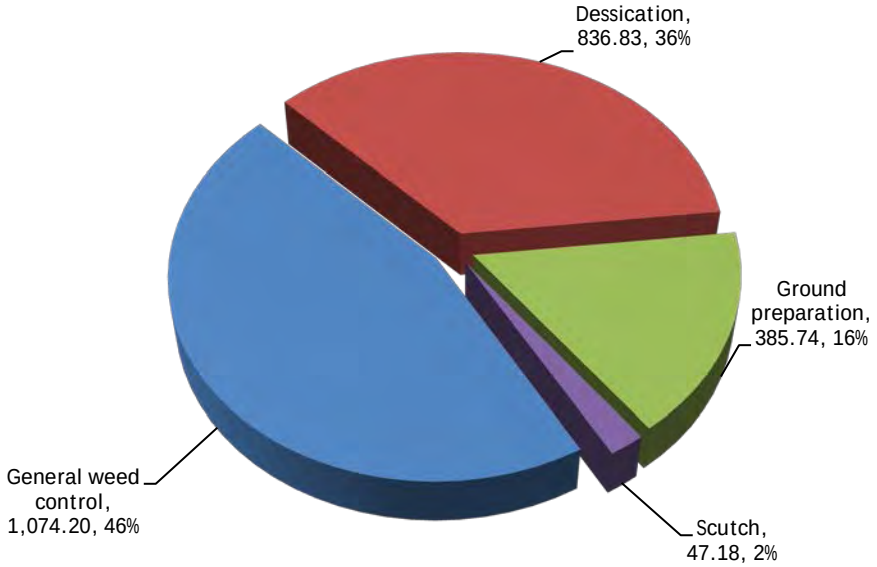
· Weight of active substances applied: 1,481 kilogrammes

· 99% of the area grown treated with herbicides & desiccants

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Diquat	892.76	519.93	321.49	38.09
Metribuzin	497.41	497.41	401.28	21.22
Glyphosate	458.00	458.00	357.50	19.54
Carfentrazone-ethyl	110.96	110.96	9.74	4.73
Prosulfocarb	89.80	89.80	255.04	3.83

Figure 109: Seed potatoes: reasons for herbicide & desiccant use (spha), 2012.



Insecticides – seed potatoes

· Basic area treated: 291 hectares

· Area treated: 887 spray hectares

· Weight of active substances applied: 59 kilogrammes

· 52% of the area grown treated with insecticides

· All applications were to control aphids

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Esfenvalerate	233.07	109.9	1.16	26.26
Pymetrozine	203.98	203.98	33.13	22.99
Thiacloprid	180.96	180.96	17.37	20.39
Lambda-cyhalothrin	135.64	67.82	1.02	15.28
Thiamethoxam	67.82	67.82	1.36	7.64

Molluscicides – seed potatoes

· Basic area treated: 71 hectares

· Area treated: 71 spray hectares

· Weight of active substances applied: 3 kilogrammes

· 13% of the area grown treated with molluscicides

· All applications were to control slugs

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Methiocarb	70.85	70.85	2.83	100

Seed treatments – seed potatoes

· Area treated: 431 hectares

· Weight of active substances applied: 271 kilogrammes

· 78% of the area grown was sown with treated seed

· The active substances applied were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Imazalil/pencycuron	256.99	227.57	45.73
Imazalil	217.78	6.16	38.76
Flutolanil	65.96	33.78	11.74
Imazalil/thiabendazole	21.19	4.19	3.77

Pesticide usage on early potatoes:

· 192 hectares of early potatoes grown in Northern Ireland

· 3,180 treated hectares

· 1,160 kilogrammes applied

· 100% of the area of early potato crops grown received a pesticide treatment

· Early potato crops received on average 5.25 fungicide, 2.96 herbicide & desiccant, 1 insecticide and 2 molluscicide applications

Figure 110: Comparison of the areas of early potato crops grown in Northern Ireland (ha), 1990 - 2012.

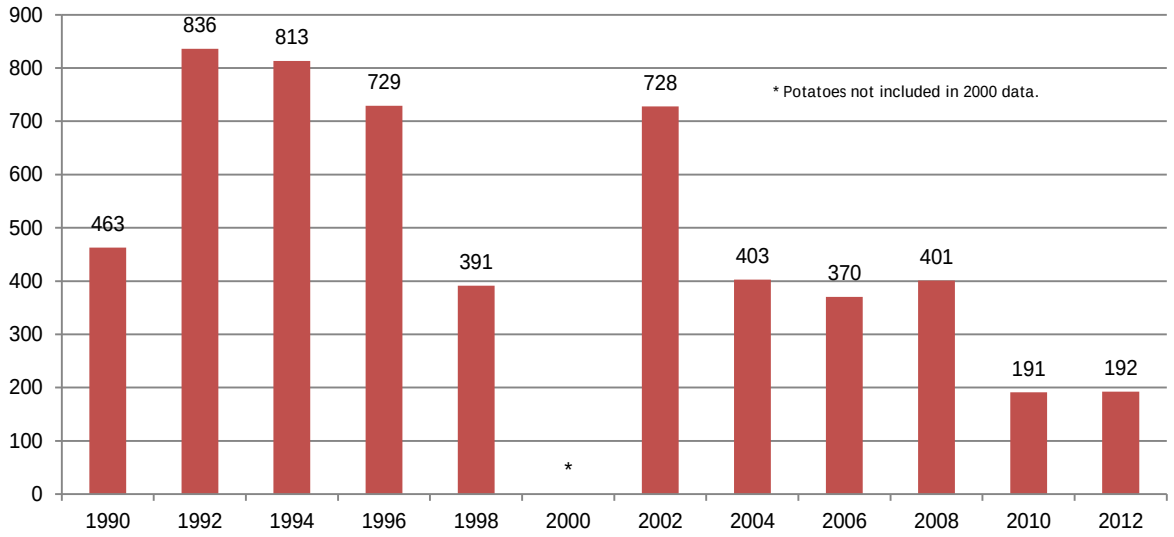


Figure 111: Regional distribution of early potato crops grown in Northern Ireland (ha), 2012.

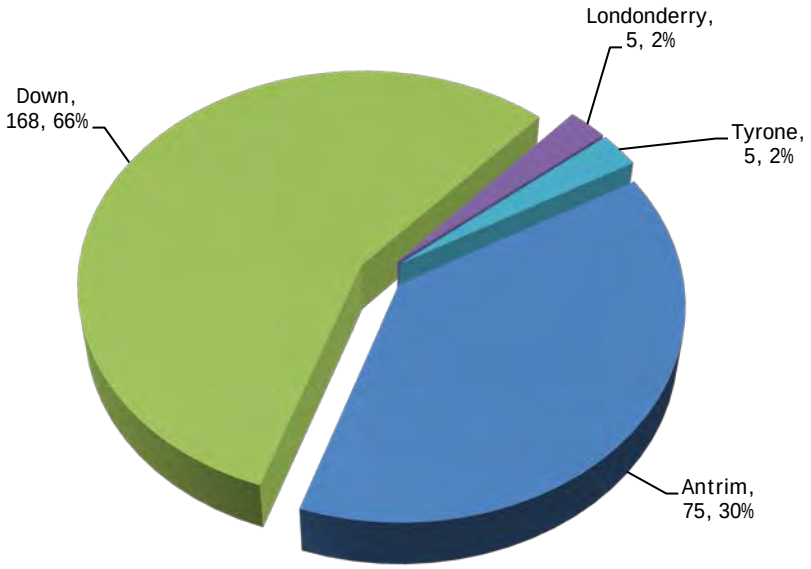


Figure 112: Pesticide usage (spha) on early potato crops in Northern Ireland, 2012.

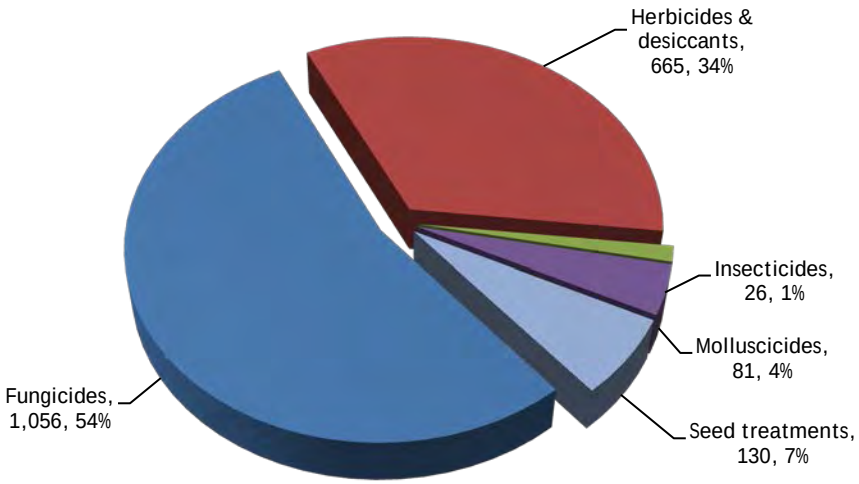


Figure 113: Weight of pesticides (kg) applied to early potato crops in Northern Ireland, 2012.

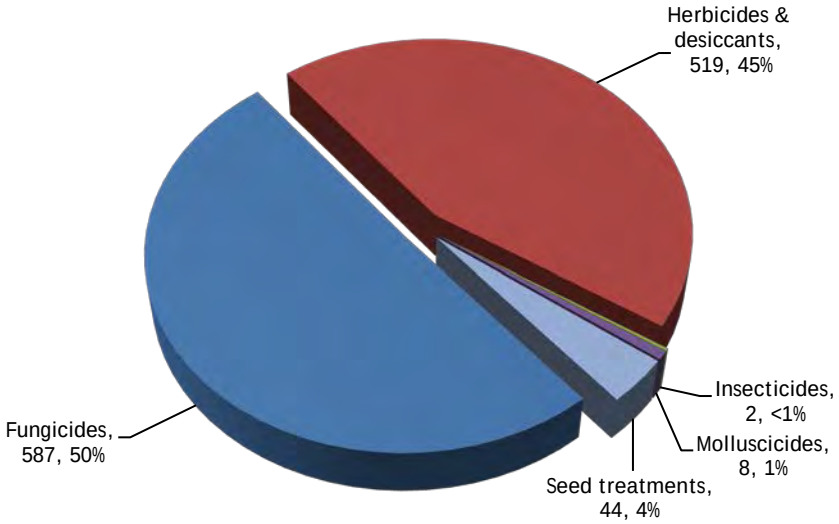
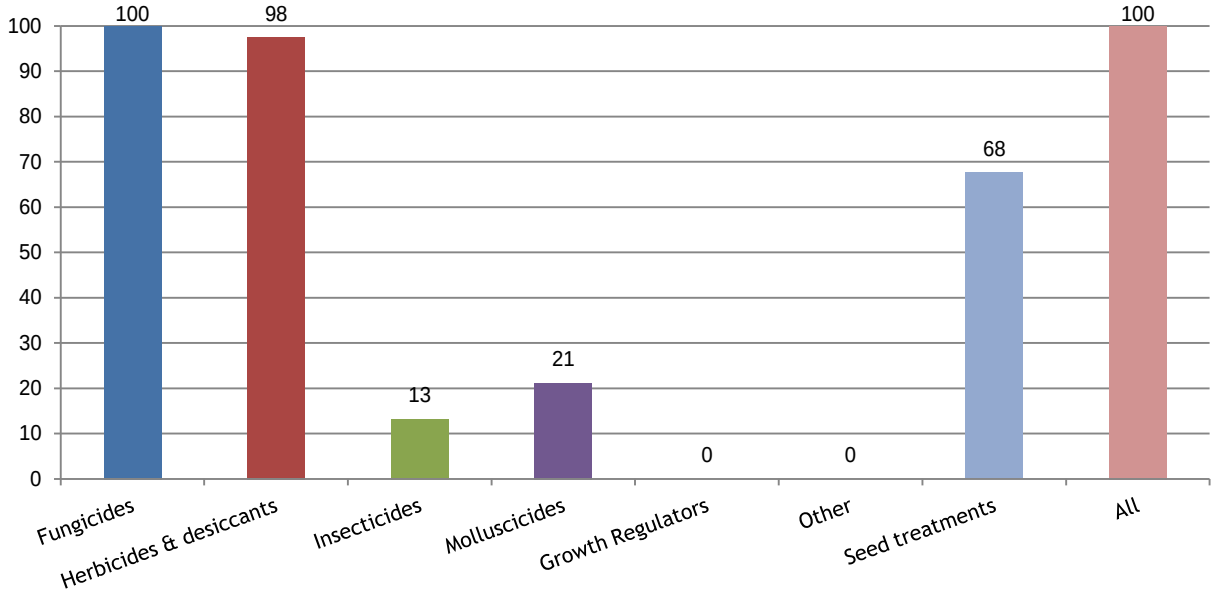


Figure 114: Proportional area (%) of early potato crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – early potatoes

· Basic area treated: 192 hectares

· Area treated: 1,056 spray hectares

· Weight of active substances applied: 587 kilogrammes

· 100% of the area grown treated with fungicides

· All fungicide applications were to control blight

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Fluazinam	359.36	158.52	70.25	34.03
Fenamidone/propamocarb hydrochloride	202.95	128.73	182.65	19.22
Mandipropamid	147.58	86.56	21.93	13.97
Fluopicolide/propamocarb hydrochloride	126.49	82.42	139.14	11.98
Cymoxanil/mancozeb	70.22	59.07	101.81	6.65

Herbicides & desiccants – early potatoes

· Basic area treated: 188 hectares

· Area treated: 665 spray hectares

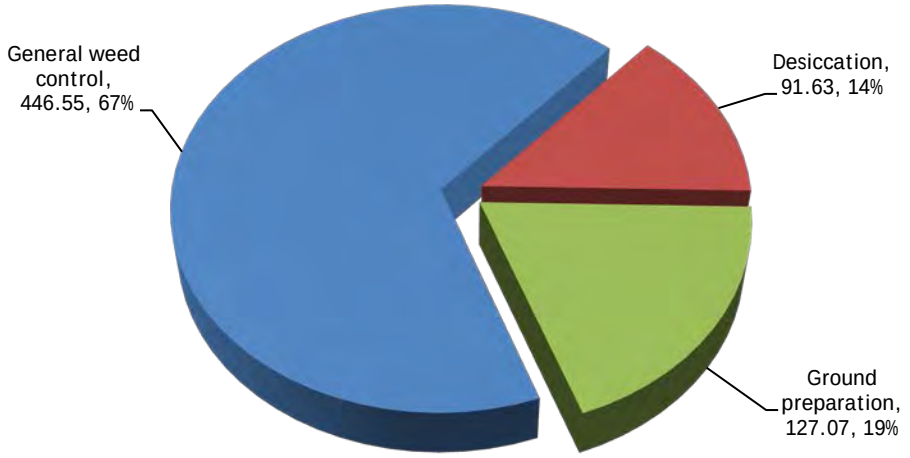
· Weight of active substances applied: 519 kilogrammes

· 98% of the area grown treated with herbicides & desiccants

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Diquat	214.70	133.34	67.28	32.27
Metribuzin	152.23	152.23	145.11	22.88
Glyphosate	127.07	127.07	139.72	19.10
Linuron	78.16	78.16	38.76	11.75
Pendimethalin	61.21	61.21	60.81	9.20

Figure 115: Early potatoes: reasons for herbicide & desiccant use (spha), 2012.



Insecticides – early potatoes

· Basic area treated: 26 hectares

· Area treated: 26 spray hectares

· Weight of active substances applied: 2 kilogrammes

· 13% of the area grown treated with insecticides

· All applications were to control aphids

· The only active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Pirimicarb	17.40	17.40	2.44	68.16
Lambda-cyhalothrin	8.14	8.14	0.06	31.88

Molluscicides – early potatoes

· Basic area treated: 41 hectares

· Area treated: 81 spray hectares

· Weight of active substances applied: 8 kilogrammes

· 21% of the area grown treated with molluscicides

· All applications were to control slugs

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Metaldehyde	40.68	40.68	4.88	50
Methiocarb	40.68	40.68	3.25	50

Seed treatments – early potatoes

· Area treated: 130 hectares

· Weight of active substances applied: 44 kilogrammes

· 68% of the area grown was sown with treated seed

· The active substances applied were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Imazalil	63.08	1.75	48.50
Imazalil/pencycuron	52.06	35.61	40.03
Flutolanil	8.14	2.16	6.26
Pencycuron	6.78	4.26	5.21

Pesticide usage on maincrop potatoes:

· 3,403 hectares of maincrop potatoes grown in Northern Ireland

· 61,977 treated hectares

· 33,415 kilogrammes applied

· 100% of the area of maincrop potatoes grown received a pesticide treatment

· Maincrop potatoes received on average 11.12 fungicide, 3.18 herbicide & desiccant, 1.53 insecticide, 1.46 molluscicide and 1.0 growth regulator applications

Figure 116: Comparison of the areas of maincrop potato crops grown in Northern Ireland (ha), 1990 - 2012.

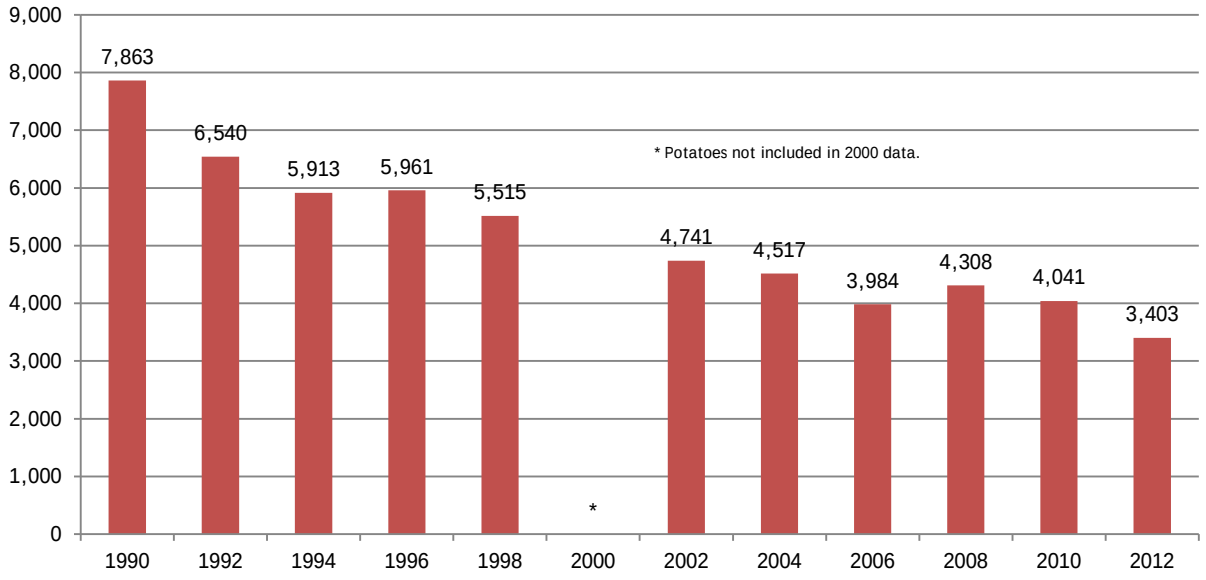


Figure 117: Regional distribution of maincrop potato crops grown in Northern Ireland (ha), 2012.

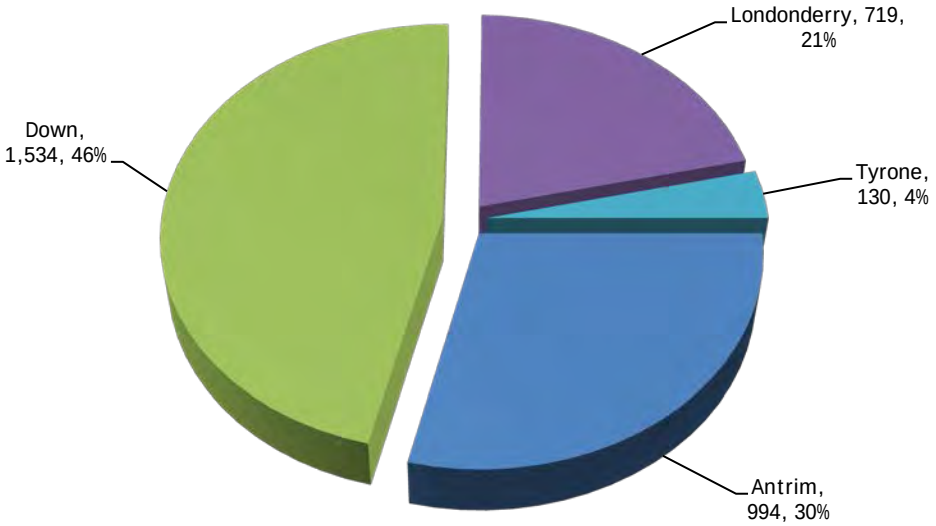


Figure 118: Pesticide usage (spha) on maincrop potato crops in Northern Ireland, 2012.

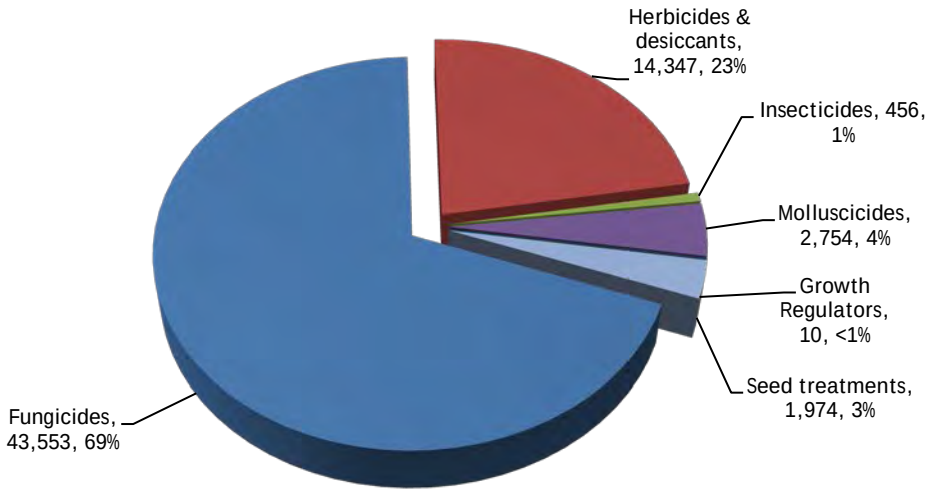


Figure 119: Weight of pesticides (kg) applied to maincrop potato crops in Northern Ireland, 2012.

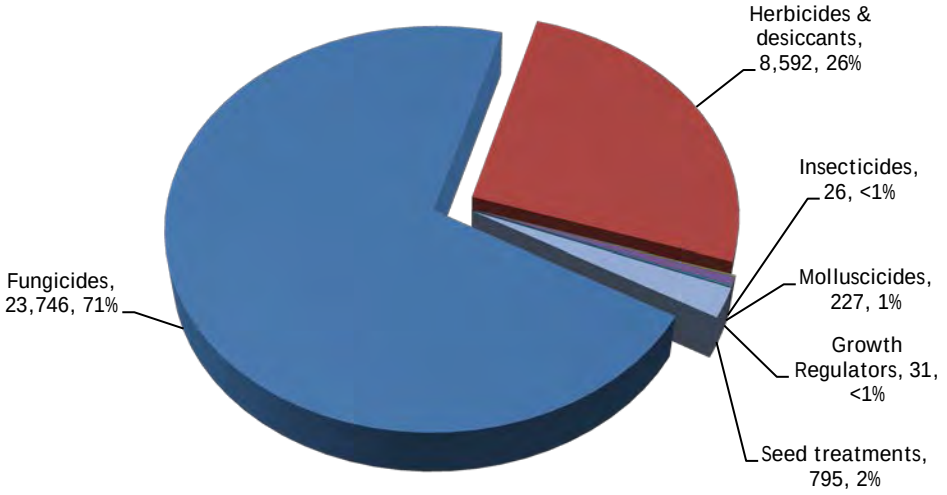
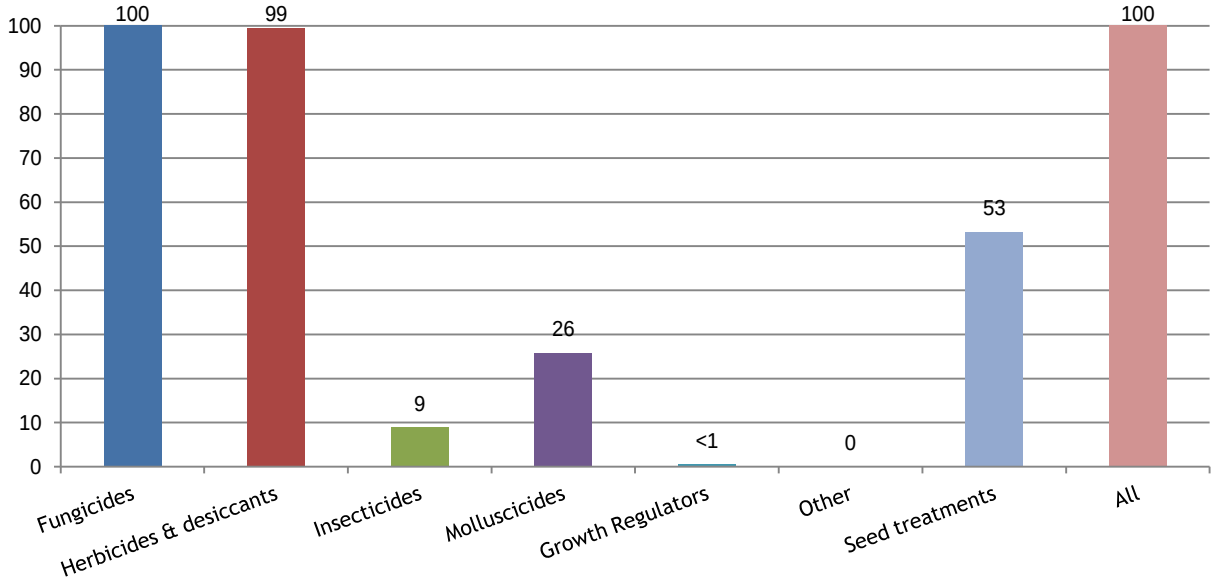


Figure 120: Proportional area (%) of maincrop potato crops treated with each pesticide group in Northern Ireland, 2012.



Fungicides – maincrop potatoes

· Basic area treated: 3,403 hectares

· Area treated: 43,553 spray hectares

· Weight of active substances applied: 23,746 kilogrammes

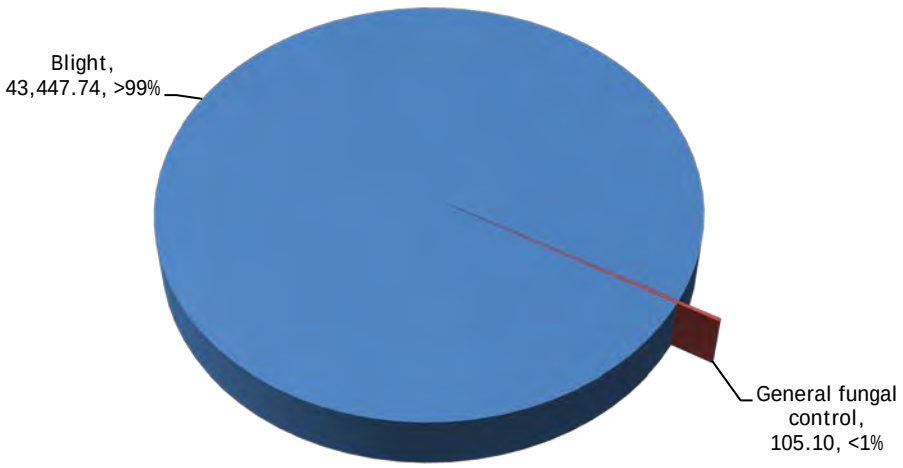
· 100% of the area grown treated with fungicides

· All fungicide applications were to control blight

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Fluazinam	13,892.60	3,008.32	2,549.27	31.90
Fluopicolide/propamocarb hydrochloride	5,198.06	2,589.69	5,535.52	11.94
Mandipropamid	4,695.57	1,628.80	666.04	10.78
Cyazofamid	3,553.02	1,605.70	279.59	8.16
Cymoxanil	3,180.63	1,323.24	264.57	7.30

Figure 121: Maincrop potatoes: reasons for fungicide use (spha), 2012.



Herbicides & desiccants – maincrop potatoes

· Basic area treated: 3,380 hectares

· Area treated: 14,347 spray hectares

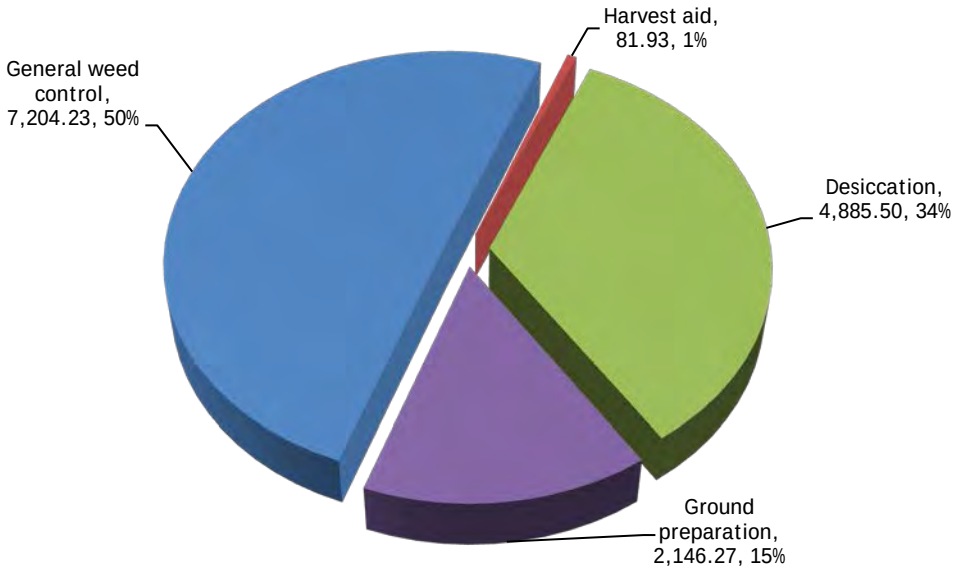
· Weight of active substances applied: 8,592 kilogrammes

· 99% of the area grown treated with herbicides & desiccants

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Diquat	6,192.89	3,210.27	2,093.62	43.17
Metribuzin	3,133.32	3,038.39	2,562.22	21.84
Glyphosate	2,431.93	2,377.55	2,226.32	16.95
Carfentrazone-ethyl	702.24	702.24	49.60	4.89
Linuron	549.79	549.79	312.07	3.83

Figure 122: Maincrop potatoes: reasons for herbicide & desiccant use (spha), 2012.



Insecticides – maincrop potatoes

· Basic area treated: 299 hectares

· Area treated: 456 spray hectares

· Weight of active substances applied: 26 kilogrammes

· 9% of the area grown treated with insecticides

· All applications were to control aphids

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Lambda-cyhalothrin	221.04	187.14	1.63	48.49
Pirimicarb	80.88	80.88	11.32	17.74
Pymetrozine	67.80	33.90	10.17	14.87
Deltamethrin	30.51	30.51	0.19	6.69
Esfenvalerate	30.51	30.51	0.13	6.69

Molluscicides – maincrop potatoes

· Basic area treated: 878 hectares

· Area treated: 2,754 spray hectares

· Weight of active substances applied: 227 kilogrammes

· 26% of the area grown treated with molluscicides

· All applications were to control slugs

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Methiocarb	1,612.72	843.60	93.69	58.56
Metaldehyde	1,141.14	463.10	132.87	41.44

Growth regulators – maincrop potatoes

· Basic area treated: 10 hectares

· Area treated: 10 spray hectares

· Weight of active substances applied: 31 kilogrammes

· <1% of the area grown treated with growth regulators

· All applications were for growth regulation

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Maleic hydrazide	10.17	10.17	30.51	100

Seed treatments – maincrop potatoes

· Area treated: 1,812 hectares

· Weight of active substances applied: 795 kilogrammes

· 53% of the area grown was sown with treated seed

· The active substances applied were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Imazalil/pencycuron	862.03	578.98	43.66
Imazalil	533.83	12.94	27.04
Flutolanil	249.26	96.84	12.63
Imazalil/thiabendazole	193.52	21.14	9.80
Pencycuron	135.61	85.11	6.87

Potato storage:

· 68,804 tonnes of potatoes stored.

· The majority are stored in Counties Antrim and Down

· 8,134 tonnes (11.8%) treated with 217.74 kilogrammes

Figure 123: Comparison of the quantities (t) of potatoes stored in Northern Ireland, 1990 - 2012.

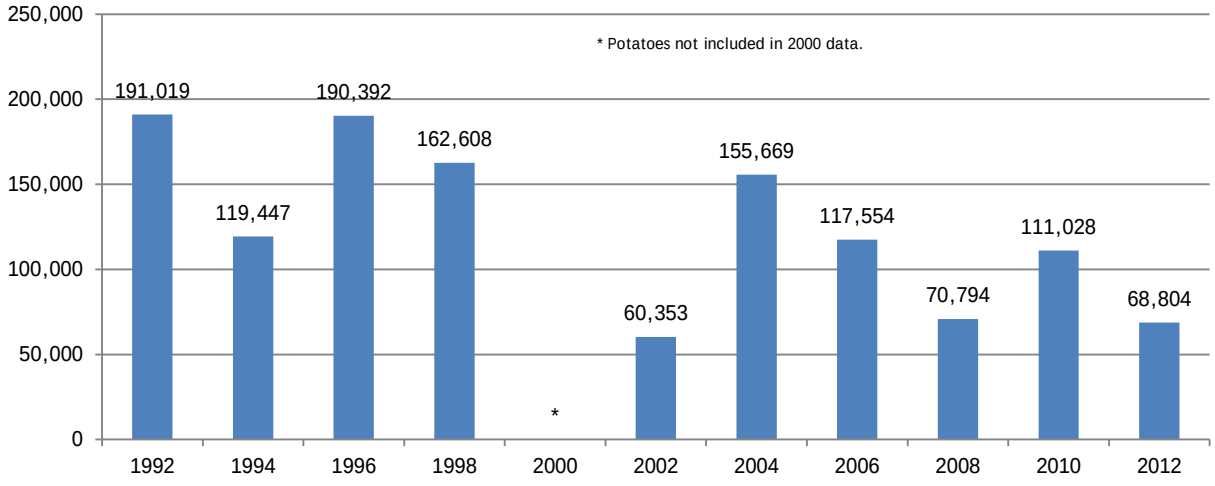


Figure 124: Comparison of the quantities (t) of treated potatoes stored in Northern Ireland, 1990 - 2012.

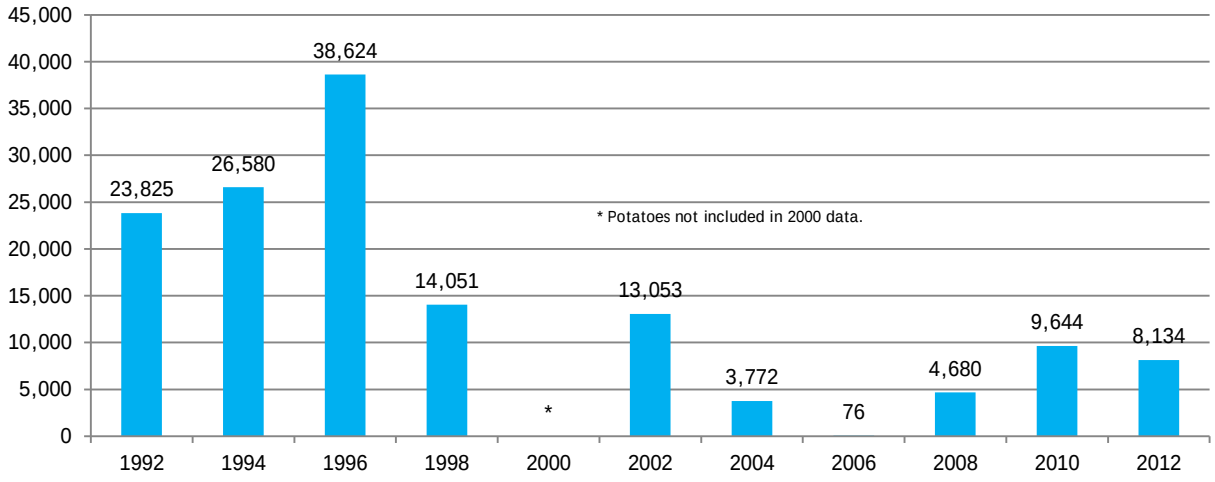


Figure 125: Comparison of the quantities (kg) of pesticide applied to potatoes stored in Northern Ireland, 1990 - 2012.

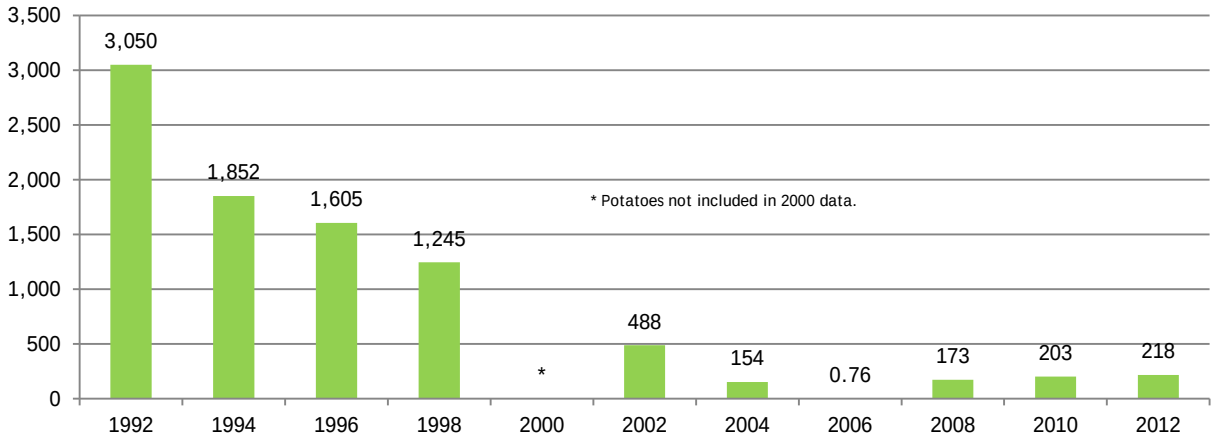


Figure 126: Potato storage: estimated quantity (t) of potatoes stored in each region in Northern Ireland, 2012

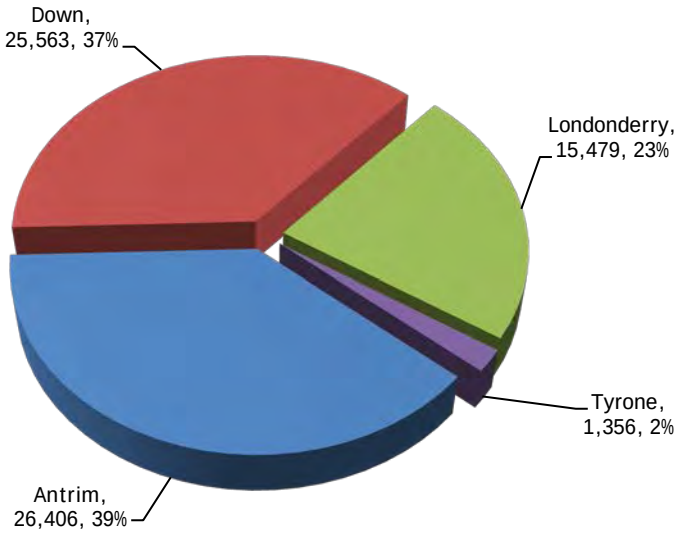


Figure 127: Potato storage: estimated quantity (t) of ware potatoes stored in each region in Northern Ireland, 2012

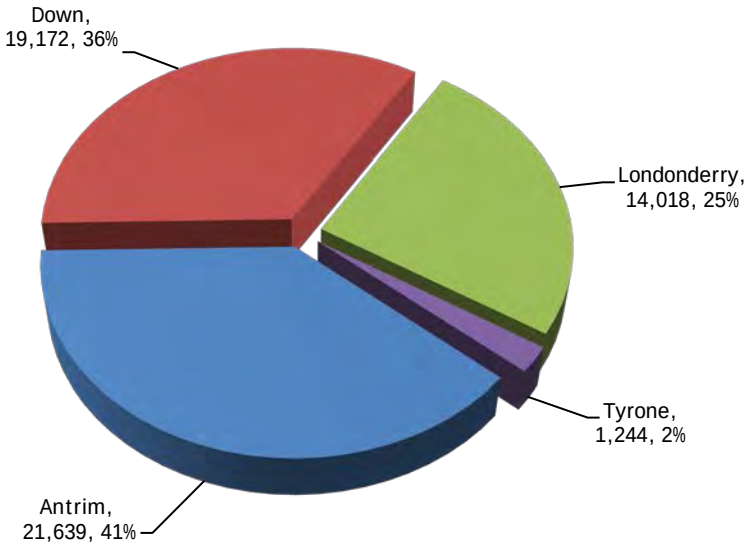


Figure 128: Potato storage: estimated quantity (t) of seed potatoes stored in each region in Northern Ireland, 2012

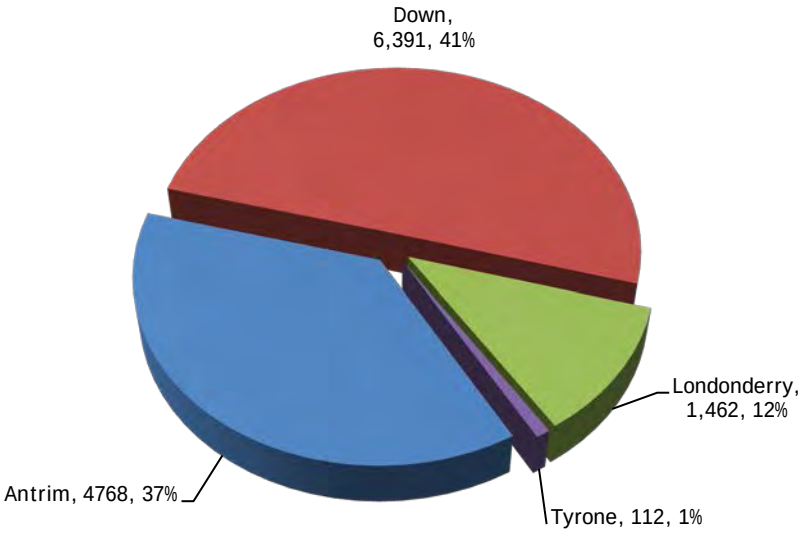


Figure 129: Potato storage: type of storage building used and quantities (t) of potatoes stored in Northern Ireland, 2012.

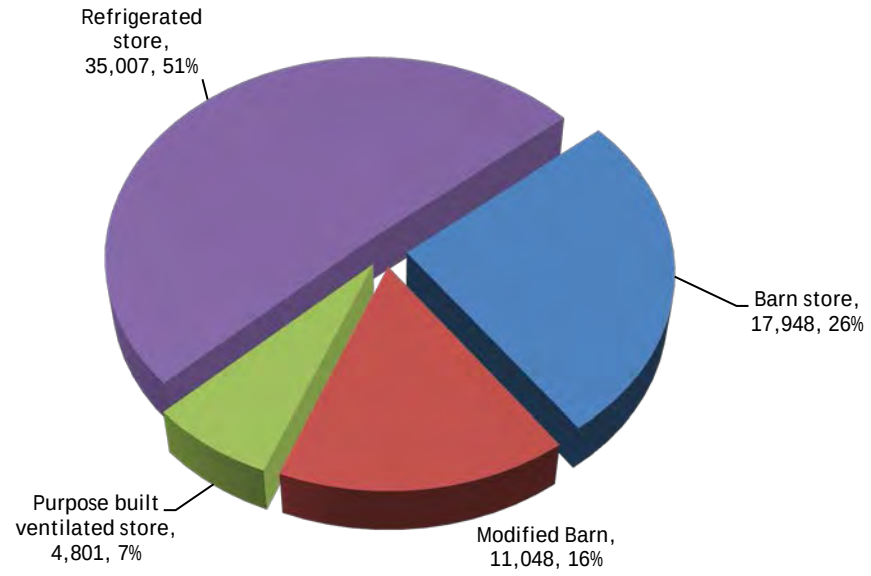


Figure 130: Potato storage: type of storage method used and quantities (t) of potatoes stored in Northern Ireland, 2012.

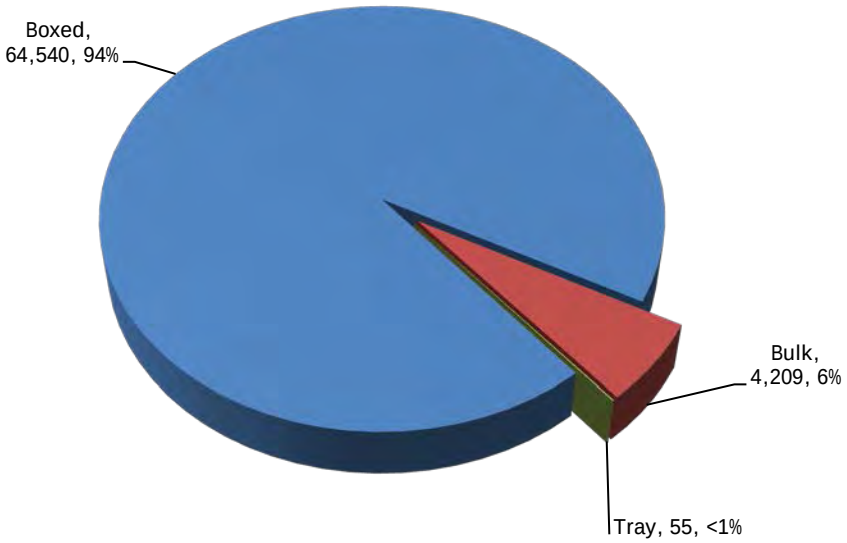


Table 1a: Number of farms in each size class with cereal crops in the Northern Ireland June 2012 census and the number of samples from each class.

	Size group (hectares)													
	< 5		5< 10		10 < 20		20 < 50		50 < 100		100+		Total	
County	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled
Antrim	259	1	127	7	108	4	81	19	18	5	3	3	596	39
Armagh	79	0	51	2	44	2	24	3	6	3	5	2	209	12
Down	412	6	238	12	210	16	149	17	72	32	19	11	1,100	94
Fermanagh	10	0	2	0	3	0	1	0	0	0	0	0	16	0
Londonderry	254	4	155	8	119	8	89	13	27	9	11	3	655	45
Tyrone	141	2	75	2	57	1	26	5	6	3	2	1	307	14
Northern Ireland	***1,155***	***13***	***648***	***31***	***541***	***31***	***370***	***57***	***129***	***52***	***40***	***20***	***2,883***	***204***

Table 1b: Number of farms in each size class with ware potato crops in the Northern Ireland June 2012 census and the number of samples from each class.

	Size group (hectares)											
	< 2		2 < 5		5 < 10		10 < 20		20+		Total	
County	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled
Northern Ireland	246	3	133	9	53	6	38	6	48	24	518	48

Table 1c: Number of farms in each size class with seed potato crops in the Northern Ireland June 2012 census and the number of samples from each class.

	Size group (hectares)											
	< 2		2 < 5		5 < 10		10 < 20		20+		Total	
County	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled	Holdings in size group	Holdings sampled
Northern Ireland	38	1	27	3	9	4	14	3	5	3	93	14

Table 2: The total number and area (ha) of crops sampled, and the proportion (%) of the total area of arable crops surveyed in Northern Ireland, 2012.

Crop	Number of crops surveyed	Survey area (ha)	Proportion of crops surveyed (%)
Spring barley	248	3844.9	19.5%
Undersown spring barley	6	22.7	4.5%
Winter barley	89	1226.3	23.0%
Spring wheat	23	310.2	20.7%
Undersown spring wheat	1	4.0	8.3%
Winter wheat	107	1843.2	23.5%
Spring oats	26	301.5	20.9%
Undersown spring oats	4	23.1	12.0%
Winter oats	10	109.4	44.5%
Winter oilseed rape	12	136.2	26.3%
Spring oilseed rape	4	159.3	55.0%
Camelina	1	13.4	16.5%
Peas & field beans	1	2.4	23.5%
Seed potatoes	30	214.6	38.7%
Early potatoes	20	96.9	50.4%
Maincrop potatoes	104	1380.4	40.6%
Total	***686***	***9688.4***	***23.1%***

Table 3: Estimated area (ha) of arable crops grown regionally in Northern Ireland 2012.

	County					
Crop	**Antrim**	**Armagh**	**Down**	**Londonderry**	**Tyrone**	**Northern Ireland**
Spring barley	3,861	1,109	8,169	5,647	917	19,702
Undersown spring barley	54	.	16	120	318	508
Winter barley	400	195	3,058	927	742	5,323
Spring wheat	585	.	704	44	167	1,500
Undersown spring wheat	.	.	48	.	.	48
Winter wheat	1,106	1,577	3,287	1,187	689	7,846
Spring oats	359	216	619	247	.	1,441
Undersown spring oats	.	.	14	179	.	193
Winter oats	.	8	105	115	18	246
Winter oilseed rape	33	224	.	199	61	517
Spring oilseed rape	.	25	264	.	.	290
Camelina	.	.	.	81	.	81
Peas & field beans	10	.	.	.	.	10
Seed potatoes	173	.	250	132	.	555
Early potatoes	74	.	108	5	5	192
Maincrop potatoes	979	.	1,582	719	124	3,403
Total	***7,634***	***3,354***	***18,226***	***9,601***	***3,040***	***41,856***

Table 4a: Estimated area (spha) of arable crops treated regionally with each pesticide type in Northern Ireland 2012.

	County					
Pesticide type	**Antrim**	**Armagh**	**Down**	**Londonderry**	**Tyrone**	**Northern Ireland**
Fungicides	26,546	10,302	72,103	36,667	11,636	157,255
Herbicides	22,594	8,465	48,012	24,669	9,747	113,487
Insecticides	6,565	2,857	12,546	7,073	989	30,030
Molluscicides	2,397	224	547	474	.	3,642
Growth Regulators	4,082	3,487	12,105	8,656	3,341	31,670
Other	33	610	.	.	22	664
Seed treatments	7,296	3,723	15,633	8,392	3,054	38,098
Total	***69,513***	***29,667***	***160,945***	***85,931***	***28,788***	***374,845***

Table 4b: Estimated weight (kg) applied to arable crops regionally with each pesticide type in Northern Ireland 2012.

	County					
Pesticide type	**Antrim**	**Armagh**	**Down**	**Londonderry**	**Tyrone**	**Northern Ireland**
Fungicides	13,710	2,509	26,748	11,333	4,400	58,699
Herbicides	9,832	3,622	24,629	9,459	4,580	52,122
Insecticides	619	25	537	441	8	1,630
Molluscicides	177	20	71	30	.	297
Growth Regulators	2,720	2,129	7,145	3,684	907	16,585
Other	28	201	.	.	15	244
Seed treatments	530	141	1,326	424	100	2,522
Total	***27,615***	***8,649***	***60,455***	***25,371***	***10,010***	***132,100***

Table 5: The total area (spha) and the basic area (ha), (in parentheses), of arable crops treated with each pesticide type in Northern Ireland 2012.

	Pesticide type															
	Fungicides		Herbicides & desiccants		Insecticides		Molluscicides		Growth Regulators		Other		Seed treatments		All pesticides	
Crop	Sp ha	(ha)	Sp ha	(ha)	Sp ha	(ha)	Sp ha	(ha)	Sp ha	(ha)	Sp ha	(ha)	Sp ha	(ha)	Sp ha	(ha)
Spring barley	38,893	(14,942)	54,599	(19,517)	14,914	(12,835)	.	.	12,702	(9,746)	425	(425)	16,990	(16,684)	138,523	(19,595)
Undersown spring barley	131	(93)	585	(508)	174	(174)	.	.	39	(39)	.	.	453	(453)	1,382	(508)
Winter barley	18,698	(5,017)	13,822	(5,280)	3,343	(2,374)	74	(74)	5,675	(3,817)	.	.	5,031	(5,031)	46,642	(5,323)
Spring wheat	3,835	(1,293)	4,210	(1,500)	1,606	(1,188)	242	(242)	1,262	(1,234)	.	.	1,500	(1,500)	12,656	(1,500)
Undersown spring wheat	.	.	48	(48)	.	.	.	.	.	.	.	.	48	(48)	96	(48)
Winter wheat	40,903	(7,846)	18,059	(7,415)	7,649	(5,369)	151	(151)	11,056	(6,915)	.	.	9,292	(7,714)	87,110	(7,846)
Spring oats	1,893	(633)	2,289	(981)	574	(560)	.	.	696	(623)	.	.	892	(892)	6,345	(995)
Undersown spring oats	133	(067)	346	(193)	87	(087)	.	.	67	(67)	.	.	193	(193)	825	(193)
Winter oats	818	(224)	378	(157)	168	(102)	.	.	163	(154)	.	.	246	(246)	1,773	(246)
Winter oilseed rape	1,252	(517)	1,332	(517)	132	(132)	270	(270)	.	.	239	(239)	496	(496)	3,721	(517)
Spring oilseed rape	13	(13)	362	(290)	13	(013)	.	.	.	.	.	.	290	(290)	679	(290)
Camelina	.	.	81	(81)	.	.	.	.	.	.	.	.	.	.	81	(81)
Peas & field beans	.	.	21	(10)	.	.	.	.	.	.	.	.	.	.	21	(10)
Seed potatoes	6,076	(555)	2,344	(550)	887	(291)	71	(071)	.	.	.	.	562	(431)	9,940	(555)
Early potatoes	1,056	(192)	665	(188)	26	(26)	81	(41)	.	.	.	.	130	(130)	1,958	(192)
Maincrop potatoes	43,553	(3,403)	14,347	(3,380)	456	(299)	2,754	(878)	10	(10)	.	.	1,974	(1,812)	63,093	(3,403)
Total	***157,255***	***(34,795)***	***113,487***	***(40,615)***	***30,030***	***(23,450)***	***3,642***	***(1,725)***	***31,670***	***(22,605)***		***(0,664)***	***38,098***	***(35,920)***	***374,845***	***(41,303)***

Table 6: Total quantity (kg) of each pesticide type used on arable crops in Northern Ireland 2012.

Crop	Fungicides	Herbicides & desiccants	Insecticides	Molluscicides	Growth Regulators	Other	Seed treatments	Total
Spring barley	11,471	22,011	1,100	.	4,755	45	444	39,826
Undersown spring barley	48	492	3	.	36	.	14	592
Winter barley	6,051	8,461	127	6	2,085	.	327	17,056
Spring wheat	1,421	2,249	149	18	809	.	36	4,682
Undersown spring wheat	.	0.12	.	.	.	.	0.30	0.42
Winter wheat	11,506	6,159	152	14	8,155	.	549	26,535
Spring oats	339	818	3	.	506	.	19	1,685
Undersown spring oats	34	45	0.36	.	3	.	4	86
Winter oats	244	109	6	.	207	.	8	574
Winter oilseed rape	180	844	1	22	.	200	8	1,255
Spring oilseed rape	1	291	2	.	.	.	3	297
Camelina	.	32	.	.	.	.	.	32
Peas & field beans	.	18	.	.	.	.	.	18
Seed potatoes	3,071	1,481	59	3	.	.	272	4,886
Early potatoes	587	519	2	8	.	.	44	1,160
Maincrop potatoes	23,746	8,592	26	227	31	.	795	33,415
Total	***58,699***	***52,122***	***1,630***	***297***	***16,585***	***244***	***2,522***	***132,100***

Table 7: The proportional area (%) of each crop treated with pesticides and the mean number of spray applications (in parentheses) in Northern Ireland, 2012.

Crop	Fungicides		Herbicides & desiccants		Insecticides		Molluscicides		Growth Regulators		Other		Seed treatments	All pesticides	
	%	sp apps	%	sp apps	%	sp apps	%	sp apps	%	sp apps	%	sp apps	%	%	sp apps
Spring barley	76	(2.32)	99	(2.61)	65	(1.09)	.	.	49	(1.32)	2	(1.00)	85	99	(1.75)
Undersown spring barley	18	(1.45)	100	(1.17)	34	(1.00)	.	.	8	(1.00)	.	.	89	100	(1.11)
Winter barley	94	(3.44)	99	(2.47)	45	(1.25)	1	(1.00)	72	(1.47)	.	.	95	100	(2.02)
Spring wheat	86	(2.86)	100	(2.84)	79	(1.39)	16	(1.00)	82	(1.03)	.	.	100	100	(1.75)
Undersown spring wheat	.	.	100	(1.00)	.	.	.	.	.	.	.	.	100	100	(1.00)
Winter wheat	100	(4.63)	95	(2.54)	68	(1.47)	2	(1.00)	88	(1.56)	.	.	98	100	(2.37)
Spring oats	44	(2.48)	68	(1.93)	39	(1.04)	.	.	43	(1.14)	.	.	62	69	(1.58)
Undersown spring oats	35	(2.00)	100	(1.44)	45	(1.00)	.	.	35	(1.00)	.	.	100	100	(1.22)
Winter oats	91	(3.31)	64	(2.33)	41	(1.54)	.	.	62	(1.12)	.	.	100	100	(1.89)
Winter oilseed rape	100	(2.33)	100	(2.51)	26	(1.00)	52	(1.00)	.	.	46	(1.00)	96	100	(1.67)
Spring oilseed rape	5	(1.00)	100	(1.52)	5	(1.00)	.	.	.	.	.	.	100	100	(1.21)
Camelina	.	.	100	(1.00)	.	.	.	.	.	.	.	.	.	100	(1.00)
Peas & field beans	.	.	100	(2.00)	.	.	.	.	.	.	.	.	.	100	(2.00)
Seed potatoes	100	(10.74)	99	(3.87)	52	(3.12)	13	(1.00)	.	.	.	.	78	100	(5.68)
Early potatoes	100	(5.25)	98	(2.96)	13	(1.00)	21	(2.00)	.	.	.	.	68	100	(3.50)
Maincrop potatoes	100	(11.18)	99	(3.18)	9	(1.53)	26	(1.46)	<1	(1.00)	.	.	53	100	(6.12)
Total	***83***	***(4.94)***	***97***	***(2.63)***	***56***	***(1.19)***	***4***	***(1.27)***	***54***	***(1.36)***	***1.6***	***(1.00)***	***86***	***98***	***(2.42)***

Table 8: Estimated area (spha) of arable crops treated with pesticide formulations in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Fungicides																	
Ametoctradin/ Dimethomorph	.	.	.	.	.	.	.	.	.	.	.	.	.	494.56	37.06	2,187.82	2,719.44
Azoxystrobin	485.42	.	166.97	.	.	2,002.13	.	.	8.01	432.60	.	.	.	.	.	220.36	3,315.49
Azoxystrobin/ chlorothalonil	442.79	.	32.45	491.95	.	911.57	.	.	.	.	.	.	.	.	.	150.28	2,029.05
Azoxystrobin/ cyproconazole	46.83	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	46.83
Benthiavalicarb-isopropyl/ mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	365.56	365.56
Bixafen/ Fluoxastrobin/ Prothioconazole	.	.	.	.	.	486.13	.	.	.	.	.	.	.	.	.	.	486.13
Bixafen/ Prothioconazole	2,006.51	.	596.33	155.15	.	978.68	.	.	.	.	.	.	.	.	.	.	3,736.67
Bixafen/ Prothioconazole/ Spiroxamine	.	.	.	.	.	16.69	.	.	.	.	.	.	.	.	.	.	16.69
Boscalid/ epoxiconazole	422.25	53.95	323.90	274.73	.	1,432.49	.	.	.	.	.	.	.	.	.	.	2,507.31
Carbendazim/ flusilazole	132.33	.	909.63	.	.	.	.	.	.	.	.	.	.	.	.	.	1,041.96
Chlorothalonil	7,594.94	38.70	3,676.38	567.45	.	8,105.99	66.27	.	66.58	.	.	.	.	.	.	261.24	20,377.56
Chlorothalonil/ cyproconazole	1,291.13	.	249.42	.	.	78.52	.	.	.	.	.	.	.	.	.	.	1,619.07
Chlorothalonil/ cyproconazole/ propiconazole	565.40	.	108.53	.	.	520.17	.	.	.	.	.	.	.	.	.	.	1,194.10
Chlorothalonil/ flusilazole	516.45	.	61.59	.	.	.	35.01	.	.	.	.	.	.	.	.	.	613.05
Chlorothalonil/ picoxystrobin	302.08	.	1,220.41	.	.	118.73	.	.	.	.	.	.	.	.	.	.	1,641.21
Chlorothalonil/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	.	60.39	.	445.02	505.41
Chlorothalonil/propiconazole	.	.	.	.	.	6.19	.	.	.	.	.	.	.	.	.	.	6.19
Chlorothalonil/Proquinazid	730.49	.	194.78	62.57	.	439.36	.	.	.	.	.	.	.	.	.	.	1,427.20
Copper oxychloride	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	183.07	183.07
Cyazofamid	.	.	.	.	.	.	.	.	.	.	.	.	.	405.11	11.53	3,553.02	3,969.66
Cymoxanil	.	.	.	.	.	.	.	.	.	.	.	.	.	325.76	69.84	3,180.63	3,576.24
Cymoxanil/famoxadone	.	.	.	.	.	.	.	.	.	.	.	.	.	40.26	.	233.55	273.80
Cymoxanil/mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	.	510.54	70.22	2,725.47	3,306.23
Cymoxanil/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	.	47.18	.	81.36	128.54
Cyproconazole/propiconazole	284.71	.	65.79	.	.	119.73	.	.	.	.	.	.	.	.	.	.	470.23
Cyprodinil	1,238.83	.	450.89	.	.	40.31	.	.	.	.	.	.	.	.	.	.	1,730.03
Cyprodinil/isopyrazam	3,067.79	.	2,343.49	.	.	78.52	.	.	.	.	.	.	.	.	.	.	5,489.79
Cyprodinil/picoxystrobin	122.43	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	122.43
Dimethomorph/mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	.	259.07	15.23	2,641.15	2,915.45

Table 8 (cont.): Estimated area (spha) of arable crops treated with pesticide formulations in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Fungicides (cont.)																	
Epoxiconazole	1,102.80	.	398.05	293.23	.	2,344.03	295.09	.	18.24	.	.	.	.	.	.	.	4,451.44
Epoxiconazole/fenpropimorph	.	.	171.44	30.04	.	26.66	31.26	.	.	.	.	.	.	.	.	.	259.39
Epoxiconazole/fenpropimorph/kresoxim-methyl	632.88	.	164.03	.	.	236.38	.	.	.	.	.	.	.	.	.	.	1,033.28
Epoxiconazole/fenpropimorph/metrafenone	297.97	.	.	40.08	.	654.26	163.90	133.16	191.03	.	.	.	.	.	.	.	1,480.41
Epoxiconazole/Fluxapyroxad	60.99	.	232.83	.	.	148.49	.	.	.	.	.	.	.	.	.	.	442.31
Epoxiconazole/Isopyrazam	80.15	.	12.40	25.03	.	1,041.19	.	.	.	.	.	.	.	.	.	.	1,158.77
Epoxiconazole/kresoxim-methyl	.	.	.	.	.	.	24.64	.	.	.	.	.	.	.	.	.	24.64
Epoxiconazole/metconazole	195.66	.	170.59	474.10	.	2,192.43	.	.	.	.	.	.	.	.	.	.	3,032.78
Epoxiconazole/Metrafenone	.	.	.	.	.	.	.	.	133.16	.	.	.	.	.	.	.	133.16
Epoxiconazole/prochloraz	1,175.62	.	532.05	.	.	257.39	.	.	.	.	.	.	.	.	.	.	1,965.06
Epoxiconazole/pyraclostrobin	.	.	.	.	.	209.96	.	.	.	.	.	.	.	.	.	.	209.96
Fenamidone/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	.	140.12	202.95	2,819.06	3,162.13
Fenpropidin	.	.	94.27	.	.	762.16	.	.	.	.	.	.	.	.	.	.	856.43
Fenpropimorph	692.58	.	694.12	.	.	772.70	602.01	.	173.31	.	.	.	.	.	.	.	2,934.74
Fenpropimorph/flusilazole	567.73	.	154.27	.	.	18.56	.	.	.	.	.	.	.	.	.	.	740.56
Fenpropimorph/pyraclostrobin	.	.	.	.	.	713.31	.	.	.	.	.	.	.	.	.	.	713.31
Fluazinam	.	.	.	.	.	.	.	.	.	.	.	.	.	1,853.72	359.36	13,892.60	16,105.68
Fluopicolide/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	.	572.72	126.49	5,198.06	5,897.28
Fluoxastrobin/prothioconazole	3,591.81	.	1,188.03	.	.	527.57	.	.	.	.	.	.	.	.	.	.	5,307.41
Fluoxastrobin/prothioconazole/trifloxystrobin	435.36	.	207.94	60.07	.	447.93	.	.	.	.	.	.	.	.	.	.	1,151.30
Fluquinconazole/prochloraz	.	.	.	.	.	581.70	.	.	.	.	.	.	.	.	.	.	581.70
Flusilazole	.	.	74.92	.	.	.	.	.	.	18.53	.	.	.	.	.	.	93.45
Fluxapyroxad	.	.	128.70	.	.	459.94	.	.	.	.	.	.	.	.	.	.	588.64
Folpet	775.55	.	262.32	.	.	.	.	.	.	.	.	.	.	.	.	.	1,037.87
Mancozeb	.	.	.	264.58	.	432.29	.	.	18.15	.	.	.	.	460.10	15.91	478.74	1,669.77
Mancozeb/metalaxyl-M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	33.90	33.90
Mandipropamid	.	.	.	.	.	.	.	.	.	.	.	.	.	906.37	147.58	4,695.57	5,749.52
Metconazole	.	.	.	.	.	.	.	.	.	.	13.48	.	.	.	.	.	13.48
Picoxystrobin	577.87	.	48.46	.	.	.	.	.	.	.	.	.	.	.	.	.	626.33
Prochloraz/tebuconazole	.	.	.	40.08	.	.	.	.	.	.	.	.	.	.	.	.	40.08
Proquinazid	837.23	.	605.94	264.58	.	1,453.79	19.35	.	52.78	.	.	.	.	.	.	.	3,233.67

Table 8 (cont.): **Estimated area (spha) of arable crops treated with pesticide formulations in Northern Ireland in 2012.**

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Fungicides (cont.)																	
Prothioconazole	2246.25	.	1385.59	196.28	.	2223.51	.	.	95.60	289.95	.	.	.	.	.	.	6437.17
Prothioconazole/Spiroxamine	142.16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	142.16
Prothioconazole/tebuconazole	1275.82	38.70	151.80	137.70	.	6005.29	.	.	.	79.28	.	.	.	.	.	.	7688.59
Prothioconazole/trifloxystrobin	3412.52	.	1280.05	58.94	.	308.65	.	.	.	.	.	.	.	.	.	.	5060.16
Pyraclostrobin	1377.27	.	305.97	72.62	.	915.50	300.29	.	9.01	.	.	.	.	.	.	.	2980.67
Quinoxyfen	.	.	.	.	.	.	287.01	.	26.15	.	.	.	.	.	.	.	313.16
Tebuconazole	163.91	.	33.87	325.93	.	2833.76	68.45	.	26.15	431.51	.	.	.	.	.	94.93	3978.51
Unknown fungicide	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	111.44	111.44
All fungicides	***38,892.52***	***131.35***	***18,698.24***	***3,835.11***	***.***	***40,902.65***	***1,893.27***	***133.16***	***818.18***	***1,251.86***	***13.48***	***.***	***.***	***6,075.90***	***1,056.16***	***43,552.84***	***157,254.72***

Table 8 (cont.): Estimated area (spha) of arable crops treated with pesticide formulations in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Herbicides & desiccants																	
2,4-DB	.	38.17	.	.	.	.	.	.	.	.	.	.	.	.	.	.	38.17
2,4-DB/linuron/MCPA	.	453.63	.	.	.	.	.	25.12	.	.	.	.	.	.	.	.	478.76
Amidosulfuron	.	.	.	.	.	.	.	.	62.00	.	.	.	.	.	.	.	62.00
Amidosulfuron/iodosulfron-methyl-sodium	437.82	.	301.13	.	.	67.25	.	.	.	.	.	.	.	.	.	.	806.20
Aminopyralid/fluroxypyr	187.76	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	187.76
Bromoxynil/ioxynil	1,500.14	.	174.60	245.07	.	258.08	.	.	62.00	.	.	.	.	.	.	.	2,239.89
Carfentrazone-ethyl	.	.	.	.	.	.	.	.	.	.	.	.	.	110.96	.	702.24	813.21
Carfentrazone-ethyl/flupyrsulfron-methyl	.	.	.	.	.	.	.	.	51.75	.	.	.	.	.	.	.	51.75
Chlorotoluron	.	.	386.90	.	.	57.64	.	.	.	.	.	.	.	.	.	.	444.54
Chlorotoluron/diflufenican	617.87	.	730.45	.	.	209.50	.	.	.	.	.	.	.	.	.	.	1,557.82
Clomazone	.	.	.	.	.	.	.	.	.	.	25.27	.	.	.	.	189.85	215.12
Clopyralid/fluroxypyr/triclopyr	866.37	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	866.37
Clopyralid/picloram	.	.	.	.	.	.	.	.	.	223.97	.	.	.	.	.	.	223.97
Dicamba/MCPA/mecoprop-P	.	.	.	.	.	.	24.80	.	.	.	.	.	.	.	.	.	24.80
Dicamba/mecoprop-P	612.77	.	23.75	.	.	.	.	.	.	.	.	.	.	.	.	.	636.52
Diflufenican	57.78	.	1,313.45	.	.	2,025.96	.	.	.	.	.	.	.	.	.	.	3,397.19
Diflufenican/flufenacet	.	.	643.09	.	.	552.45	.	.	.	.	.	.	.	.	.	.	1,195.55
Diflufenican/iodosulfron-methyl-sodium/mesosulfuron-methyl	.	.	75.60	.	.	4,545.92	.	.	.	.	.	.	.	.	.	.	4,621.52
Diflufenican/Metsulfuron-methyl	260.59	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	260.59
Diquat	139.58	.	.	.	.	.	.	.	.	19.79	.	80.99	.	892.76	214.70	6,192.89	7,540.71
Fenoxaprop-P-ethyl	.	.	104.30	.	.	49.86	.	.	.	.	.	.	.	.	.	.	154.15
Florasulam/fluroxypyr	1,426.04	.	469.84	.	.	567.73	363.75	.	.	.	.	.	.	.	.	.	2,827.35
Fluazifop-P-butyl	.	.	.	.	.	.	.	.	.	119.90	.	.	.	.	.	.	119.90
Flufenacet/pendimethalin	.	.	1,410.01	.	.	802.02	.	.	.	.	.	.	.	.	.	.	2,212.03
Fluroxypyr	6,069.37	.	687.49	407.93	.	1,196.25	42.77	153.38	9.01	.	.	.	.	.	.	.	8,566.21
Glyphosate	14,957.87	.	3,820.26	1,301.27	.	4,746.46	582.93	.	114.29	469.52	250.93	.	.	458.00	127.07	2,431.93	29,260.53
Iodosulfron-methyl-sodium	1,789.97	.	190.76	167.91	.	369.58	.	.	.	.	.	.	.	.	.	.	2,518.21
Iodosulfron-methyl-sodium/mesosulfuron-methyl	.	.	.	.	.	677.66	.	.	.	.	.	.	.	.	.	.	677.66
Isoproturon	64.20	.	102.00	.	.	.	.	.	.	.	.	.	.	.	.	.	166.20

Table 8 (cont.): Estimated area (spha) of arable crops treated with pesticide formulations in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Herbicides & desiccants (cont.)																	
Linuron	.	.	.	.	.	.	.	.	.	.	.	.	10.36	65.96	78.16	549.79	704.28
MCPA	269.28	.	.	70.08	.	.	.	.	.	.	.	.	.	.	.	.	339.36
Mecoprop-P	7,987.61	16.29	1,010.04	821.96	.	986.45	370.50	.	26.17	.	.	.	.	.	.	.	11,219.01
Metazachlor	.	.	.	.	.	.	.	.	.	.	86.02	.	.	.	.	.	86.02
Metribuzin	.	.	.	.	.	.	.	.	.	.	.	.	.	497.41	152.23	3,133.32	3,782.96
Metsulfuron-methyl	5,091.25	.	118.38	65.11	.	58.04	226.16	66.58	.	.	.	.	.	.	.	.	5,625.53
Metsulfuron-methyl/thifensulfuron-methyl	2,234.22	.	485.99	118.56	.	85.66	.	.	18.15	.	.	.	.	.	.	.	2,942.58
Metsulfuron-methyl/tribenuron-methyl	5,938.78	.	703.82	520.06	.	355.03	351.51	.	34.16	.	.	.	.	.	.	.	7,903.36
Paraquat	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	50.85	50.85
Pendimethalin	.	.	61.03	.	.	.	.	.	.	.	.	.	10.36	65.96	61.21	108.49	307.05
Pendimethalin/picolinafen	.	.	316.43	.	.	.	.	.	.	.	.	.	.	.	.	.	316.43
Pinoxaden	2,107.97	.	377.29	194.50	.	152.86	.	.	.	.	.	.	.	.	.	.	2,832.62
Propaquizafop	.	.	.	.	.	.	.	.	.	.	.	.	.	72.05	.	40.09	112.13
Propyzamide	.	.	.	.	.	.	.	.	.	498.69	.	.	.	.	.	.	498.69
Prosulfocarb	.	.	73.50	88.25	.	.	.	.	.	.	.	.	.	89.80	31.87	438.91	722.33
Pyraflufen-ethyl	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	55.12	55.12
Rimsulfuron	.	.	.	.	.	.	.	.	.	.	.	.	.	66.19	.	453.07	519.25
Tepraloxydim	.	.	.	.	.	.	.	.	.	.	.	.	.	24.87	.	.	24.87
Thifensulfuron-methyl/tribenuron-methyl	1,908.87	.	193.30	209.51	.	225.68	326.09	.	.	.	.	.	.	.	.	.	2,863.46
Tribenuron-methyl	50.89	76.87	.	.	48.19	69.09	.	101.01	.	.	.	.	.	.	.	.	346.04
Unknown herbicide	21.82	.	48.14	.	.	.	.	.	.	.	.	.	.	.	.	.	69.96
All herbicides & desiccants	***54,598.81***	***584.96***	***13,821.54***	***4,210.22***	***48.19***	***18,059.18***	***2,288.50***	***346.10***	***377.54***	***1,331.87***	***362.22***	***80.99***	***20.72***	***2,343.96***	***665.24***	***14,346.54***	***113,486.56***

Table 8 (cont.): Estimated area (spha) of arable crops treated with pesticide formulations in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Insecticides																	
Alpha-cypermethrin	202.19	.	24.78	.	.	402.85	.	.	.	.	.	.	.	.	.	.	629.83
Chlorpyrifos	1,774.01	.	153.66	97.81	.	47.42	.	.	.	.	.	.	.	.	.	.	2,072.90
Cypermethrin	1,198.56	38.70	612.89	.	.	647.62	.	.	133.16	.	.	.	.	.	.	.	2,630.94
Deltamethrin	226.42	.	118.36	242.19	.	82.47	9.01	.	9.01	18.53	.	.	.	.	.	30.51	736.50
Dimethoate	.	.	.	264.58	.	67.58	.	.	.	.	.	.	.	.	.	.	332.16
Esfenvalerate	7,612.70	97.15	1,542.35	825.48	.	3,671.69	124.95	86.80	.	.	.	.	.	233.07	.	30.51	14,224.71
Flonicamid	.	.	.	.	.	.	.	.	.	.	.	.	.	65.96	.	.	65.96
Lambda-cyhalothrin	3,755.41	38.17	891.04	175.65	.	2,654.94	440.47	.	26.15	113.69	.	.	.	135.64	8.14	221.04	8,460.34
Pirimicarb	.	.	.	.	.	.	.	.	.	.	13.48	.	.	.	17.40	80.88	111.76
Pymetrozine	.	.	.	.	.	.	.	.	.	.	.	.	.	203.98	.	67.80	271.78
Thiacloprid	.	.	.	.	.	.	.	.	.	.	.	.	.	180.96	.	25.09	206.05
Thiamethoxam	.	.	.	.	.	.	.	.	.	.	.	.	.	67.82	.	.	67.82
Unknown insecticide	.	.	.	.	.	74.22	.	.	.	.	.	.	.	.	.	.	74.22
Zeta-cypermethrin	144.65	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	144.65
All insecticides	***14,913.95***	***174.02***	***3,343.08***	***1,605.71***	***.***	***7,648.79***	***574.43***	***86.80***	***168.33***	***132.22***	***13.48***	***.***	***.***	***887.43***	***25.53***	***455.84***	***30,029.62***

Table 8 (cont.): **Estimated area (spha) of arable crops treated with pesticide formulations in Northern Ireland in 2012.**

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Molluscicides																	
Metaldehyde	.	.	73.50	.	.	150.69	.	.	.	45.78	.	.	.	.	40.68	1,141.14	1,451.79
Methiocarb	.	.	.	242.19	.	.	.	.	.	223.72	.	.	.	70.85	40.68	1,612.72	2,190.16
All molluscicides	***.***	***.***	***73.50***	***242.19***	***.***	***150.69***	***.***	***.***	***.***	***269.51***	***.***	***.***	***.***	***70.85***	***81.36***	***2,753.85***	**3,641.95**
Growth regulators																	
2-chloroethylphosphonic acid	2,097.32	.	1,004.44	.	.	834.11	.	.	.	.	.	.	.	.	.	.	3,935.86
2-chloroethylphosphonic acid/mepiquat chloride	.	.	53.93	.	.	.	.	.	.	.	.	.	.	.	.	.	53.93
Chlormequat	4,894.23	38.70	1,257.59	1,233.55	.	6,658.13	439.31	.	127.43	.	.	.	.	.	.	.	14,648.93
Chlormequat with choline chloride	221.87	.	133.72	.	.	16.27	.	.	.	.	.	.	.	.	.	.	371.85
Chlormequat/2-chloroethylphosphonic acid	37.63	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	37.63
Chlormequat/Imazaquin	.	.	.	.	.	49.86	.	.	.	.	.	.	.	.	.	.	49.86
Maleic hydrazide	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	10.17	10.17
Mepiquat chloride/Prohexadione-calcium	.	.	104.30	.	.	68.76	.	.	.	.	.	.	.	.	.	.	173.06
Trinexapac-ethyl	5,451.20	.	3,120.55	28.86	.	3,429.33	256.80	66.58	35.16	.	.	.	.	.	.	.	12,388.49
All growth regulators	***12,702.24***	***38.70***	***5,674.53***	***1,262.41***	***.***	***11,056.45***	***696.11***	***66.58***	***162.59***	***.***	***.***	***.***	***.***	***.***	***.***	***10.17***	***31,669.78***
Other																	
Carboxylated styrene-butadiene	.	.	.	.	.	.	.	.	.	21.90	.	.	.	.	.	.	21.90
Di-1-P-menthene	118.94	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	118.94
Ethephon	306.26	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	306.26
Synthetic latex	.	.	.	.	.	.	.	.	.	217.23	.	.	.	.	.	.	217.23
All other	***425.19***	***.***	***.***	***.***	***.***	***.***	***.***	***.***	***.***	***239.13***	***.***	***.***	***.***	***.***	***.***	***.***	***664.32***

Table 8 (cont.): Estimated area (spha) of arable crops treated with pesticide formulations in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Seed treatments																	
Beta-cyfluthrin/imidacloprid	.	.	.	.	.	.	.	.	.	192.08	47.28	.	.	.	.	.	239.36
Carboxin/thiram	386.71	.	47.50	70.08	.	177.84	.	.	.	.	.	.	.	.	.	.	682.14
Clothianidin/prothioconazole	272.43	.	2,901.03	32.54	.	3,355.96	24.80	.	43.97	.	.	.	.	.	.	.	6,630.72
Fludioxonil	6,547.78	.	.	1,160.49	48.19	333.40	224.37	39.33	.	.	.	.	.	.	.	.	8,353.56
Fludioxonil/flutriafol	2,107.30	.	835.49	.	.	.	287.01	66.58	26.15	.	.	.	.	.	.	.	3,322.53
Fludioxonil/metalaxyl-M/thiamethoxam	.	.	.	.	.	.	.	.	.	263.66	217.13	.	.	.	.	.	480.79
Fluquinconazole/prochloraz	.	.	.	.	.	92.87	.	.	.	.	.	.	.	.	.	.	92.87
Flutolanil	.	.	.	.	.	.	.	.	.	.	.	.	.	65.96	8.14	249.26	323.36
Imazalil	.	.	.	.	.	.	.	.	.	.	.	.	.	217.78	63.08	533.83	814.69
Imazalil/pencycuron	.	.	.	.	.	.	.	.	.	.	.	.	.	256.99	52.06	862.03	1,171.08
Imazalil/thiabendazole	.	.	.	.	.	.	.	.	.	.	.	.	.	21.19	.	193.52	214.71
Imidacloprid/tebuconazole/triazoxide	164.68	.	73.50	.	.	.	.	.	.	.	.	.	.	.	.	.	238.18
Pencycuron	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6.78	135.61	142.39
Prochloraz/triticonazole	6,402.78	453.10	1,000.36	237.09	.	3,530.23	356.12	86.80	132.00	.	.	.	.	.	.	.	12,198.49
Prothioconazole	325.76	.	173.21	.	.	173.41	.	.	43.76	.	.	.	.	.	.	.	716.14
Silthiofam	306.26	.	.	.	.	1,578.18	.	.	.	.	.	.	.	.	.	.	1,884.44
Unknown seed treatment	476.53	.	.	.	.	50.06	.	.	.	40.42	25.27	.	.	.	.	.	592.28
All seed treatments	***16,990.23***	***453.10***	***5,031.09***	***1,500.20***	***48.19***	***9,291.96***	***892.30***	***192.71***	***245.88***	***496.17***	***289.67***	***.***	***.***	***561.92***	***130.06***	***1,974.26***	***38,097.73***
All pesticides	***138,522.94***	***1,382.12***	***46,641.99***	***12,655.84***	***96.37***	***87,109.70***	***6,344.62***	***825.36***	***1,772.51***	***3,720.75***	***678.85***	***80.99***	***20.72***	***9,940.06***	***1,958.36***	***63,093.50***	***374,844.68***

Table 9: Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Fungicides																	
Ametoctradin/Dimethomorph	.	.	.	.	.	.	.	.	.	.	.	.	.	206.41	15.57	911.39	1,133.37
Azoxystrobin	130.11	.	25.89	.	.	356.02	.	.	1.00	67.16	.	.	.	.	.	47.89	628.06
Azoxystrobin/chlorothalonil	363.51	.	27.26	529.17	.	806.98	.	.	.	.	.	.	.	.	.	72.14	1,799.06
Azoxystrobin/cyproconazole	13.11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	13.11
Benthiavalicarb-isopropyl/mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	419.66	419.66
Bixafen/Fluoxastrobin/Prothioconazole	.	.	.	.	.	93.19	.	.	.	.	.	.	.	.	.	.	93.19
Bixafen/Prothioconazole	339.56	.	96.82	33.44	.	236.73	.	.	.	.	.	.	.	.	.	.	706.55
Bixafen/Prothioconazole/Spiroxamine	.	.	.	.	.	6.67	.	.	.	.	.	.	.	.	.	.	6.67
Boscalid/epoxiconazole	138.96	18.99	115.45	70.59	.	553.73	.	.	.	.	.	.	.	.	.	.	897.72
Carbendazim/flusilazole	26.43	.	167.82	.	.	.	.	.	.	.	.	.	.	.	.	.	194.26
Chlorothalonil	3,760.15	19.35	1,757.02	291.66	.	4,367.91	48.76	.	33.29	.	.	.	.	.	.	254.90	10,533.05
Chlorothalonil/cyproconazole	725.54	.	167.34	.	.	19.55	.	.	.	.	.	.	.	.	.	.	912.43
Chlorothalonil/cyproconazole/propiconazole	251.69	.	94.24	.	.	374.92	.	.	.	.	.	.	.	.	.	.	720.85
Chlorothalonil/flusilazole	127.42	.	25.87	.	.	.	9.80	.	.	.	.	.	.	.	.	.	163.09
Chlorothalonil/picoxystrobin	158.12	.	892.90	.	.	70.39	.	.	.	.	.	.	.	.	.	.	1,121.42
Chlorothalonil/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	.	113.22	.	834.42	947.64
Chlorothalonil/propiconazole	.	.	.	.	.	1.93	.	.	.	.	.	.	.	.	.	.	1.93
Chlorothalonil/Proquinazid	496.89	.	67.63	29.49	.	129.98	.	.	.	.	.	.	.	.	.	.	723.98
Copper oxychloride	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	796.36	796.36
Cyazofamid	.	.	.	.	.	.	.	.	.	.	.	.	.	33.02	0.92	279.59	313.53
Cymoxanil	.	.	.	.	.	.	.	.	.	.	.	.	.	29.13	6.53	264.57	300.23
Cymoxanil/famoxadone	.	.	.	.	.	.	.	.	.	.	.	.	.	12.08	.	76.61	88.69
Cymoxanil/mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	.	688.88	101.81	4,029.28	4,819.97
Cymoxanil/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	.	42.46	.	73.23	115.69
Cyproconazole/propiconazole	46.69	.	10.65	.	.	17.67	.	.	.	.	.	.	.	.	.	.	75.01
Cyprodinil	196.54	.	125.85	.	.	9.07	.	.	.	.	.	.	.	.	.	.	331.47
Cyprodinil/isopyrazam	1,078.35	.	824.43	.	.	19.63	.	.	.	.	.	.	.	.	.	.	1,922.41
Cyprodinil/picoxystrobin	3.44	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3.44
Dimethomorph/mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	.	372.46	22.60	3,860.63	4,255.69

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Fungicides (cont)																	
Epoxiconazole	105.27	.	37.87	26.85	.	233.57	16.97	.	0.36	.	.	.	.	.	.	.	420.91
Epoxiconazole/fenpropimorph	.	.	53.23	12.04	.	7.92	2.37	.	.	.	.	.	.	.	.	.	75.56
Epoxiconazole/fenpropimorph/kresoxim-methyl	161.39	.	64.41	.	.	94.55	.	.	.	.	.	.	.	.	.	.	320.35
Epoxiconazole/fenpropimorph/metrafenone	110.16	.	.	10.82	.	139.32	59.89	33.71	59.26	.	.	.	.	.	.	.	413.16
Epoxiconazole/Fluxapyroxad	10.54	.	34.19	.	.	22.31	.	.	.	.	.	.	.	.	.	.	67.05
Epoxiconazole/Isopyrazam	8.62	.	0.20	5.38	.	211.83	.	.	.	.	.	.	.	.	.	.	226.03
Epoxiconazole/kresoxim-methyl	.	.	.	.	.	.	6.16	.	.	.	.	.	.	.	.	.	6.16
Epoxiconazole/metconazole	25.18	.	25.76	50.33	.	233.66	.	.	.	.	.	.	.	.	.	.	334.93
Epoxiconazole/Metrafenone	.	.	.	.	.	.	.	.	33.51	.	.	.	.	.	.	.	33.51
Epoxiconazole/prochloraz	385.72	.	182.51	.	.	81.10	.	.	.	.	.	.	.	.	.	.	649.33
Epoxiconazole/pyraclostrobin	.	.	.	.	.	14.91	.	.	.	.	.	.	.	.	.	.	14.91
Fenamidone/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	.	122.68	182.65	2,548.72	2,854.05
Fenpropidin	.	.	23.20	.	.	185.59	.	.	.	.	.	.	.	.	.	.	208.78
Fenpropimorph	220.31	.	268.75	.	.	246.51	123.99	.	73.20	.	.	.	.	.	.	.	932.77
Fenpropimorph/flusilazole	220.03	.	51.19	.	.	4.96	.	.	.	.	.	.	.	.	.	.	276.19
Fenpropimorph/pyraclostrobin	.	.	.	.	.	232.83	.	.	.	.	.	.	.	.	.	.	232.83
Fluazinam	.	.	.	.	.	.	.	.	.	.	.	.	.	325.00	70.25	2,549.27	2,944.51
Fluopicolide/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	.	624.35	139.14	5,535.52	6,299.01
Fluoxastrobin/prothioconazole	597.74	.	242.95	.	.	152.60	.	.	.	.	.	.	.	.	.	.	993.29
Fluoxastrobin/prothioconazole/trifloxystrobin	91.56	.	26.16	8.11	.	59.44	.	.	.	.	.	.	.	.	.	.	185.27
Fluquinconazole/prochloraz	.	.	.	.	.	163.10	.	.	.	.	.	.	.	.	.	.	163.10
Flusilazole	.	.	8.26	.	.	.	.	.	.	2.20	.	.	.	.	.	.	10.46
Fluxapyroxad	.	.	7.95	.	.	25.98	.	.	.	.	.	.	.	.	.	.	33.93
Folpet	310.85	.	121.53	.	.	.	.	.	.	.	.	.	.	.	.	.	432.38
Mancozeb	.	.	.	194.74	.	338.59	.	.	20.65	.	.	.	.	382.28	25.45	470.12	1,431.83
Mancozeb/metalaxyl-M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	43.72	43.72
Mandipropamid	.	.	.	.	.	.	.	.	.	.	.	.	.	119.21	21.93	666.04	807.18
Metconazole	.	.	.	.	.	.	.	.	.	.	1.21	.	.	.	.	.	1.21
Picoxystrobin	82.97	.	6.06	.	.	.	.	.	.	.	.	.	.	.	.	.	89.03
Prochloraz/tebuconazole	.	.	.	12.02	.	.	.	.	.	.	.	.	.	.	.	.	12.02
Proquinazid	27.95	.	27.22	8.56	.	36.92	0.64	.	10.86	.	.	.	.	.	.	.	112.15

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Fungicides (cont.)																	
Prothioconazole	241.40	.	199.31	33.08	.	299.91	.	.	6.97	31.49	.	.	.	.	.	.	812.15
Prothioconazole/Spiroxamine	26.16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	26.16
Prothioconazole/tebuconazole	222.13	9.68	26.75	23.94	.	1,118.86	.	.	.	14.27	.	.	.	.	.	.	1,415.63
Prothioconazole/trifloxystrobin	595.30	.	216.19	15.50	.	60.84	.	.	.	.	.	.	.	.	.	.	887.84
Pyraclostrobin	140.02	.	25.16	6.70	.	103.15	25.69	.	0.90	.	.	.	.	.	.	.	301.63
Quinoxyfen	.	.	.	.	.	.	28.70	.	3.27	.	.	.	.	.	.	.	31.97
Tebuconazole	31.47	.	3.39	58.35	.	372.73	15.94	.	0.65	65.18	.	.	.	.	.	11.87	559.57
														.	.	.	.
All fungicides	***11,471.29***	***48.01***	***6,051.40***	***1,420.80***	***.***	***11,505.58***	***338.92***	***33.71***	***243.94***	***180.30***	***1.21***	***.***	***.***	***3,071.19***	***586.86***	***23,745.90***	***58,699.09***

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Herbicides & desiccants																	
2,4-DB	.	34.35	.	.	.	.	.	.	.	.	.	.	.	.	.	.	34.35
2,4-DB/linuron/MCPA	.	444.56	.	.	.	.	.	21.10	.	.	.	.	.	.	.	.	465.66
Amidosulfuron	.	.	.	.	.	.	.	.	1.86	.	.	.	.	.	.	.	1.86
Amidosulfuron/iodosulfron-methyl-sodium	10.62	.	9.43	.	.	2.22	.	.	.	.	.	.	.	.	.	.	22.27
Aminopyralid/fluroxypyr	48.82	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	48.82
Bromoxynil/ioxynil	429.56	.	81.16	34.07	.	79.54	.	.	24.80	.	.	.	.	.	.	.	649.13
Carfentrazone-ethyl	.	.	.	.	.	.	.	.	.	.	.	.	.	9.74	.	49.60	59.34
Carfentrazone-ethyl/flupyrsulfron-methyl	.	.	.	.	.	.	.	.	1.55	.	.	.	.	.	.	.	1.55
Chlorotoluron	.	.	976.62	.	.	85.31	.	.	.	.	.	.	.	.	.	.	1,061.93
Chlorotoluron/diflufenican	962.58	.	1,388.30	.	.	172.65	.	.	.	.	.	.	.	.	.	.	2,523.53
Clomazone	.	.	.	.	.	.	.	.	.	.	1.13	.	.	.	.	15.38	16.51
Clopyralid/fluroxypyr/triclopyr	534.12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	534.12
Clopyralid/picloram	.	.	.	.	.	.	.	.	.	26.18	.	.	.	.	.	.	26.18
Dicamba/MCPA/mecoprop-P	.	.	.	.	.	.	37.71	.	.	.	.	.	.	.	.	.	37.71
Dicamba/mecoprop-P	386.39	.	12.18	.	.	.	.	.	.	.	.	.	.	.	.	.	398.58
Diflufenican	2.89	.	113.76	.	.	170.90	.	.	.	.	.	.	.	.	.	.	287.55
Diflufenican/flufenacet	.	.	110.31	.	.	87.31	.	.	.	.	.	.	.	.	.	.	197.62
Diflufenican/iodosulfron-methyl-sodium/mesosulfuron-methyl	.	.	3.96	.	.	254.64	.	.	.	.	.	.	.	.	.	.	258.60
Diflufenican/Metsulfuron-methyl	13.87	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	13.87
Diquat	11.46	.	.	.	.	.	.	.	.	7.92	.	32.40	.	321.49	67.28	2,093.62	2,534.17
Fenoxaprop-P-ethyl	.	.	8.64	.	.	4.30	.	.	.	.	.	.	.	.	.	.	12.94
Florasulam/fluroxypyr	109.40	.	28.68	.	.	44.21	25.75	.	.	.	.	.	.	.	.	.	208.04
Fluazifop-P-butyl	.	.	.	.	.	.	.	.	.	7.49	.	.	.	.	.	.	7.49
Flufenacet/pendimethalin	.	.	1,437.50	.	.	967.71	.	.	.	.	.	.	.	.	.	.	2,405.21
Fluroxypyr	796.43	.	110.61	54.10	.	165.23	4.48	23.01	0.72	.	.	.	.	.	.	.	1,154.58
Glyphosate	10,042.61	.	2,548.07	956.53	.	3,496.49	396.03	.	52.96	469.49	225.84	.	.	357.50	139.72	2,226.32	20,911.56
Iodosulfron-methyl-sodium	12.14	.	0.56	1.35	.	3.58	.	.	.	.	.	.	.	.	.	.	17.63
iodosulfron-methyl-sodium/mesosulfuron-methyl	.	.	.	.	.	12.88	.	.	.	.	.	.	.	.	.	.	12.88
Isoproturon	42.95	.	145.75	.	.	.	.	.	.	.	.	.	.	.	.	.	188.70

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Herbicides & desiccants (cont.)																	
Linuron	.	.	.	.	.	.	.	.	.	.	.	.	7.77	35.62	38.76	312.07	394.23
MCPA	338.02	.	.	35.04	.	.	.	.	.	.	.	.	.	.	.	.	373.06
Mecoprop-P	7,959.66	12.22	930.49	861.19	.	597.51	332.62	.	26.59	.	.	.	.	.	.	.	10,720.28
Metazachlor	.	.	.	.	.	.	.	.	.	.	64.29	.	.	.	.	.	64.29
Metribuzin	.	.	.	.	.	.	.	.	.	.	.	.	.	401.28	145.11	2,562.22	3,108.61
Metsulfuron-methyl	32.21	.	0.71	0.45	.	0.35	1.22	0.40	.	.	.	.	.	.	.	.	35.34
Metsulfuron-methyl/thifensulfuron-methyl	88.40	.	13.89	3.53	.	2.04	.	.	0.43	.	.	.	.	.	.	.	108.30
Metsulfuron-methyl/tribenuron-methyl	63.22	.	8.04	5.77	.	3.78	3.48	.	0.30	.	.	.	.	.	.	.	84.60
Paraquat	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20.34	20.34
Pendimethalin	.	.	60.42	.	.	.	.	.	.	.	.	.	10.26	87.07	60.81	143.20	361.76
Pendimethalin/picolinafen	.	.	276.11	.	.	.	.	.	.	.	.	.	.	.	.	.	276.11
Pinoxaden	72.22	.	11.32	5.83	.	3.56	.	.	.	.	.	.	.	.	.	.	92.94
Propaquizafop	.	.	.	.	.	.	.	.	.	.	.	.	.	10.76	.	6.01	16.78
Propyzamide	.	.	.	.	.	.	.	.	.	333.12	.	.	.	.	.	.	333.12
Prosulfocarb	.	.	176.40	282.41	.	.	.	.	.	.	.	.	.	255.04	67.26	1,156.68	1,937.79
Pyraflufen-ethyl	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1.17	1.17
Rimsulfuron	.	.	.	.	.	.	.	.	.	.	.	.	.	0.74	.	4.92	5.66
Tepraloxydim	.	.	.	.	.	.	.	.	.	.	.	.	.	1.84	.	.	1.84
Thifensulfuron-methyl/tribenuron-methyl	53.27	.	7.89	8.98	.	4.10	16.81	.	.	.	.	.	.	.	.	.	91.06
Tribenuron-methyl	0.20	0.38	.	.	0.12	1.04	.	0.47	.	.	.	.	.	.	.	.	2.21
														.	.	.	.
All herbicides & desiccants	***22,011.0***	***491.51***	***8,460.82***	***2,249.26***	***0.12***	***6,159.34***	***818.11***	***44.98***	***109.22***	***844.20***	***291.25***	***32.40***	***18.03***	***1,481.10***	***518.93***	***8,591.52***	***52,121.84***

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Insecticides																	
Alpha-cypermethrin	3.08	.	0.37	.	.	5.08	.	.	.	.	.	.	.	.	.	.	8.54
Chlorpyrifos	1,010.97	.	102.69	56.57	.	17.07	.	.	.	.	.	.	.	.	.	.	1,187.30
Cypermethrin	28.05	0.63	13.54	.	.	15.82	.	.	5.66	.	.	.	.	.	.	.	63.70
Deltamethrin	0.94	.	0.38	2.62	.	0.21	0.05	.	0.05	0.14	.	.	.	.	.	0.19	4.56
Dimethoate	.	.	.	84.67	.	21.63	.	.	.	.	.	.	.	.	.	.	106.29
Esfenvalerate	31.03	0.35	5.99	3.85	.	11.97	0.59	0.36	.	.	.	.	.	1.16	.	0.13	55.44
Flonicamid	.	.	.	.	.	.	.	.	.	.	.	.	.	5.28	.	.	5.28
Lambda-cyhalothrin	23.98	1.91	4.31	0.88	.	20.77	2.20	.	0.13	0.63	.	.	.	1.02	0.06	1.63	57.51
Pirimicarb	.	.	.	.	.	.	.	.	.	.	1.95	.	.	.	2.44	11.32	15.71
Pymetrozine	.	.	.	.	.	.	.	.	.	.	.	.	.	33.13	.	10.17	43.30
Thiacloprid	.	.	.	.	.	.	.	.	.	.	.	.	.	17.37	.	2.41	19.78
Thiamethoxam	.	.	.	.	.	.	.	.	.	.	.	.	.	1.36	.	.	1.36
Unknown insecticide	.	.	.	.	.	59.38	.	.	.	.	.	.	.	.	.	.	59.38
Zeta-cypermethrin	2.17	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2.17
All insecticides	***1,100.23***	***2.88***	***127.28***	***148.58***	***.***	***151.93***	***2.84***	***0.36***	***5.84***	***0.77***	***1.95***	***.***	***.***	***59.32***	***2.49***	***25.85***	***1,630.32***
Molluscicides																	
Metaldehyde	.	.	5.51	.	.	13.56	.	.	.	2.75	.	.	.	.	4.88	132.87	159.57
Methiocarb	.	.	.	18.16	.	.	.	.	.	19.70	.	.	.	2.83	3.25	93.69	137.64
All molluscicides	***.***	***.***	***5.51***	***18.16***	***.***	***13.56***	***.***	***.***	***.***	***22.44***	***.***	***.***	***.***	***2.83***	***8.14***	***226.56***	***297.21***

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Growth Regulators																	
2-chloroethylphosphonic acid	329.98	.	255.76	.	.	159.31	.	.	.	.	.	.	.	.	.	.	745.05
2-chloroethylphosphonic acid/mepiquat chloride	.	.	37.21	.	.	.	.	.	.	.	.	.	.	.	.	.	37.21
Chlormequat	3,743.95	35.85	1,412.76	807.16	.	7,754.14	494.54	.	205.00	.	.	.	.	.	.	.	14,453.40
Chlormequat with choline chloride	357.76	.	176.81	.	.	12.96	.	.	.	.	.	.	.	.	.	.	547.53
Chlormequat/2-chloroethylphosphonic acid	20.32	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20.32
Chlormequat/Imazaquin	.	.	.	.	.	27.58	.	.	.	.	.	.	.	.	.	.	27.58
Maleic hydrazide	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	30.59	30.59
Mepiquat chloride/Prohexadione-calcium	.	.	18.25	.	.	12.25	.	.	.	.	.	.	.	.	.	.	30.50
Trinexapac-ethyl	302.66	.	183.71	1.44	.	188.65	11.68	3.33	1.76	.	.	.	.	.	.	.	693.23
All growth regulators	***4,754.68***	***35.85***	***2,084.51***	***808.60***	***.***	***8,154.89***	***506.21***	***3.33***	***206.76***	***.***	***.***	***.***	***.***	***.***	***.***	***30.59***	***16,585.42***
Other																	
Carboxylated styrene-butadiene	.	.	.	.	.	.	.	.	.	14.92	.	.	.	.	.	.	14.92
Di-1-P-menthene	8.33	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8.33
Ethephon	36.31	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	36.31
Synthetic latex	.	.	.	.	.	.	.	.	.	184.64	.	.	.	.	.	.	184.64
All other	***44.64***	***.***	***.***	***.***	***.***	***.***	***.***	***.***	***.***	***199.56***	***.***	***.***	***.***	***.***	***.***	***.***	***244.20***

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland in 2012.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Undersown wheat	Winter wheat	Spring oats	Undersown oats	Winter oats	Winter Oilseed rape	Spring Oilseed rape	*Camelina*	Peas & field beans	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Seed treatments																	
Beta-cyfluthrin/imidacloprid	.	.	.	.	.	.	.	.	.	2.33	0.28	.	.	.	.	.	2.61
Carboxin/thiram	83.57	.	7.88	14.53	.	29.50	.	.	.	.	.	.	.	.	.	.	135.47
Clothianidin/prothioconazole	30.81	.	271.33	4.14	.	335.69	2.34	.	3.80	.	.	.	.	.	.	.	648.11
Fludioxonil	58.85	.	.	10.68	0.30	3.11	2.09	0.35	.	.	.	.	.	.	.	.	75.38
Fludioxonil/flutriafol	34.34	.	12.88	.	.	.	4.11	0.94	0.47	.	.	.	.	.	.	.	52.74
Fludioxonil/metalaxyl-M/thiamethoxam	.	.	.	.	.	.	.	.	.	5.32	2.54	.	.	.	.	.	7.86
Fluquinconazole/prochloraz	.	.	.	.	.	13.01	.	.	.	.	.	.	.	.	.	.	13.01
Flutolanil	.	.	.	.	.	.	.	.	.	.	.	.	.	33.78	2.16	96.84	132.78
Imazalil	.	.	.	.	.	.	.	.	.	.	.	.	.	6.16	1.75	12.94	20.85
Imazalil/pencycuron	.	.	.	.	.	.	.	.	.	.	.	.	.	227.57	35.61	578.98	842.16
Imazalil/thiabendazole	.	.	.	.	.	.	.	.	.	.	.	.	.	4.19	.	21.14	25.33
Imidacloprid/tebuconazole/triazoxide	12.18	.	4.73	.	.	.	.	.	.	.	.	.	.	.	.	.	16.91
Pencycuron	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4.26	85.11	89.37
Prochloraz/triticonazole	205.77	13.52	26.76	6.88	.	95.39	10.50	2.62	3.30	.	.	.	.	.	.	.	364.75
Prothioconazole	6.14	.	3.05	.	.	2.63	.	.	0.55	.	.	.	.	.	.	.	12.37
Silthiofam	12.03	.	.	.	.	70.15	.	.	.	.	.	.	.	.	.	.	82.17
														.	.	.	.
All seed treatments	***443.68***	***13.52***	***326.63***	***36.23***	***0.30***	***549.48***	***19.04***	***3.91***	***8.12***	***7.65***	***2.83***	***.***	***.***	***271.71***	***43.77***	***795.01***	***2,521.87***
All pesticides	***39,825.56***	***591.78***	***17,056.1***	***4,681.62***	***0.42***	***26,534.7***	***1,685.11***	***86.28***	***573.88***	***1,254.92***	***297.25***	***32.40***	***18.03***	***4,886.15***	***1,160.19***	***33,415.42***	***132,099.95***

Table 10: The fifty active ingredients most extensively used on arable crops in Northern Ireland in 2012, ranked by area treated (spha).

	Active ingredient	Treated area (sp ha)
1	Prothioconazole	30,026.30
2	Chlorothalonil	29,412.83
3	Glyphosate	29,260.54
4	Metsulfuron-methyl	16,732.06
5	Epoxiconazole	16,698.53
6	Fluazinam	16,105.71
7	Chlormequat	14,736.42
8	Esfenvalerate	14,224.71
9	Fluroxypyr	12,447.70
10	Trinexapac-ethyl	12,388.49
11	Mecoprop-P	11,880.33
12	Tebuconazole	11,707.19
13	Tribenuron-methyl	11,112.86
14	Diflufenican	11,032.68
15	Propamocarb hydrochloride	9,693.37
16	Iodosulfron-methyl-Sodium	8,623.60
17	Lambda-cyhalothrin	8,460.34
18	Mancozeb	8,290.92
19	Diquat	7,540.72
20	Cyprodinil	7,342.25
21	Cymoxanil	7,284.82
22	Fenpropimorph	7,161.70
23	Fluoxastrobin	6,944.83
24	Isopyrazam	6,648.56
25	Trifloxystrobin	6,211.47
26	Fluopicolide	5,897.28
27	Thifensulfuron-methyl	5,806.03
28	Mandipropamid	5,749.53
29	Dimethomorph	5,634.90
30	Azoxystrobin	5,391.37
31	Mesosulfuron-methyl	5,299.18
32	Proquinazid	4,660.87
33	Bixafen	4,239.49
34	2-chloroethylphosphonic acid	4,027.43
35	Cyazofamid	3,969.67
36	Pyraclostrobin	3,903.94
37	Metribuzin	3,782.96
38	Flufenacet	3,407.57
39	Cyproconazole	3,330.23
40	Fenamidone	3,162.13
41	Metconazole	3,046.26
42	Pendimethalin	2,835.50
43	Pinoxaden	2,832.62
44	Florasulam	2,827.35
45	Ametoctradin	2,719.45
46	Cypermethrin	2,630.93
47	Prochloraz	2,586.84
48	Boscalid	2,507.32
49	Flusilazole	2,489.03
50	Picoxystrobin	2,389.98

Table 11: The fifty active ingredients most extensively used on arable crops in Northern Ireland in 2012, ranked by weight (kg).

	Active ingredient	Quantity (kg)
1	Glyphosate	20,911.56
2	Chlorothalonil	15,627.13
3	Chlormequat	14,494.47
4	Mecoprop-P	11,075.36
5	Mancozeb	10,228.83
6	Propamocarb hydrochloride	8,681.41
7	Chlorotoluron	3,485.32
8	Prothioconazole	3,236.52
9	Metribuzin	3,108.61
10	Fluazinam	2,944.48
11	Pendimethalin	2,632.91
12	Diquat	2,534.16
13	Prosulfocarb	1,937.79
14	Cyprodinil	1,776.00
15	Fenpropimorph	1,731.70
16	Fluroxypyr	1,570.70
17	Epoxiconazole	1,336.28
18	Tebuconazole	1,215.50
19	Chlorpyrifos	1,187.30
20	Azoxystrobin	937.27
21	Dimethomorph	915.89
22	Mandipropamid	807.20
23	Copper oxychloride	796.36
24	2-chloroethylphosphonic acid	764.36
25	Trinexapac-ethyl	693.23
26	Diflufenican	666.81
27	Boscalid	665.32
28	Cymoxanil	656.59
29	Ametoctradin	647.65
30	Prochloraz	640.67
31	Isopyrazam	612.02
32	Fluopicolide	572.62
33	Fluoxastrobin	567.49
34	Chlormequat with choline chloride	547.53
35	Flufenacet	547.47
36	Fenamidone	475.68
37	MCPA	452.97
38	Linuron	444.12
39	Trifloxystrobin	442.43
40	Folpet	432.38
41	2,4-DB	400.23
42	Pyraclostrobin	359.02
43	Propyzamide	333.12
44	Bromoxynil	324.56
45	Ioxynil	324.56
46	Cyazofamid	313.54
47	Picoxystrobin	276.66
48	Flusilazole	269.16
49	Triclopyr	237.39
50	Fenpropidin	208.79

Table 12: Spring barley: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation	General disease control	Disease prevention	General fungal control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Fungicides						
Azoxystrobin	.	284.71	200.70	485.42	385.06	130.11
Azoxystrobin/chlorothalonil	87.65	.	355.15	442.79	442.79	363.51
Azoxystrobin/cyproconazole	.	46.83	.	46.83	46.83	13.11
Bixafen/Prothioconazole	.	332.85	1,673.66	2,006.51	1,926.23	339.56
Boscalid/epoxiconazole	.	255.14	167.11	422.25	422.25	138.96
Carbendazim/flusilazole	.	34.29	98.04	132.33	132.33	26.43
Chlorothalonil	.	2,149.80	5,445.14	7,594.94	6,419.14	3,760.15
Chlorothalonil/cyproconazole	.	315.81	975.32	1,291.13	1,246.53	725.54
Chlorothalonil/cyproconazole/propiconazole	.	245.30	320.09	565.40	471.25	251.69
Chlorothalonil/flusilazole	.	7.53	508.92	516.45	336.69	127.42
Chlorothalonil/picoxystrobin	.	201.73	100.35	302.08	302.08	158.12
Chlorothalonil/Proquinazid	.	.	730.49	730.49	671.02	496.89
Cyproconazole/propiconazole	.	284.71	.	284.71	284.71	46.69
Cyprodinil	.	91.15	1,147.68	1,238.83	1,238.83	196.54
Cyprodinil/isopyrazam	.	688.84	2,378.95	3,067.79	2,168.06	1,078.35
Cyprodinil/picoxystrobin	.	122.43	.	122.43	122.43	3.44
Epoxiconazole	.	531.53	571.27	1,102.80	903.77	105.27
Epoxiconazole/fenpropimorph/kresoxim-methyl	.	203.04	429.84	632.88	520.74	161.39
Epoxiconazole/fenpropimorph/metrafenone	.	245.30	52.67	297.97	297.97	110.16
Epoxiconazole/Fluxapyroxad	.	.	60.99	60.99	60.99	10.54
Epoxiconazole/Isopyrazam	.	.	80.15	80.15	67.02	8.62
Epoxiconazole/metconazole	.	.	195.66	195.66	195.66	25.18
Epoxiconazole/prochloraz	.	850.51	325.12	1,175.62	879.85	385.72
Fenpropimorph	.	74.47	618.11	692.58	692.58	220.31
Fenpropimorph/flusilazole	.	471.56	96.17	567.73	567.73	220.03
Fluoxastrobin/prothioconazole	.	1,284.87	2,306.94	3,591.81	3,168.49	597.74
Fluoxastrobin/prothioconazole/trifloxystrobin	.	107.36	328.00	435.36	375.89	91.56
Folpet	.	.	775.55	775.55	656.61	310.85
Picoxystrobin	.	.	577.87	577.87	577.87	82.97
Proquinazid	.	425.05	412.18	837.23	657.47	27.95
Prothioconazole	.	319.97	1,926.28	2,246.25	1,699.45	241.40
Prothioconazole/Spiroxamine	.	.	142.16	142.16	142.16	26.16
Prothioconazole/tebuconazole	.	285.25	990.57	1,275.82	1,157.41	222.13

Table 12 (cont.): **Spring barley: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation *Fungicides (cont.)*	General disease control	Disease prevention	General fungal control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Prothioconazole/trifloxystrobin	16.54	841.79	2,554.19	3,412.52	2,947.73	595.30
Pyraclostrobin	.	61.92	1,315.35	1,377.27	1,186.43	140.02
Tebuconazole	.	37.17	126.74	163.91	163.91	31.47
All fungicides	***104.19***	***10,800.92***	***27,987.41***	***38,892.52***	***.***	***11,471.29***

Pesticide type & formulation *Herbicides & desiccants*	General weed control	Cleavers	Desiccation	Ground preparation	Chickweed	Volunteer potatoes	Volunteer oats	Headlands treatment	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Amidosulfuron/iodosulfron-methyl-sodium	437.82	.	.	.	.	.	.	.	437.82	437.82	10.62
Aminopyralid/fluroxypyr	187.76	.	.	.	.	.	.	.	187.76	187.76	48.82
Bromoxynil/ioxynil	1,500.14	.	.	.	.	.	.	.	1,500.14	1,500.14	429.56
Chlorotoluron/diflufenican	617.87	.	.	.	.	.	.	.	617.87	617.87	962.58
Clopyralid/fluroxypyr/triclopyr	866.37	.	.	.	.	.	.	.	866.37	866.37	534.12
Dicamba/mecoprop-P	612.77	.	.	.	.	.	.	.	612.77	612.77	386.39
Diflufenican	57.78	.	.	.	.	.	.	.	57.78	57.78	2.89
Diflufenican/Metsulfuron-methyl	260.59	.	.	.	.	.	.	.	260.59	260.59	13.87
Diquat	.	.	12.84	.	.	.	.	126.74	139.58	139.58	11.46
Florasulam/fluroxypyr	1,188.43	31.69	.	.	205.92	.	.	.	1,426.04	1,323.83	109.40
Fluroxypyr	5,590.35	.	.	.	457.52	21.49	.	.	6,069.37	6,057.48	796.43
Glyphosate	1,046.93	.	8,109.71	5,017.43	.	.	.	783.81	14,957.87	12,657.54	10,042.61
Iodosulfron-methyl-sodium	1,687.88	.	.	.	102.09	.	.	.	1,789.97	1,789.97	12.14
Isoproturon	64.20	.	.	.	.	.	.	.	64.20	64.20	42.95
MCPA	269.28	.	.	.	.	.	.	.	269.28	269.28	338.02
Mecoprop-P	7,383.58	241.11	.	.	335.36	27.55	.	.	7,987.61	7,833.31	7,959.66
Metsulfuron-methyl	5,091.25	.	.	.	.	.	.	.	5,091.25	5,091.25	32.21
Metsulfuron-methyl/thifensulfuron-methyl	2,234.22	.	.	.	.	.	.	.	2,234.22	2,200.77	88.40
Metsulfuron-methyl/tribenuron-methyl	5,911.23	.	.	.	.	27.55	.	.	5,938.78	5,911.23	63.22
Pinoxaden	.	.	.	.	.	.	1,613.07	.	2,107.97	2,107.97	72.22
Thifensulfuron-methyl/tribenuron-methyl	1,908.87	.	.	.	.	.	.	.	1,908.87	1,908.87	53.27
Tribenuron-methyl	50.89	.	.	.	.	.	.	.	50.89	50.89	0.20
Unknown herbicide	21.82	.	.	.	.	.	.	.	21.82	21.82	.
All Herbicides & desiccants	***36,990.02***	***272.80***	***8,122.55***	***5,017.43***	***1,100.88***	***76.60***	***1,613.07***	***910.55***	***54,598.81***	***.***	***22,011.05***

Table 12 (cont.): Spring barley: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation *Insecticides*	Cereal aphids	Leatherjackets	Cutworm	General insect control	Barley yellow dwarf virus	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Alpha-cypermethrin	6.69	.	.	195.50	.	202.19	202.19	3.08
Chlorpyrifos	253.97	421.73	866.37	231.93	.	1,774.01	1,774.01	1,010.97
Cypermethrin	1,198.56	.	.	.	.	1,198.56	841.80	28.05
Deltamethrin	226.42	.	.	.	.	226.42	187.85	0.94
Esfenvalerate	7,265.27	.	.	347.43	.	7,612.70	6,478.07	31.03
Lambda-cyhalothrin	3,604.05	.	.	51.01	100.35	3,755.41	3,515.11	23.98
Zeta-cypermethrin	144.65	.	.	.	.	144.65	144.65	2.17
All insecticides	***12,699.62***	***421.73***	***866.37***	***825.88***	***100.35***	***14,913.95***	***.***	***1,100.23***

Pesticide type & formulation *Growth regulators*	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Chlormequat	4,894.22	4,894.23	4,773.81	3,743.95
Chlormequat with choline chloride	221.87	221.87	221.87	357.76
Chlormequat/2-chloroethylphosphonic acid	37.63	37.63	37.63	20.32
2-chloroethylphosphonic acid	2,097.31	2,097.32	2,097.32	329.98
Trinexapac-ethyl	5,451.20	5,451.20	4,772.43	302.66
All growth regulators	***12,702.24***	***12,702.24***	***.***	***4,754.68***

Table 13: Undersown barley: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation	General weed control	Cereal aphids	Growth regulation	Disease prevention	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Fungicides							
Boscalid/epoxiconazole	.	.	.	53.95	53.95	53.95	18.99
Chlorothalonil	.	.	.	38.70	38.70	38.70	19.35
Prothioconazole/tebuconazole	.	.	.	38.70	38.70	38.70	9.68
All fungicides	***.***	***.***	***.***	***131.35***	***131.35***		***48.01***
Herbicides & desiccants							
2,4-DB	38.17	.	.	.	38.17	38.17	34.35
2,4-DB/linuron/MCPA	453.63	.	.	.	453.63	453.63	444.56
Mecoprop-P	16.29	.	.	.	16.29	16.29	12.22
Tribenuron-methyl	76.87	.	.	.	76.87	76.87	0.38
All herbicides & desiccants	***584.96***	***.***	***.***	***.***	***584.96***		***491.51***
Insecticides							
Cypermethrin	.	38.70	.	.	38.70	38.70	0.63
Esfenvalerate	.	97.15	.	.	97.15	97.15	0.35
Lambda-cyhalothrin	.	38.17	.	.	38.17	38.17	1.91
All insecticides	***.***	***174.02***	***.***	***.***	***174.02***		***2.88***
Growth regulators							
Chlormequat	.	.	38.70	.	38.70	38.70	35.85
All growth regulators	***.***	***.***	***38.70***	***.***	***38.70***		***35.85***

Table 14: **Winter barley: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation	Disease prevention	Ear wash	General fungal control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Fungicides						
Azoxystrobin	.	.	166.97	166.97	146.91	25.89
Azoxystrobin/chlorothalonil	.	.	32.45	32.45	32.45	27.26
Bixafen/Prothioconazole	79.23	.	517.10	596.33	521.11	96.82
Boscalid/epoxiconazole	.	.	323.90	323.90	323.90	115.45
Carbendazim/flusilazole	.	.	909.63	909.63	575.34	167.82
Chlorothalonil	635.12	.	3,041.26	3,676.38	2,752.64	1,757.02
Chlorothalonil/cyproconazole	42.79	.	206.63	249.42	249.42	167.34
Chlorothalonil/cyproconazole/propiconazole	.	.	108.53	108.53	108.53	94.24
Chlorothalonil/flusilazole	.	.	61.59	61.59	61.59	25.87
Chlorothalonil/picoxystrobin	128.70	.	1,091.71	1,220.41	789.53	892.90
Chlorothalonil/Proquinazid	42.79	.	151.99	194.78	194.78	67.63
Cyproconazole/propiconazole	.	.	65.79	65.79	65.79	10.65
Cyprodinil	67.58	.	383.32	450.89	450.89	125.85
Cyprodinil/isopyrazam	49.56	.	2,293.93	2,343.49	1,434.76	824.43
Epoxiconazole	257.40	.	140.65	398.05	269.35	37.87
Epoxiconazole/fenpropimorph	.	.	171.44	171.44	171.44	53.23
Epoxiconazole/fenpropimorph/kresoxim-methyl	12.03	.	151.99	164.03	164.03	64.41
Epoxiconazole/Fluxapyroxad	.	.	232.83	232.83	232.83	34.19
Epoxiconazole/Isopyrazam	.	.	12.40	12.40	12.40	0.20
Epoxiconazole/metconazole	.	.	170.59	170.59	132.10	25.76
Epoxiconazole/prochloraz	451.22	.	80.84	532.05	231.24	182.51
Fenpropidin	54.16	.	40.12	94.27	94.27	23.20
Fenpropimorph	220.72	.	473.40	694.12	694.12	268.75
Fenpropimorph/flusilazole	.	.	154.27	154.27	154.27	51.19
Fluoxastrobin/prothioconazole	70.20	73.50	1,044.32	1,188.03	945.25	242.95
Fluoxastrobin/prothioconazole/trifloxystrobin	76.01	.	131.93	207.94	169.94	26.16
Flusilazole	.	.	74.92	74.92	74.92	8.26
Fluxapyroxad	128.70	.	.	128.70	128.70	7.95
Folpet	228.20	.	34.12	262.32	262.32	121.53
Picoxystrobin	.	.	48.46	48.46	48.46	6.06
Proquinazid	111.02	.	494.93	605.94	544.35	27.22
Prothioconazole	.	.	1,385.59	1,385.59	1,061.54	199.31
Prothioconazole/tebuconazole	.	.	151.80	151.80	151.80	26.75
Prothioconazole/trifloxystrobin	464.21	.	815.84	1,280.05	979.40	216.19
Pyraclostrobin	.	.	305.97	305.97	305.97	25.16
Tebuconazole	.	.	33.87	33.87	33.87	3.39
All fungicides	***3,119.64***	***73.50***	***15,505.10***	***18,698.24***	***.***	***6,051.40***

Table 14 (cont.): **Winter barley: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation *Herbicides & desiccants*	General weed control	Cleavers	Desiccation	Ground preparation	Volunteer oats	Wild oat	Fumitory	Headlands	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Amidosulfuron/iodosulfron-methyl-sodium	301.13	.	.	.	.	.	.	.	301.13	301.13	9.43
Bromoxynil/ioxynil	174.60	.	.	.	.	.	.	.	174.60	174.60	81.16
Chlorotoluron	386.90	.	.	.	.	.	.	.	386.90	386.90	976.62
Chlorotoluron/diflufenican	730.45	.	.	.	.	.	.	.	730.45	730.45	1,388.30
Dicamba/mecoprop-P	23.75	.	.	.	.	.	.	.	23.75	23.75	12.18
Diflufenican	1,313.45	.	.	.	.	.	.	.	1,313.45	1,313.45	113.76
Diflufenican/flufenacet	268.17	.	.	.	.	.	.	.	268.17	268.17	43.69
Diflufenican/flufenacet	374.92	.	.	.	.	.	.	.	374.92	374.92	66.62
Diflufenican/iodosulfron-methyl-sodium/mesosulfuron-methyl	75.60	.	.	.	.	.	.	.	75.60	75.60	3.96
Fenoxaprop-P-ethyl	104.30	.	.	.	.	.	.	.	104.30	104.30	8.64
Florasulam/fluroxypyr	422.33	47.50	.	.	.	.	.	.	469.84	415.02	28.68
Flufenacet/pendimethalin	951.80	.	.	.	.	.	.	.	951.80	951.80	947.83
Flufenacet/pendimethalin	458.20	.	.	.	.	.	.	.	458.20	458.20	489.67
Fluroxypyr	554.13	.	133.36	.	.	.	.	.	687.49	672.27	110.61
Glyphosate	90.85	.	2,552.86	1,107.02	.	.	.	69.53	3,820.26	3,279.99	2,548.07
Iodosulfron-methyl-sodium	190.76	.	.	.	.	.	.	.	190.76	190.76	0.56
Isoproturon	102.00	.	.	.	.	.	.	.	102.00	102.00	145.75
Mecoprop-P	1,010.04	.	.	.	.	.	.	.	1,010.04	889.60	930.49
Metsulfuron-methyl	118.38	.	.	.	.	.	.	.	118.38	118.38	0.71
Metsulfuron-methyl/thifensulfuron-methyl	486.08	.	.	.	.	.	.	.	485.99	485.99	13.89
Metsulfuron-methyl/tribenuron-methyl	703.82	.	.	.	.	.	.	.	703.82	703.82	8.04
Pendimethalin	61.03	.	.	.	.	.	.	.	61.03	61.03	60.42
Pendimethalin/picolinafen	316.43	.	.	.	.	.	.	.	316.43	316.43	276.11
Pinoxaden	.	.	.	.	250.44	126.86	.	.	377.29	377.29	11.32
Prosulfocarb	73.50	.	.	.	.	.	.	.	73.50	73.50	176.40
Thifensulfuron-methyl/tribenuron-methyl	177.26	.	.	.	.	.	16.05	.	193.30	193.30	7.89
Unknown herbicide	48.14	.	.	.	.	.	.	.	48.14	48.14	.
All herbicides & desiccants	***9,517.93***	***47.50***	***2,686.22***	***1,107.02***	***250.44***	***126.86***	***16.05***	***69.53***	***13,821.54***	***.***	***8,460.82***

Table 14 (cont.): Winter barley: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation	Cereal aphids	General insect control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Insecticides					
Alpha-cypermethrin	24.78	.	24.78	24.78	0.37
Chlorpyrifos	133.61	20.06	153.66	153.66	102.69
Cypermethrin	612.89	.	612.89	231.24	13.54
Deltamethrin	85.91	32.45	118.36	118.36	0.38
Esfenvalerate	1,216.23	326.12	1,542.35	1,208.95	5.99
Lambda-cyhalothrin	891.04	.	891.04	807.65	4.31
All insecticides	***2,964.46***	***378.63***	***3,343.08***	***.***	***127.28***

Molluscicides	Slugs	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Methiocarb	73.50	73.50	73.50	5.51
All molluscicides	***73.50***	***73.50***	***.***	***5.51***

Growth regulators	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Chlormequat	1,257.59	1,257.59	1,257.59	1,412.76
Chlormequat with choline chloride	133.72	133.72	133.72	176.81
2-chloroethylphosphonic acid	1,004.44	1,004.44	1,004.44	255.76
2-chloroethylphosphonic acid/mepiquat chloride	53.93	53.93	53.93	37.21
Mepiquat chloride/Prohexadione-calcium	104.30	104.30	104.30	18.25
Trinexapac-ethyl	3,120.55	3,120.55	2,782.77	183.71
All growth regulators	***5,674.53***	***5,674.53***	***.***	***2,084.51***

Table 15: Spring wheat: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation *Fungicides*	Disease prevention	General fungal control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Azoxystrobin/chlorothalonil	.	491.95	491.95	296.95	529.17
Bixafen/Prothioconazole	.	155.15	155.15	155.15	33.44
Boscalid/epoxiconazole	274.73	.	274.73	274.73	70.59
Chlorothalonil	242.19	325.26	567.45	482.35	291.66
Chlorothalonil/Proquinazid	32.54	30.04	62.57	62.57	29.49
Epoxiconazole	.	293.23	293.23	293.23	26.85
Epoxiconazole/fenpropimorph	.	30.04	30.04	30.04	12.04
Epoxiconazole/fenpropimorph/ metrafenone	.	40.08	40.08	40.08	10.82
Epoxiconazole/Isopyrazam	.	25.03	25.03	25.03	5.38
Epoxiconazole/metconazole	.	474.10	474.10	279.60	50.33
Fluoxastrobin/prothioconazole/ trifloxystrobin	.	60.07	60.07	30.04	8.11
Mancozeb	.	264.58	264.58	264.58	194.74
Prochloraz/tebuconazole	.	40.08	40.08	40.08	12.02
Proquinazid	.	264.58	264.58	264.58	8.56
Prothioconazole	.	196.28	196.28	196.28	33.08
Prothioconazole/tebuconazole	.	137.70	137.70	137.70	23.94
Prothioconazole/trifloxystrobin	.	58.94	58.94	58.94	15.50
Pyraclostrobin	.	72.62	72.62	72.62	6.70
Tebuconazole	166.86	159.06	325.93	325.93	58.35
All fungicides	***716.32***	***3,118.78***	***3,835.11***	**.**	***1,420.80***

Herbicides & desiccants	General weed control	Desiccation	Ground preparation	Chickweed	Volunteer potatoes	Volunteer oats	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Bromoxynil/ioxynil	245.07	.	.	.	.	.	245.07	245.07	34.07
Fluroxypyr	392.91	.	.	.	15.02	.	407.93	407.93	54.10
Glyphosate	.	767.98	503.25	.	.	.	1,301.27	1,109.02	956.53
Iodosulfron-methyl-sodium	167.91	.	.	.	.	.	167.91	167.91	1.35
MCPA	70.08	.	.	.	.	.	70.08	70.08	35.04
Mecoprop-P	789.42	.	.	32.54	.	.	821.96	816.26	861.19
Metsulfuron-methyl	65.11	.	.	.	.	.	65.11	65.11	0.45
Metsulfuron-methyl/thifensulfuron-methyl	118.56	.	.	.	.	.	118.56	118.56	3.53
Metsulfuron-methyl/tribenuron-methyl	520.06	.	.	.	.	.	520.06	520.06	5.77
Pinoxaden	.	.	.	.	.	194.50	194.50	194.50	5.83
Prosulfocarb	88.25	.	.	.	.	.	88.25	88.25	282.41
Thifensulfuron-methyl/tribenuron-methyl	209.51	.	.	.	.	.	209.51	209.51	8.98
All herbicides & desiccants	***2,666.90***	***767.98***	***503.25***	***32.54***	***15.02***	***194.50***	***4,210.22***	**.**	***2,249.26***

Table 15 (cont.): Spring wheat: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use

Pesticide type & formulation *Insecticides*	Cereal aphids	Leatherjackets	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Chlorpyrifos	57.73	40.08	97.81	68.94	56.57
Deltamethrin	242.19	.	242.19	242.19	2.62
Dimethoate	264.58	.	264.58	264.58	84.67
Esfenvalerate	825.50	.	825.48	707.19	3.85
Lambda-cyhalothrin	175.65	.	175.65	169.96	0.88
All insecticides	***1,442.33***	***40.08***	***1,605.71***	**.**	***148.58***

Molluscicides	Slugs	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Methiocarb	242.19	242.19	242.19	18.16
All molluscicides	***242.19***	***242.19***	**.**	***18.16***

Growth regulators	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Chlormequat	1,233.55	1,233.55	1,233.55	807.16
Trinexapac-ethyl	28.86	28.86	28.86	1.44
All growth regulators	***1,262.41***	***1,262.41***	**.**	***808.60***

Table 16: Winter wheat: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation	Disease prevention	Ear wash	General fungal control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Fungicides						
Azoxystrobin	123.68	.	1,878.46	2,002.13	1,394.10	356.02
Azoxystrobin/chlorothalonil	.	.	911.57	911.57	770.45	806.98
Bixafen/Fluoxastrobin/Prothioconazole	.	.	486.13	486.13	486.13	93.19
Bixafen/Prothioconazole	56.32	.	922.37	978.68	978.68	236.73
Bixafen/Prothioconazole/Spiroxamine	.	.	16.69	16.69	16.69	6.67
Boscalid/epoxiconazole	178.24	.	1,254.26	1,432.49	1,210.01	553.73
Chlorothalonil	622.74	.	7,483.25	8,105.99	5,168.66	4,367.91
Chlorothalonil/cyproconazole	.	.	78.52	78.52	39.26	19.55
Chlorothalonil/cyproconazole/propiconazole	16.27	.	503.90	520.17	472.74	374.92
Chlorothalonil/picoxystrobin	116.81	.	1.92	118.73	118.73	70.39
Chlorothalonil/propiconazole	.	.	6.19	6.19	6.19	1.93
Chlorothalonil/Proquinazid	132.15	.	307.21	439.36	383.29	129.98
Cyproconazole/propiconazole	.	.	119.73	119.73	119.73	17.67
Cyprodinil	.	.	40.31	40.31	40.31	9.07
Cyprodinil/isopyrazam	.	.	78.52	78.52	39.26	19.63
Epoxiconazole	116.81	.	2,227.23	2,344.03	1,633.30	233.57
Epoxiconazole/fenpropimorph	.	.	26.66	26.66	26.66	7.92
Epoxiconazole/fenpropimorph/kresoxim-methyl	.	.	236.38	236.38	236.38	94.55
Epoxiconazole/fenpropimorph/metrafenone	48.04	.	606.22	654.26	654.26	139.32
Epoxiconazole/Fluxapyroxad	.	.	148.49	148.49	148.49	22.31
Epoxiconazole/Isopyrazam	.	.	1,041.19	1,041.19	1,001.93	211.83
Epoxiconazole/metconazole	252.52	.	1,939.90	2,192.43	1,656.10	233.66
Epoxiconazole/prochloraz	47.42	.	209.96	257.39	257.39	81.10
Epoxiconazole/pyraclostrobin	.	.	209.96	209.96	209.96	14.91
Fenpropidin	.	.	762.16	762.16	762.16	185.59
Fenpropimorph	.	.	772.70	772.70	647.23	246.51
Fenpropimorph/flusilazole	.	.	18.56	18.56	18.56	4.96
Fenpropimorph/pyraclostrobin	220.63	.	492.68	713.31	582.43	232.83
Fluoxastrobin/prothioconazole	460.82	.	66.75	527.57	486.27	152.60
Fluoxastrobin/prothioconazole/trifloxystrobin	.	.	447.93	447.93	447.93	59.44
Fluquinconazole/prochloraz	.	.	581.70	581.70	581.70	163.10
Fluxapyroxad	116.81	.	343.13	459.94	459.94	25.98
Mancozeb	.	.	432.29	432.29	432.29	338.59
Proquinazid	.	.	1,453.79	1,453.79	712.21	36.92
Prothioconazole	41.30	.	2,182.21	2,223.51	1,509.19	299.91
Prothioconazole/tebuconazole	881.41	20.02	5,103.85	6,005.29	3,237.86	1,118.86
Prothioconazole/trifloxystrobin	.	.	308.65	308.65	270.09	60.84
Pyraclostrobin	.	20.02	895.48	915.50	915.50	103.15
Tebuconazole	164.98	.	2,668.79	2,833.76	2,686.37	372.73
All fungicides	***3596.93***	***40.05***	***37,265.67***	***40,902.65***	**.**	***11,505.58***

Table 16 (cont.): Winter wheat: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation *Herbicides & desiccants*	General weed control	Cleavers	Desiccation	Ground preparation	Chickweed	Volunteer oats	Wild oat	Headlands	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Amidosulfuron/iodosulfron-methyl-sodium	.	.	.	.	67.25	.	.	.	67.25	67.25	2.22
Bromoxynil/ioxynil	258.08	.	.	.	.	.	.	.	258.08	258.08	79.54
Chlorotoluron	57.64	.	.	.	.	.	.	.	57.64	57.64	85.31
Chlorotoluron/diflufenican	209.50	.	.	.	.	.	.	.	209.50	209.50	172.65
Diflufenican	2025.96	.	.	.	.	.	.	.	2,025.96	2,025.96	170.90
Diflufenican/flufenacet	236.34	.	.	.	.	.	.	.	236.34	236.34	42.54
Diflufenican/flufenacet	316.11	.	.	.	.	.	.	.	316.11	316.11	44.77
Diflufenican/iodosulfron-methyl-sodium/mesosulfuron-methyl	4545.92	.	.	.	.	.	.	.	4,545.92	4,545.92	254.64
Fenoxaprop-P-ethyl	.	.	.	.	.	.	49.86	.	49.86	49.86	4.30
Florasulam/fluroxypyr	389.88	177.84	.	.	.	.	.	.	567.73	528.47	44.21
Flufenacet/pendimethalin	139.05	.	.	.	.	.	.	.	139.05	139.05	148.66
Flufenacet/pendimethalin	662.96	.	.	.	.	.	.	.	662.96	662.96	819.04
Fluroxypyr	641.19	27.81	246.13	.	26.66	.	.	254.47	1,196.25	1,119.73	165.23
Glyphosate	.	.	3,179.27	1,134.46	.	.	.	432.73	4,746.46	4,194.18	3,496.49
Iodosulfron-methyl-sodium	369.58	.	.	.	.	.	.	.	369.58	357.72	3.58
Iodosulfron-methyl-sodium/mesosulfuron-methyl	677.66	.	.	.	.	.	.	.	677.66	677.66	12.88
Mecoprop-P	950.31	.	.	.	36.14	.	.	.	986.45	986.45	597.51
Metsulfuron-methyl	58.04	.	.	.	.	.	.	.	58.04	58.04	0.35
Metsulfuron-methyl/thifensulfuron-methyl	85.66	.	.	.	.	.	.	.	85.66	85.66	2.04
Metsulfuron-methyl/tribenuron-methyl	355.03	.	.	.	.	.	.	.	355.03	355.03	3.78
Pinoxaden	.	.	.	.	.	19.39	133.48	.	152.86	152.86	3.56
Thifensulfuron-methyl/tribenuron-methyl	225.68	.	.	.	.	.	.	.	225.68	225.68	4.10
Tribenuron-methyl	69.09	.	.	.	.	.	.	.	69.09	69.09	1.04
All herbicides & desiccants	***12273.69***	***205.65***	***3,425.40***	***1,134.46***	***130.05***	***19.39***	***183.33***	***687.20***	***18,059.18***	***.***	***6,159.34***

Table 16 (cont.): Winter wheat: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation	Cereal aphids	General insect control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Insecticides					
Alpha-cypermethrin	402.85	.	402.85	402.85	5.08
Chlorpyrifos	47.42	.	47.42	47.42	17.07
Cypermethrin	647.62	.	647.62	437.66	15.82
Deltamethrin	82.47	.	82.47	82.47	0.21
Dimethoate	67.58	.	67.58	67.58	21.63
Esfenvalerate	3,621.63	50.06	3,671.69	2,376.02	11.97
Lambda-cyhalothrin	2,654.94	.	2,654.94	2,400.43	20.77
Unknown insecticide	74.22	.	74.22	74.22	59.38
All insecticides	***7,598.73***	***50.06***	***7,648.79***	***.***	***151.93***

Molluscicides	Slugs	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Metaldehyde	150.69	150.69	150.69	13.56
All molluscicides	***150.69***	***150.69***	***.***	***13.56***

Growth regulators	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Chlormequat	6,658.13	6,658.13	6,352.01	7,754.14
Chlormequat with choline chloride	16.27	16.27	16.27	12.96
Chlormequat/Imazaquin	49.86	49.86	49.86	27.58
2-chloroethylphosphonic acid	834.11	834.11	834.11	159.31
Mepiquat chloride/Prohexadione-calcium	68.76	68.76	68.76	12.25
Trinexapac-ethyl	3,429.33	3,429.33	3,265.16	188.65
All growth regulators	***11,056.45***	***11,056.45***	***.***	***8,154.89***

Table 17: Undersown wheat: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation	General weed control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Herbicides & desiccants				
Tribenuron-methyl	48.19	48.19	48.19	0.12
All herbicides & desiccants	***48.19***	***48.19***	***.***	***0.12***

Table 18: **Spring oats: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation *Fungicides*	Disease prevention	General fungal control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Chlorothalonil	31.26	35.01	66.27	66.27	48.76
Chlorothalonil/flusilazole	.	35.01	35.01	35.01	9.80
Epoxiconazole	67.51	227.58	295.09	261.33	16.97
Epoxiconazole/fenpropimorph	31.26	.	31.26	31.26	2.37
Epoxiconazole/fenpropimorph/ metrafenone	90.96	72.94	163.90	163.90	59.89
Epoxiconazole/kresoxim-methyl	.	24.64	24.64	24.64	6.16
Fenpropimorph	19.35	582.67	602.01	359.85	123.99
Proquinazid	19.35	.	19.35	19.35	0.64
Pyraclostrobin	33.81	266.48	300.29	300.29	25.69
Quinoxyfen	.	287.01	287.01	287.01	28.70
Tebuconazole	9.01	59.43	68.45	68.45	15.94
All fungicides	***302.50***	***1,590.77***	***1,893.27***	***.***	***338.92***

Herbicides & desiccants	General weed control	Cleavers	Desiccation	Ground preparation	Chickweed	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Dicamba/MCPA/mecoprop-P	24.80	.	.	.	.	24.80	24.80	37.71
Florasulam/fluroxypyr	.	227.58	.	.	136.17	363.75	363.75	25.75
Fluroxypyr	42.77	.	.	.	.	42.77	42.77	4.48
Glyphosate	.	.	195.22	387.71	.	582.93	582.93	396.03
Mecoprop-P	370.50	.	.	.	.	370.50	370.50	332.62
Metsulfuron-methyl	226.16	.	.	.	.	226.16	226.16	1.22
Metsulfuron-methyl/tribenuron-methyl	351.51	.	.	.	.	351.51	351.51	3.48
Thifensulfuron-methyl/tribenuron-methyl	326.09	.	.	.	.	326.09	326.09	16.81
All herbicides & desiccants	***1,341.83***	***227.58***	***195.22***	***387.71***	***136.17***	***2,288.50***	***.***	***818.11***

Insecticides	Cereal aphids	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Deltamethrin	9.01	9.01	9.01	0.05
Esfenvalerate	124.95	124.95	124.95	0.59
Lambda-cyhalothrin	440.47	440.47	425.88	2.20
All insecticides	***574.43***	***574.43***	***.***	***2.84***

Table 18: **Spring oats: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation *Growth regulators*	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Chlormequat	439.31	439.31	439.31	494.54
Trinexapac-ethyl	256.80	256.80	242.21	11.68
All growth regulators	***696.11***	***696.11***	***.***	***506.21***

Table 19: **Undersown spring oats: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation	Disease prevention	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Fungicides				
Epoxiconazole/fenpropimorph/metrafenone	133.16	133.16	66.58	33.71
All fungicides	***133.16***	***133.16***	***.***	***33.71***

Pesticide type & formulation	General weed control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Herbicides & desiccants				
2,4-DB/linuron/MCPA	25.12	25.12	25.12	21.10
Fluroxypyr	153.38	153.38	153.38	23.01
Metsulfuron-methyl	66.58	66.58	66.58	0.40
Tribenuron-methyl	101.01	101.01	101.01	0.47
All herbicides & desiccants	***346.10***	***346.10***	***.***	***44.98***

	Cereal aphids	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Insecticides				
Esfenvalerate	86.80	86.80	86.80	0.36
All insecticides	***86.80***	***86.80***	***.***	***0.36***

	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Growth regulators				
Trinexapac-ethyl	66.58	66.58	66.58	3.33
All growth regulators	***66.58***	***66.58***	***.***	***3.33***

Table 20: **Winter oats: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation *Fungicides*	Disease prevention	General fungal control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Azoxystrobin	8.01	.	8.01	8.01	1.00
Chlorothalonil	.	66.58	66.58	66.58	33.29
Epoxiconazole	.	18.24	18.24	18.24	0.36
Epoxiconazole/fenpropimorph/metrafenone	.	191.03	191.03	95.52	59.26
Epoxiconazole/Metrafenone	.	133.16	133.16	66.58	33.51
Fenpropimorph	8.01	165.30	173.31	120.54	73.20
Mancozeb	.	18.15	18.15	18.15	20.65
Proquinazid	.	52.78	52.78	52.78	10.86
Prothioconazole	.	95.60	95.60	95.60	6.97
Pyraclostrobin	.	9.01	9.01	9.01	0.90
Quinoxyfen	.	26.15	26.15	26.15	3.27
Tebuconazole	.	26.15	26.15	26.15	0.65
All fungicides	***16.02***	***802.16***	***818.18***	***.***	***243.94***

Herbicides & desiccants	General weed control	Desiccation	Ground preparation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Amidosulfuron	62.00	.	.	62.00	62.00	1.86
Bromoxynil/ioxynil	62.00	.	.	62.00	62.00	24.80
Carfentrazone-ethyl/flupyrsulfron-methyl	51.75	.	.	51.75	51.75	1.55
Fluroxypyr	9.01	.	.	9.01	9.01	0.72
Glyphosate	.	96.14	18.15	114.29	96.14	52.96
Mecoprop-P	26.17	.	.	26.17	26.17	26.59
Metsulfuron-methyl/thifensulfuron-methyl	18.15	.	.	18.15	18.15	0.43
Metsulfuron-methyl/tribenuron-methyl	34.16	.	.	34.16	34.16	0.30
All herbicides & desiccants	***263.24***	***96.14***	***18.15***	***377.54***	***.***	***109.22***

Insecticides	Cereal aphids	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Cypermethrin	133.16	133.16	66.58	5.66
Deltamethrin	9.01	9.01	9.01	0.05
Lambda-cyhalothrin	26.15	26.15	26.15	0.13
All insecticides	***168.33***	***168.33***	***.***	***5.84***

Table 20(cont.): **Winter oats: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Growth regulators				
Chlormequat	127.43	127.43	127.43	205.00
Trinexapac-ethyl	35.16	35.16	35.16	1.76
All growth regulators	***162.59***	***162.59***	**.**	***206.76***

Table 21: **Winter oilseed rape: pesticide-treated area (spha), quantities of pesticides applied (kg) and reason for use.**

Pesticide Type & Formulation	Disease prevention	General fungal control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Fungicides					
Azoxystrobin	223.97	208.63	432.60	386.81	67.16
Flusilazole	.	18.53	18.53	18.53	2.20
Prothioconazole	124.57	165.37	289.95	278.16	31.49
Prothioconazole/tebuconazole	79.28	.	79.28	79.28	14.27
Tebuconazole	223.97	207.54	431.51	385.73	65.18
All fungicides	***651.78***	***600.08***	***1,251.86***	***.***	***180.30***

Herbicides & desiccants	General weed control	Desiccation	Ground preparation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Clopyralid/picloram	223.97	.	.	223.97	223.97	26.18
Diquat	19.79	.	.	19.79	19.79	7.92
Fluazifop-P-butyl	119.90	.	.	119.90	119.90	7.49
Glyphosate	19.79	398.36	51.37	469.52	437.94	469.49
Propyzamide	498.69	.	.	498.69	498.69	333.12
All herbicides & desiccants	***882.14***	***398.36***	***51.37***	***1,331.87***	***.***	***844.20***

Insecticides	General insect control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Deltamethrin	18.53	18.53	18.53	0.14
Lambda-cyhalothrin	113.69	113.69	113.69	0.63
All insecticides	***132.22***	***132.22***	***.***	***0.77***

Molluscicides	Slugs	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Metaldehyde	45.78	45.78	45.78	2.75
Methiocarb	223.72	223.72	223.72	19.70
All molluscicides	***269.51***	***269.51***	***.***	***22.44***

Table 22: **Spring oilseed rape: pesticide-treated area (spha), quantities of pesticides applied (kg) and reason for use.**

Pesticide Type & Formulation	General fungal control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Fungicides				
Metconazole	13.48	13.48	13.48	1.21
All fungicides	***13.48***	***13.48***	***.***	***1.21***

Herbicides & desiccants	General weed control	Desiccation	Ground preparation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Clomazone	25.27	.	.	25.27	25.27	1.13
Glyphosate	.	47.28	203.65	250.93	250.93	225.84
Metazachlor	86.02	.	.	86.02	86.02	64.29
All herbicides & desiccants	***111.29***	***47.28***	***203.65***	***362.22***	***.***	***291.25***

Insecticides	General insect control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Pirimicarb	13.48	13.48	13.48	1.95
All insecticides	***13.48***	***13.48***	***.***	***1.95***

Table 23 ***Camelina*: pesticide-treated area (spha), quantities of pesticides applied (kg) and reason for use.**

Pesticide Type & Formulation	Desiccation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Herbicides & desiccants				
Diquat	80.99	80.99	80.99	32.40
All herbicides & desiccants	***80.99***	***80.99***	**.**	***32.40***

Table 24: Peas & field beans: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation	General weed control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Herbicides & desiccants				
Linuron	10.36	10.36	10.36	7.77
Pendimethalin	10.36	10.36	10.36	10.26
All herbicides & desiccants	***20.72***	***20.72***	***.***	***18.03***

Table 25: Seed potatoes: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation *Fungicides*	Blight	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Ametoctradin/Dimethomorph	494.56	494.56	337.76	206.41
Chlorothalonil/propamocarb hydrochloride	60.39	60.39	30.19	113.22
Cyazofamid	405.11	405.11	241.73	33.02
Cymoxanil	325.76	325.76	138.01	29.13
Cymoxanil/famoxadone	40.26	40.26	20.13	12.08
Cymoxanil/mancozeb	510.54	510.54	326.42	688.88
Cymoxanil/propamocarb hydrochloride	47.18	47.18	47.18	42.46
Dimethomorph/mancozeb	259.07	259.07	125.31	372.46
Fenamidone/propamocarb hydrochloride	140.12	140.12	121.05	122.68
Fluazinam	1,853.72	1,853.72	515.80	325.00
Fluopicolide/propamocarb hydrochloride	572.72	572.72	320.79	624.35
Mancozeb	460.10	460.10	64.93	382.28
Mandipropamid	906.37	906.37	361.14	119.21
All fungicides	***6,075.90***	***6,075.90***	**.**	***3,071.19***

Herbicides & desiccants	General weed control	Desiccation	Ground preparation	Scutch	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Carfentrazone-ethyl	.	110.96	.	.	110.96	110.96	9.74
Diquat	166.89	725.87	.	.	892.76	519.93	321.49
Glyphosate	72.25	.	385.74	.	458.00	458.00	357.50
Linuron	65.96	.	.	.	65.96	65.96	35.62
Metribuzin	497.41	.	.	.	497.41	497.41	401.28
Pendimethalin	65.96	.	.	.	65.96	65.96	87.07
Propaquizafop	24.87	.	.	47.18	72.05	72.05	10.76
Prosulfocarb	89.80	.	.	.	89.80	89.80	255.04
Rimsulfuron	66.19	.	.	.	66.19	66.19	0.74
Tepraloxydim	24.87	.	.	.	24.87	24.87	1.84
All herbicides & desiccants	***1,074.20***	***836.83***	***385.74***	***47.18***	***2,343.96***		***1,481.10***

Insecticides	Aphids	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Esfenvalerate	233.07	233.07	109.9	1.16
Flonicamid	65.96	65.96	65.96	5.28
Lambda-cyhalothrin	135.64	135.64	67.82	1.02
Pymetrozine	203.98	203.98	203.98	33.13
Thiacloprid	180.96	180.96	180.96	17.37
Thiamethoxam	67.82	67.82	67.82	1.36
All insecticides	***887.43***	***887.43***	**.**	***59.32***

Table 25 (cont.): Seed potatoes: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Molluscicides	Slugs	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Methiocarb	70.85	70.85	70.85	2.83
All molluscicides	***70.85***	***70.85***	**.**	***2.83***

Table 26: Early potatoes: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation				
Fungicides	**Blight**	**All reasons**	**Basic area (ha) of treatment**	**Quantity (kgs)**
Ametoctradin/Dimethomorph	37.06	37.06	37.06	15.57
Cyazofamid	11.53	11.53	11.53	0.92
Cymoxanil	69.84	69.84	61.02	6.53
Cymoxanil/mancozeb	70.22	70.22	59.07	101.81
Dimethomorph/mancozeb	15.23	15.23	15.23	22.60
Fenamidone/propamocarb hydrochloride	202.95	202.95	128.73	182.65
Fluazinam	359.36	359.36	158.52	70.25
Fluopicolide/propamocarb hydrochloride	126.49	126.49	82.42	139.14
Mancozeb	15.91	15.91	11.16	25.45
Mandipropamid	147.58	147.58	86.56	21.93
All fungicides	***1,056.16***	***1,056.16***	**.**	***586.86***

Herbicides & desiccants	**General weed control**	**Desiccation**	**Ground preparation**	**All reasons**	**Basic area (ha) of treatment**	**Quantity (kgs)**
Diquat	123.07	91.63	.	214.70	133.34	67.28
Glyphosate	.	.	127.07	127.07	127.07	139.72
Linuron	78.16	.	.	78.16	78.16	38.76
Metribuzin	152.23	.	.	152.23	152.23	145.11
Pendimethalin	61.21	.	.	61.21	61.21	60.81
Prosulfocarb	31.87	.	.	31.87	31.87	67.26
All herbicides & desiccants	***446.55***	***91.63***	***127.07***	***665.24***	**.**	***518.93***

Insecticides	**Aphids**	**All reasons**	**Basic area (ha) of treatment**	**Quantity (kgs)**
Lambda-cyhalothrin	8.14	8.14	8.14	0.06
Pirimicarb	17.40	17.40	17.40	2.44
All insecticides	***25.53***	***25.53***	**.**	***2.49***

Molluscicides	**Slugs**	**All reasons**	**Basic area (ha) of treatment**	**Quantity (kgs)**
Metaldehyde	40.68	40.68	40.68	4.88
Methiocarb	40.68	40.68	40.68	3.25
All molluscicides	***81.36***	***81.36***	**.**	***8.14***

Table 27: **Maincrop potatoes: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation *Fungicides*	Blight	General fungal control	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Ametoctradin/Dimethomorph	2,187.82	.	2,187.82	1,262.30	911.39
Azoxystrobin	115.27	105.10	220.36	220.36	47.89
Azoxystrobin/chlorothalonil	150.28	.	150.28	75.14	72.14
Benthiavalicarb-isopropyl/mancozeb	365.56	.	365.56	280.85	419.66
Chlorothalonil	261.24	.	261.24	124.28	254.90
Chlorothalonil/propamocarb hydrochloride	445.02	.	445.02	262.21	834.42
Copper oxychloride	183.07	.	183.07	20.34	796.36
Cyazofamid	3,553.02	.	3,553.02	1,605.70	279.59
Cymoxanil	3,180.63	.	3,180.63	1,323.24	264.57
Cymoxanil/famoxadone	233.55	.	233.55	141.54	76.61
Cymoxanil/mancozeb	2,725.47	.	2,725.47	1,239.50	4,029.28
Cymoxanil/propamocarb hydrochloride	81.36	.	81.36	40.68	73.23
Dimethomorph/mancozeb	2,641.15	.	2,641.15	1,194.79	3,860.63
Fenamidone/propamocarb hydrochloride	2,819.06	.	2,819.06	1,782.49	2,548.72
Fluazinam	13,892.60	.	13,892.60	3,008.32	2,549.27
Fluopicolide/propamocarb hydrochloride	5,198.06	.	5,198.06	2,589.69	5,535.52
Mancozeb	478.74	.	478.74	250.13	470.12
Mancozeb/metalaxyl-M	33.90	.	33.90	33.90	43.72
Mandipropamid	4,695.57	.	4,695.57	1,628.80	666.04
Tebuconazole	94.93	.	94.93	94.93	11.87
Unknown fungicide	111.44	.	111.44	37.15	.
All fungicides	***43,447.74***	***105.10***	***43,552.84***	***.***	***23,745.90***

Herbicides & desiccants	General weed control	Harvest aid	Desiccation	Ground preparation	All reasons	Basic area (ha) of treatment	Quantity (kgs)
Carfentrazone-ethyl	.	.	702.24	.	702.24	702.24	49.60
Clomazone	189.85	.	.	.	189.85	94.93	15.38
Diquat	2,018.64	81.93	4,092.32	.	6,192.89	3,210.27	2,093.62
Glyphosate	285.66	.	.	2,146.27	2,431.93	2,377.55	2,226.32
Linuron	549.79	.	.	.	549.79	549.79	312.07
Metribuzin	3,133.32	.	.	.	3,133.32	3,038.39	2,562.22
Paraquat	.	.	50.85	.	50.85	50.85	20.34
Pendimethalin	108.49	.	.	.	108.49	108.49	143.20
Propaquizafop	.	.	40.09	.	40.09	40.09	6.01
Prosulfocarb	438.91	.	.	.	438.91	438.91	1,156.68
Pyraflufen-ethyl	55.12	.	.	.	55.12	55.12	1.17
Rimsulfuron	424.46	.	.	.	453.07	453.07	4.92
All herbicides & desiccants	***7,204.23***	***81.93***	***4,885.50***	***2,146.27***	***14,346.54***	***.***	***8,591.52***

Table 27 (cont.): Maincrop potatoes: pesticide-treated area (spha), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation			Basic area (ha) of treatment	Quantity (kgs)
Insecticides	**Aphids**	**All reasons**		
Deltamethrin	30.51	30.51	30.51	0.19
Esfenvalerate	30.51	30.51	30.51	0.13
Lambda-cyhalothrin	221.04	221.04	187.14	1.63
Pirimicarb	80.88	80.88	80.88	11.32
Pymetrozine	67.80	67.80	33.90	10.17
Thiacloprid	25.09	25.09	25.09	2.41
All insecticides	***455.84***	***455.84***	**.**	***25.85***

			Basic area (ha) of treatment	Quantity (kgs)
Molluscicides	**Slugs**	**All reasons**		
Metaldehyde	1,141.14	1,141.14	463.10	132.87
Methiocarb	1,612.72	1,612.72	843.60	93.69
All molluscicides	***2,753.85***	***2,753.85***	**.**	***226.56***

			Basic area (ha) of treatment	Quantity (kgs)
Growth regulators	**Growth regulation**	**All reasons**		
Maleic hydrazide	10.17	10.17	10.17	30.51
All growth regulators	***10.17***	***10.17***	**.**	***30.51***

Table 28: Comparison of the area of arable crops grown (ha) in Northern Ireland, 1990-2012.

	Survey Year											
Crop	**1990**	**1992**	**1994**	**1996**	**1998**	**2000**	**2002**	**2004**	**2006**	**2008**	**2010**	**2012**
Spring barley	29,893	24,729	20,890	21,256	23,066	23,901	22,658	21,959	17,573	18,742	16,967	19,702
Undersown barley	5,800	5,759	6,542	4,875	4,035	3,532	1,876	599	654	803	591	508
Winter barley	3,670	5,721	5,832	7,166	7,720	5,194	3,922	4,535	4,599	6,149	6,767	5,323
Spring wheat	348	136	32	129	400	863	1,428	1,523	1,517	1,552	1,686	1,500
Undersown wheat	27	.	42	.	.	.	.	.	.	.	58	48
Winter wheat	5,827	6,839	6,952	6,543	6,745	4,125	5,807	7,111	7,203	10,553	9,151	7,846
Spring oats	2,220	1,257	953	858	978	1,920	804	903	991	778	1,441	1,441
Undersown oats	117	221	337	130	102	25	20	234	71	.	49	193
Winter oats	673	1,008	1,125	1,481	1,523	967	1,547	1,556	875	1,640	841	246
All cereals	***48,575***	***45,670***	***42,704***	***42,438***	***44,569***	***40,528***	***38,062***	***38,420***	***33,482***	***40,217***	***37,551***	***36,807***
Spring oilseed rape	15	31	287	66	237	.	111	.	.	.	.	517
Winter oilseed rape	891	1,032	323	127	502	.	.	.	.	.	.	290
All oilseed rape *	906	1,063	610	193	739	131	111	255	471	439	446	807
Hemp	.	.	.	.	.	.	.	.	.	40	.	.
Linseed	.	158	.	.	.	.	14	.	.	2	.	.
Maize	.	45	.	.	.	.	.	.	.	.	.	.
Peas & beans	.	.	.	.	199	273	197	212	83	55	85	10
Triticale	37	.	.	.	17	64	49	182	12	82	5	.
Lupins	.	.	.	.	.	.	67	10	19	.	.	.
Camelina	.	.	.	.	.	.	.	.	.	.	.	81
Set-aside	.	.	.	.	.	2,451	3,013	3,394	2,284	.	.	.
Potatoes												
Seed potatoes	3,509	3,688	1,678	1,798	1,607	.	1,239	1,148	763	792	707	555
Early potatoes	463	836	813	729	391	.	728	403	370	401	191	192
Maincrop potatoes	7,863	6,540	5,913	5,961	5,515	.	4,741	4,517	3,984	4,308	4,041	3,403
All potatoes	***11,835***	***11,064***	***8,404***	***8,488***	***7,513***	***.***	***6,708***	***6,068***	***5,118***	***5,501***	***4,939***	***4,150***
All crops	***61,355***	***57,999***	***51,718***	***51,119***	***53,036***	*****43,447***	***48,222***	***48,541***	***41,469***	***46,337***	***43,027***	***41,856***

*** both winter & spring oilseed rape** ****excluding potatoes**

Table 28(cont.): **Comparison of the area of arable crops grown (ha) in Northern Ireland, 1990-2012.**

	Differences between:										
Crop	**2012-90**	**2012-92**	**2012-94**	**2012-96**	**2012-98**	**2012-00**	**2012-02**	**2012-04**	**2012-06**	**2012-08**	**2012-10**
Cereals											
Spring barley	-34%	-20%	-6%	-7%	-15%	-18%	-13%	-10%	12%	5%	16%
Undersown barley	-91%	-91%	-92%	-90%	-87%	-86%	-73%	-15%	-22%	-37%	-14%
Winter barley	45%	-7%	-9%	-26%	-31%	2%	36%	17%	16%	-13%	-21%
Spring wheat	331%	1003%	4588%	1061%	275%	74%	5%	-2%	-1%	-3%	-11%
Undersown wheat	78%	.	15%	.	.	.	.	.	.	.	-17%
Winter wheat	35%	15%	13%	20%	16%	90%	35%	10%	9%	-26%	-14%
Spring oats	-35%	15%	51%	68%	47%	-25%	79%	60%	45%	85%	0%
Undersown oats	65%	-13%	-43%	48%	89%	657%	864%	-18%	170%	.	293%
Winter oats	-63%	-76%	-78%	-83%	-84%	-75%	-84%	-84%	-72%	-85%	-71%
All cereals	***-24%***	***-19%***	***-14%***	***-13%***	***-17%***	***-9%***	***-3%***	***-4%***	***10%***	***-8%***	***-2%***
Spring oilseed rape	3348%	1568%	80%	684%	118%	.	366%	.	.	.	.
Winter oilseed rape	-67%	-72%	-10%	128%	-42%	.	.	.	.	.	.
All oilseed rape *	-11%	-24%	32%	318%	9%	516%	627%	216%	71%	84%	81%
Hemp	.	.	.	.	.	.	.	.	.	.	.
Linseed	.	.	.	.	.	.	.	.	.	.	.
Maize	.	.	.	.	.	.	.	.	.	.	.
Peas & beans	.	.	.	.	-95%	-96%	-95%	-95%	-87%	-81%	-88%
Triticale	.	.	.	.	.	.	.	.	.	.	.
Lupins	.	.	.	.	.	.	.	.	.	.	.
Camelina	.	.	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.	.	.
Set-aside	.	.	.	.	.	.	.	.	.	.	.
	.	.	.	.	.	.	.	.	.	.	.
Potatoes	.	.	.	.	.	.	.	.	.	.	.
Seed potatoes	-84%	-85%	-67%	-69%	-65%	.	-55%	-52%	-27%	-30%	-21%
Early potatoes	-58%	-77%	-76%	-74%	-51%	.	-74%	-52%	-48%	-52%	1%
Maincrop potatoes	-57%	-48%	-42%	-43%	-38%	.	-28%	-25%	-15%	-21%	-16%
All potatoes	***-65%***	***-62%***	***-51%***	***-51%***	***-45%***	***.***	***-38%***	***-32%***	***-19%***	***-25%***	***-16%***
	.	.	.	.	.	.	.	.	.	.	
All crops	***-32%***	***-28%***	***-19%***	***-18%***	***-21%***	***.***	***-13%***	***-14%***	***1%***	***-10%***	***-3%***

Table 29: The area (spha) of arable crops treated with pesticides in Northern Ireland, 1990-2012.

	Survey Year											
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	102,594	106,290	114,972	121,833	141,099	.	127,435	139,474	123,125	159,738	147,957	157,255
Herbicides & desiccants	75,130	76,444	72,725	81,027	91,193	.	86,597	104,539	94,148	116,029	102,211	113,487
Insecticides												
Carbamates	.	*111*	*167*	*520*	*297*	.	*594*	*592*	*30*	*558*	*59*	*112*
Organochlorines	.	*79*	*255*	*222*	.	.	.	.	.	.	.	.
Organophosphates	*1,472*	*2,454*	*2,124*	*3,085*	*1,587*	.	*1,265*	*2,423*	*1,818*	*1,164*	*1,163*	*2,405*
Pyrethroids	*2,895*	*2,800*	*3,267*	*7,706*	*17,084*	.	*18,164*	*26,973*	*25,055*	*35,936*	*26,467*	*26,827*
Azomethine	.	.	.	.	.	.	.	*673*	*71*	.	.	*272*
Neonicotinoid	.	.	.	.	.	.	.	.	*96*	.	*78*	*274*
Feeding blocker	.	.	.	.	.	.	.	.	.	*252*	*77*	*66*
Mixed Formulations	.	.	.	.	.	.	.	*581*	*96*	.	*129*	.
Unknown insecticides	*465*	*694*	*207*	*815*	*1,238*	.	.	*180*	*89*	.	.	*74*
All insecticides	4,831	6,138	6,020	12,348	20,206	.	20,023	31,421	27,255	37,910	27,974	30,030
Molluscicides	834	871	243	434	1,123	.	1,926	337	1,237	1,277	816	3,642
Growth regulators	8,681	10,594	12,836	13,953	19,049	.	17,445	16,559	19,572	22,408	23,983	31,670
Other	.	.	.	.	.	.	.	.	.	89	210	664
Mixed formulations	233	186	134	137	128	.	86	.	.	.	.	.
Seed treatments	42,683	44,961	39,026	38,979	36,083	.	34,636	32,968	30,298	36,756	34,184	38,098
All pesticides	***234,985***	***245,485***	***245,971***	***268,710***	***308,881***	***.***	***288,348***	***325,299***	***295,635***	***374,207***	***337,336***	***374,845***
Area grown (ha)	61,355	57,999	51,718	51,119	53,036	.	48,222	48,541	41,469	46,337	43,027	41,823

Table 29 (cont.): **The area (spha) of arable crops treated with pesticides in Northern Ireland, 1990-2012.**

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	53%	48%	37%	29%	11%	.	23%	13%	28%	-2%	6%
Herbicides & desiccants	51%	48%	56%	40%	24%	.	31%	9%	21%	-2%	11%
Insecticides											
Carbamates	.	1%	-33%	-79%	-62%	.	-81%	-81%	273%	-80%	89%
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	63%	-2%	13%	-22%	52%	.	90%	-1%	32%	107%	107%
Pyrethroids	827%	858%	721%	248%	57%	.	48%	-1%	7%	-25%	1%
Azomethine	.	.	.	.	.	.	.	-60%	283%	.	.
Neonicotinoid	.	.	.	.	.	.	.	.	185%	.	251%
Feeding blocker	.	.	.	.	.	.	.	.	.	-74%	-14%
Mixed Formulations		.	.	.	.	.	.	.	.	.	.
Unknown insecticides	-84%	-89%	-64%	-91%	-94%	.	.	-59%	-17%	.	.
All insecticides	522%	389%	399%	143%	49%	.	50%	-4%	10%	-21%	7%
Molluscicides	337%	318%	1399%	738%	224%	.	89%	980%	194%	185%	346%
Growth regulators	265%	199%	147%	127%	66%	.	82%	91%	62%	41%	32%
Other	.	.	.	.	.	.	.	.	.	646%	216%
Mixed formulations	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	-11%	-15%	-2%	-2%	6%	.	10%	16%	26%	4%	11%
All pesticides	***60%***	***53%***	***52%***	***39%***	***21%***	.	***30%***	***15%***	***27%***	***0%***	***11%***
Area grown (ha)	-32%	-28%	-19%	-18%	-21%	.	-13%	-14%	1%	-10%	-3%

Table 30: The quantity (tonnes) of pesticides applied to arable crops in Northern Ireland, 1990-2012.

	Survey Year											
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	97.57	101.76	90.99	94.22	91.06	.	85.20	71.13	67.26	77.32	67.88	58.70
Herbicides & desiccants	253.62	212.36	133.57	336.33	337.65	.	390.98	254.62	152.13	71.58	50.75	52.12
Insecticides												
Carbamates	.	*0.02*	*0.02*	*0.07*	*0.04*	.	*0.08*	*0.08*	*0.004*	*0.075*	*0.008*	*0.01571*
Organochlorines	.	*0.09*	*0.29*	*0.23*	.	.	.	.	.	.	.	.
Organophosphates	*0.68*	*0.80*	*0.85*	*1.51*	*0.87*	.	*0.57*	*1.07*	*1.373*	*0.786*	*0.733*	*1.29359*
Pyrethroids	*0.05*	*0.05*	*0.07*	*0.15*	*0.19*	.	*0.20*	*0.20*	*0.163*	*0.295*	*0.163*	*0.19192*
Azomethine	.	.	.	.	.	.	.	*0.10*	*0.005*	.	.	*0.0433*
Neonicotinoid	.	.	.	.	.	.	.	.	*0.009*	.	*0.006*	*0.02114*
Feeding blocker	.	.	.	.	.	.	.	.	.	*0.02*	*0.006*	*0.00528*
Mixed Formulations	.	.	.	.	.	.	.	*0.05*	*0.016*	.	*0.01*	.
Unknown Insecticide	.	.	.	.	.	.	.	*0.01*	.	.	.	*0.06*
All insecticides	0.72	0.96	1.23	1.95	1.10	.	0.85	1.51	1.57	1.18	0.93	1.63
Molluscicides	0.33	0.27	0.12	0.09	0.17	.	0.34	0.06	0.28	0.17	0.12	0.30
Growth regulators	10.60	9.35	10.86	12.84	14.43	.	11.61	11.70	12.63	17.00	14.33	16.59
Other	.	.	.	.	.	.	.	.	.	0.014	0.180	0.244
Mixed formulations	0.51	0.41	0.29	0.30	0.28	.	0.13	.	.	.	.	.
Seed treatments	0.38*	3.77	5.06	3.03	3.71	.	2.82	2.28	4.03	1.82	2.09	2.52
All pesticides	***363.74***	***328.89***	***242.12***	***448.78***	***448.40***	**.**	***491.93***	***341.30***	***237.89***	***169.06***	***136.28***	***132.10***
Area grown (ha)	61,355	57,999	51,718	51,119	53,036	.	48,222	48,541	41,469	46,337	43,027	41,823

* Seed treatments on potatoes not recorded

Table 30 (cont.): The quantity (tonnes) of pesticides applied to arable crops in Northern Ireland, 1990-2012.

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes
Fungicides	-40%	-42%	-35%	-38%	-36%	.	-31%	-17%	-13%	-24%	-14%
Herbicides & desiccants	-79%	-75%	-61%	-85%	-85%	.	-87%	-80%	-66%	-27%	3%
Insecticides											
Carbamates	.	-21%	-25%	-78%	-56%	.	-80%	-80%	293%	-79%	96%
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	90%	62%	52%	-14%	49%	.	126%	21%	-6%	65%	76%
Pyrethroids	284%	284%	178%	28%	1%	.	-6%	-3%	18%	-35%	18%
Azomethine	.	.	.	.	.	.	.	-58%	766%	.	.
Neonicotinoid	.	.	.	.	.	.	.	.	135%	.	252%
Feeding blocker	.	.	.	.	.	.	.	.	.	-74%	-12%
Mixed Formulations	.	.	.	.	.	.	.	.	.	.	.
Unknown Insecticide	.	.	.	.	.	.	.	494%	.	.	.
All insecticides	126%	70%	33%	-17%	49%	.	91%	8%	4%	39%	75%
Molluscicides	-10%	10%	151%	232%	72%	.	-12%	395%	5%	76%	148%
Growth regulators		77%	53%	29%	15%	.	43%	42%	31%	-2%	16%
Other	.	.	.	.	.	.	.	.	.	1644%	36%
Mixed formulations	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	.	-33%	-50%	-17%	-32%	.	-11%	11%	-37%	39%	21%
All pesticides	***-64%***	***-60%***	***-45%***	***-71%***	***-71%***	***.***	***-73%***	***-61%***	***-44%***	***-22%***	***-3%***
Area grown (ha)	-32%	-28%	-19%	-18%	-21%	.	-13%	-14%	1%	-10%	-3%

Table 31: The area (spha) of cereal crops treated with pesticides in Northern Ireland, 1990-2012.

	Survey Year											
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	33,741	37,584	42,517	56,880	64,171	63,739	60,230	86,173	77,686	106,805	91,054	105,304
Herbicides & desiccants	52,342	52,872	56,201	63,072	72,911	71,281	69,752	82,884	77,378	95,133	83,268	94,335
Insecticides												
Carbamates	.	*88*	*167*	*493*	*249*	.	*182*	*120*	.	*127*	*59*	.
Organochlorines	.	*79*	*255*	*222*	.	.	.	.	.	.	.	.
Organophosphates	*1,164*	*2,359*	*1,857*	*2,447*	*1,440*	*3,773*	*1,140*	*2,058*	*1,751*	*1,164*	*1,164*	*2,405*
Pyrethroids	*2,381*	*2,670*	*3,267*	*7,047*	*16,481*	*23,617*	*16,709*	*24,258*	*23,328*	*34,701*	*24,909*	*26,036*
Unknown insecticides	*465*	*694*	*207*	*816*	*1,207*	*2,290*	.	*114*	*89*	.	.	*74*
All insecticides	4,010	5,890	5,754	11,028	19,377	29,681	18,031	26,550	25,168	35,991	26,132	28,515
Molluscicides	24	.	27	168	129	833	305	223	307	493	324	466
Growth regulators	8,607	10,509	12,836	13,953	18,998	17,237	17,330	16,476	19,559	22,386	23,927	31,660
Other	.	.	.	.	.	.	.	.	.	89	.	425
Seed treatments	41,739	39,958	35,995	35,525	31,728	34,260	31,494	29,069	27,353	33,567	31,572	34,646
All pesticides	***140,465***	***146,819***	***153,330***	***180,624***	***207,314***	***217,031***	***197,144***	***241,374***	***227,451***	***294,463***	***256,277***	***295,351***
Area grown (ha)	48,575	45,670	42,703	42,438	44,570	40,528	38,062	38,420	33,482	40,217	37,551	36,807

Table 31 (cont.): **The area (spha) of cereal crops treated with pesticides in Northern Ireland, 1990-2012.**

	Differences between:										
	2012-90	**2012-92**	**2012-94**	**2012-96**	**2012-98**	**2012-00**	**2012-02**	**2012-04**	**2012-06**	**2012-08**	**2012-10**
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	212%	180%	148%	85%	64%	65%	75%	22%	36%	-1%	16%
Herbicides & desiccants	80%	78%	68%	50%	29%	32%	35%	14%	22%	-1%	13%
Insecticides											
Carbamates	.	.	.	.	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	107%	2%	30%	-2%	67%	-36%	111%	17%	37%	107%	107%
Pyrethroids		875%	697%	269%	58%	10%	56%	7%	12%	-25%	5%
Unknown insecticides	-84%	-89%	-64%	-91%	-94%	-97%	.	-35%	-17%	.	.
All insecticides	611%	384%	396%	159%	47%	-4%	58%	7%	13%	-21%	9%
Molluscicides	1843%	.	1627%	178%	262%	-44%	53%	109%	52%	-5%	44%
Growth regulators	268%	201%	147%	127%	67%	84%	83%	92%	62%	41%	32%
Other	.	.	.	.	.	.	.	.	.	378%	.
Seed treatments	-17%	-13%	-4%	-2%	9%	1%	10%	19%	27%	3%	10%
All pesticides	***110%***	***101%***	***93%***	***64%***	***42%***	***36%***	***50%***	***22%***	***30%***	***0%***	***15%***
Area grown (ha)	-24%	-19%	-14%	-13%	-17%	-9%	-3%	-4%	10%	-8%	-2%

Table 32: The quantity (tonnes) of pesticides applied to cereal crops in Northern Ireland, 1990-2012.

	Survey Year											
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	14.97	18.43	14.96	24.52	22.82	13.32	15.18	19.15	20.21	32.17	27.62	31.11
Herbicides & desiccants	55.07	39.43	35.67	42.87	46.26	41.68	35.35	42.21	48.77	58.48	38.28	40.34
Insecticides												
Carbamates	.	*0.01*	*0.02*	*0.07*	0.03	.	0.03	*0.012*	.	0.014	0.008	.
Organochlorines	.	*0.09*	*0.29*	*0.23*	.	.	.	.	.	.	.	.
Organophosphates	*0.51*	*0.68*	*0.49*	1.24	0.74	2.51	0.56	*0.948*	*1.200*	*0.785*	*0.733*	*1.294*
Pyrethroids	*0.04*	*0.04*	*0.07*	*0.13*	*0.19*	*0.26*	*0.19*	*0.178*	*0.157*	*0.275*	*0.148*	*0.187*
Azomethine	.	.	.	.	.	.	.	.	.			
All insecticides	0.55	0.83	0.88	1.66	0.96	2.75	0.78	1.14	1.36	1.08	0.89	1.54
Molluscicides	0.01	.	0.01	0.04	0.02	0.14	0.06	0.04	0.04	0.07	0.03	0.04
Growth regulators	10.51	9.32	10.86	12.84	14.41	12.87	11.61	11.64	12.62	16.93	14.16	16.55
Other	.	.	.	.	.	.	.	.	.	0.01	.	0.04
Seed treatments	0.33	0.94	3.80	2.41	1.72	2.34	1.57	1.35	1.42	1.09	1.37	1.40
All pesticides	***81.44***	***68.94***	***66.17***	***84.35***	***86.19***	***73.11***	***64.35***	***75.55***	***84.41***	***109.83***	***82.35***	***91.04***
Area grown (ha)	48,575	45,670	42,703	42,438	44,570	40,528	38,062	38,420	33,482	40,217	37,551	36,807

Table 32 (cont.): **The quantity (tonnes) of pesticides applied to cereal crops in Northern Ireland, 1990-2012.**

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	108%	69%	108%	27%	36%	134%	105%	62%	54%	-3%	13%
Herbicides & desiccants	-27%	2%	13%	-6%	-13%	-3%	14%	-4%	-17%	-31%	5%
Insecticides											
Carbamates	.	.	.	.	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	154%	90%	164%	4%	75%	-48%	133%	36%	8%	65%	76%
Pyrethroids	367%	367%	171%	44%	-3%	-28%	-4%	5%	19%	-32%	26%
Azomethine	.	.	.	.	.	.	.	.	.	.	
All insecticides	180%	86%	76%	-7%	61%	-44%	99%	35%	14%	43%	73%
Molluscicides	272%	.	482%	-7%	124%	-73%	-42%	-7%	-13%	-46%	33%
Growth regulators	58%	78%	52%	29%	15%	29%	43%	42%	31%	-2%	17%
Other		.	.	.	.	.	.	.	.	219%	.
Seed treatments	325%	49%	-63%	-42%	-18%	-40%	-11%	4%	-1%	29%	2%
All pesticides	***12%***	***32%***	***38%***	***8%***	***6%***	***25%***	***41%***	***20%***	***8%***	***-17%***	***11%***
Area grown (ha)	-24%	-19%	-14%	-13%	-17%	-9%	-3%	-4%	10%	-8%	-2%

Table 33: **The area (spha) of oilseed rape treated with pesticides in Northern Ireland, 1990-2012.**

	Survey Year											
	1990	**1992**	**1994**	**1996**	**1998**	**2000**	**2002**	**2004**	**2006**	**2008**	**2010**	**2012**
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	467	525	86	226	664	244	70	238	646	737	1,337	1,265
Herbicides & desiccants	1,603	1,343	597	292	1,171	366	194	448	970	972	1,054	1,694
Insecticides												
Carbamates	.	.	.	.	*28.6*	.	.	.	.	.	.	*13*
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	*67*	*180*	*25*	*5.4*	.	.	.	.	.	.	.
Pyrethroids	.	*131*	.	.	*190*	.	*49*	*55*	*149*	*316*	*361*	*132*
Unknown insecticides	.	.	.	.	*10*	.	.	.	.	.	.	.
All insecticides	.	198	180	25	234	.	49	55	149	316	361	146
Molluscicides	810	871	216	72	522	.	39	.	68	120	.	270
Growth regulators	.	84	.	.	.	.	.	.	.	.	.	.
Other	.	.	.	.	.	.	.	.	.	.	210	239
Seed treatments	906	1,063	610	140	339	123	98	106	271	22	423	786
All pesticides	***3,786***	***4,084***	***1,689***	***755***	***2,931***	***732***	***450***	***846***	***2,104***	***2,167***	***3,360***	***4,400***
Area grown (ha)	906	1,062	610	193	739	131	111	255	471	439	446	807

Table 33 (cont.): **The area (spha) of oilseed rape treated with pesticides in Northern Ireland, 1990-2012.**

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	171%	141%	1380%	460%	91%	419%	1697%	433%	96%	72%	-5%
Herbicides & desiccants	6%	26%	184%	480%	45%	363%	774%	278%	75%	74%	61%
Insecticides											
Carbamates	.	.	.	.	-53%	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	.	1%	.	.	-30%	.	171%	140%	-11%	-58%	-63%
Unknown insecticides	.	.	.	.	.	.	.	.	.	.	
All insecticides	.	-26%	-19%	483%	-38%	.	199%	166%	-2%	-54%	-60%
Molluscicides	-67%	-69%	25%	274%	-48%	.	589%	.	296%	125%	.
Growth regulators	.	.	.	.	.	.	.	.	.	.	.
Other		.	.	.	.	.	.	.	.	.	14%
Seed treatments	-13%	-26%	29%	461%	132%	539%	704%	643%	190%	3472%	86%
All pesticides	***16%***	***8%***	***160%***	***483%***	***50%***	***501%***	***878%***	***420%***	***109%***	***103%***	***31%***
Area grown (ha)	-11%	-24%	32%	318%	9%	516%	627%	216%	71%	84%	81%

Table 34: The quantity (tonnes) of pesticides applied to oilseed rape in Northern Ireland, 1990-2012.

	Survey Year											
	1990	**1992**	**1994**	**1996**	**1998**	**2000**	**2002**	**2004**	**2006**	**2008**	**2010**	**2012**
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	0.53	0.06	0.03	0.30	0.60	0.64	0.01	0.03	0.10	0.12	0.27	0.18
Herbicides & desiccants	1.31	0.98	0.62	0.20	0.74	0.16	0.10	0.25	0.76	0.81	0.65	1.14
Insecticides												
Carbamates	.	.	.	.	*0.004*	.	.	.	.	.	.	*0.00195*
Organochlorines	.	.	.	.	*<0.001*	.	.	.	.	.	.	.
Organophosphates	.	*0.02*	*0.08*	*0.01*	*0.004*	.	.	.	.	.	.	.
Pyrethroids	.	*0.01*	.	.	*0.001*	.	*0.0001*	*0.0003*	*0.001*	*0.011*	*0.002*	*0.0008*
All insecticides	.	0.03	0.08	0.01	0.009	.	0.0001	0.0003	0.001	0.011	0.003	0.0027
Molluscicides	0.32	0.27	0.11	0.01	0.06	.	0.01	.	0.01	0.03	.	0.0224
Growth regulators	.	0.04	.	.	.	.	.	.	.	.	.	.
Seed treatments	0.05	0.11	0.06	0.02	0.005	.	0.01	0.002	0.005	0.001	0.007	0.0105
All pesticides	***2.21***	***1.49***	***0.90***	***0.54***	***1.41***	***0.81***	***0.13***	***0.28***	***0.88***	***0.96***	***1.11***	***1.55***
Area grown (ha)	906	1,062	610	193	739	131	111	255	471	439	446	807

Table 34 (cont.): **The quantity (tonnes) of pesticides applied to oilseed rape in Northern Ireland, 1990-2012.**

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	-66%	203%	448%	-39%	-70%	-72%	1425%	505%	76%	56%	-33%
Herbicides & desiccants	-13%	16%	85%	468%	54%	610%	1060%	354%	50%	40%	75%
Insecticides											
Carbamates	.	.	.	.	-51%	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	
Organophosphates	.	.	.	.	.	.	.	.	.	.	
Pyrethroids	.	-92%	.	.	-30%	.	670%	157%	-36%	-93%	-62%
All insecticides	.	-91%	-96%	-73%	-70%	.	2620%	907%	127%	-75%	-9%
Molluscicides	-93%	-92%	-80%	124%	-63%	.	116%	.	60%	-17%	.
Growth regulators	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	-79%	-90%	-82%	-48%	132%	.	-24%	410%	110%	948%	50%
All pesticides	***-30%***	***4%***	***73%***	***187%***	***10%***	***92%***	***1057%***	***454%***	***76%***	***61%***	***40%***
Area grown (ha)	-11%	-24%	32%	318%	9%	516%	627%	216%	71%	84%	81%

Table 35: **The area (spha) of peas and beans treated with pesticides in Northern Ireland, 1998-2012.**

	Survey Year								Differences between:						
	1998	2000	2002	2004	2006	2008	2010	2012	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	sp ha	sp ha	sp ha	sp ha	sp ha	sp ha	sp ha	sp ha	sp ha	sp ha	sp ha	sp ha	sp ha	sp ha	sp ha
Fungicides	314	138	302.7	676.7	19.0	8.0	296.0	.	.	.	.	.	.	.	.
Herbicides & desiccants	444	199	241.1	321.5	120.0	63.0	137.0	20.7	-95%	-90%	-91%	-94%	-83%	-67%	-85%
Insecticides															
Carbamates	*19*	*18.3*	*54.2*	.	.	.	.	.	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	*22*	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	*64*	.	*66.1*	*197.20*	*12.00*	*8.00*	*99.00*	.	.	.	.	.	.	.	.
Unknown insecticides	.	.	.	.				.	.	.	.	.	.	.	.
All insecticides	105	18.3	120.3	197.2	12.00	8.00	99.00	.	.	.	.	.	.	.	.
Molluscicides	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Growth regulators	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	.	105	137.9	15.1	.	8	72	.	.	.	.	.	.	.	.
All pesticides	***863***	***459.9***	***802***	***1,210.5***	***151.0***	***88.0***	***604.0***	***20.7***	***-98%***	***-95%***	***-97%***	***-98%***	***-86%***	***-76%***	***-97%***
Area grown (ha)	199	273	197	212	83	55	85	10	-95%	-96%	-95%	-95%	-88%	-82%	-88%

Table 36: The quantity (tonnes) of pesticides applied to peas & beans in Northern Ireland, 1998-2012.

	Survey Year								Differences between:						
	1998	2000	2002	2004	2006	2008	2010	2012	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes
Fungicides	0.20	0.05	0.1055	0.540	0.009	0.006	0.180	.	.	.	.	.	.	.	.
Herbicides & desiccants	0.41	0.20	0.2545	0.197	0.098	0.062	0.132	0.018	-96%	-91%	-93%	-91%	-82%	-71%	-86%
Insecticides															
Carbamates	*0.003*	*0.005*	*0.003*	.	.	.	.	.	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	*0.002*	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	*0.001*	.	*0.0002*	*0.001*	*0.0001*	*<0.0001*	*<0.0001*	.	.	.	.	.	.	.	.
All insecticides	0.006	0.005	0.0032	0.001	0.0001	*<0.0001*	*<0.0001*	.	.	.	.	.	.	.	.
Molluscicides	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Growth regulators	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	.	0.112	0.015	0.002	.	0.005	0.018	.	.	.	.	.	.	.	.
All pesticides	***0.614***	***0.367***	***0.3782***	***0.740***	***0.107***	***0.073***	***0.334***	***0.018***	***-97%***	***-95%***	***-95%***	***-98%***	***-83%***	***-75%***	***-95%***
Area grown (ha)	199	273	197	212	83	55	85	10	-95%	-96%	-95%	-95%	-88%	-82%	-88%

Table 37: The area (spha) of set-aside treated with pesticides in Northern Ireland, 2000-2012.

	Survey Year				Differences between:		
	2000	2002	2004	2006	2006-00	2006-02	2006-04
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	.	.	.	.	.	.	
Herbicides & desiccants	912	1,395	657	650	-29%	-53%	-1%
Insecticides							
Carbamates	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.
Organophosphates	.	.	.	*12*	.	.	.
Pyrethroids	.	.	.	*13*	.	.	.
All insecticides	.	.	.	25	.	.	.
Molluscicides	.	.	.	.	.	.	.
Growth regulators	.	.	.	.	.	.	.
Seed treatments	.	.	.	189	.	.	.
All pesticides	***912***	***1,395***	***657***	***864***	***-5%***	***-38%***	***31%***
Area grown (ha)	2,451	3,013	3,394	2,284	-7%	-24%	-33%

Table 38: The quantity (tonnes) of pesticides applied to set-aside in Northern Ireland, 2000-2012.

	Survey Year				Differences between:		
	2000	2002	2004	2006	2006-00	2006-02	2006-04
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	.	.	.	.	.	.	
Herbicides & desiccants	0.866	1.037	0.551	0.677	-22%	-35%	23%
Insecticides							
Carbamates	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.
Organophosphates	.	.	.	*0.009*	.	.	.
Pyrethroids	.	.	.	*0.0004*	.	.	.
All insecticides	.	.	.	0.0094	.	.	.
Molluscicides	.	.	.	.	.	.	.
Growth regulators	.	.	.	.	.	.	.
Seed treatments	.	.	.	0.003	.	.	.
All pesticides	***0.866***	***1.037***	***0.551***	***0.6894***	***-20%***	***-34%***	***25%***
Area grown (ha)	2,451	3,013	3,394	2,284	-7%	-24%	-33%

Table 39: The area (spha) of potato crops treated with pesticides in Northern Ireland, 1990-2012.

	Survey Year											
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	68,384	68,178	72,369	64,727	75,933	.	66,810	52,149	45,397	52,189	55,289	50,685
Herbicides & desiccants	21,146	21,819	15,927	17,663	16,616	.	14,852	19,839	15,971	19,843	17,753	17,356
Insecticides												
Carbamates	.	*23*	.	*28*	.	.	*357*	*473*	*30*	*431*	.	98
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	*308*	*28*	*88*	*612*	*123*	.	*125*	*365*	*55*	.	.	.
Pyrethroids	*512*	.	.	*656*	*353*	.	*1,340*	*2,408*	*1,553*	*913*	*1,094*	*438*
Azomethine	.	.	.	.	.	.	.	*673*	*71*	.	.	*272*
Neonicotinoid	.	.	.	.	.	.	.	.	*96*	.	*78*	*274*
Feeding blocker	.	.	.	.	.	.	.	.	.	*252*	*77*	*66*
Mixed Formulation	.	.	.	.	.	.	.	*581*	*96*	.	*129*	.
Unknown insecticides	.	.	*14*	.	*20*	.	.	*66*	.	.	.	.
All insecticides	820	51	102	1,295	492	.	1,823	4,565	1,900	1,595	1,379	1,369
Molluscicides	.	.	.	195	472	.	1,581	114	930	664	491	2,906
Mixed formulations	233	186	134	137	128	.	86	.	.	.	.	.
Growth regulators	.	.	.	.	.	.	72	.	.	23	56	10
Seed treatments	*	3,738	2,420	3,314	4,017	.	3,071	3,679	2,756	3,158	2,117	2,666
All pesticides	***90,583***	***93,972***	***90,952***	***87,330***	***97,658***	***.***	***88,295***	***80,347***	***66,954***	***77,473***	***77,085***	***74,992***
Area grown (ha)	11,835	11,064	8,404	8,488	7,513	.	6,708	6,068	5,118	5,501	4,940	4,150

Table 39 (cont.): The area (spha) of potato crops treated with pesticides in Northern Ireland, 1990-2012.

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	-26%	-26%	-30%	-22%	-33%	.	-24%	-3%	12%	-3%	-8%
Herbicides & desiccants	-18%	-20%	9%	-2%	4%	.	17%	-13%	9%	-13%	-2%
Insecticides											
Carbamates	.	327%	.	251%	.	.	-73%	-79%	228%	-77%	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	-14%	.	.	-33%	24%	.	-67%	-82%	-72%	-52%	-60%
Azomethine	.	.	.	.	.	.	.	-60%	283%	.	.
Neonicotinoid	.	.	.	.	.	.	.	.	185%	.	251%
Feeding blocker	.	.	.	.	.	.	.	.	.	-74%	-14%
Mixed Formulation	.	.	.	.	.	.	.	-78%	34%	.	.
Unknown insecticides						.					
All insecticides	67%	2584%	1249%	6%	178%	.	-25%	-70%	-28%	-14%	-1%
Molluscicides	.	.	.	1390%	516%	.	84%	2449%	212%	338%	492%
Mixed formulations	.	.	.	.	.	.	.	.	.	.	.
Growth regulators	.	.	.	.	.	.	-86%	.	.	-56%	-82%
Seed treatments	.	-29%	10%	-20%	-34%	.	-13%	-28%	-3%	-16%	26%
All pesticides	***-17%***	***-20%***	***-18%***	***-14%***	***-23%***	***.***	***-15%***	***-7%***	***12%***	***-3%***	***-3%***
Area grown (ha)	-65%	-62%	-51%	-51%	-45%	.	-38%	-32%	-19%	-25%	-16%

Table 40: The quantity (tonnes) of pesticides applied to potato crops in Northern Ireland, 1990-2012.

	Survey Year											
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	82.07	83.28	76.00	69.41	67.43	.	69.90	51.33	46.93	45.02	39.80	27.40
Herbicides & desiccants	197.20	171.75	97.28	293.26	290.23	.	354.01	211.18	101.78	12.22	11.70	10.59
Insecticides												
Carbamates	.	*<0.01*	.	*<0.01*	.	.	0.05	*0.07*	*0.004*	*0.060*	.	*0.01376*
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	*0.17*	*0.10*	*0.28*	*0.26*	0.12	.	0.02	*0.12*	*0.164*	.	.	.
Pyrethroids	*0.01*	.	.	*0.02*	*<0.01*	.	*0.01*	*0.01*	*0.006*	*0.007*	*0.010*	*0.004*
Azomethine	.	.	.	.	.	.	.	*0.102*	*0.005*	.	.	*0.043*
Neonicotinoid	.	.	.	.	.	.	.	.	*0.010*		*0.006*	*0.021*
Feeding blocker	.	.	.	.	.	.	.	.		*0.020*	*0.006*	*0.005*
Mixed Formulation	.	.	.	.	.	.	.	*0.051*	*0.015*	.	*0.014*	.
Unknown insecticides	.	.	.	.	.	.	.	*0.003*	.	.	.	.
All insecticides	0.17	0.10	0.28	0.28	0.13	.	0.08	0.36	0.20	0.087	0.04	0.09
Molluscicides	.	.	.	0.04	0.10	.	0.26	0.02	0.23	0.07	0.09	0.24
Mixed formulations	0.51	0.41	0.29	0.30	0.28	.	0.13	.	.	.	.	.
Growth regulators	.	.	.	.	.	.	*0.17*	.	.	0.07	0.17	0.03
Seed treatments	*	2.71	1.20	0.61	*1.99*	.	*1.22*	0.90	2.60	0.73	0.70	1.11
All pesticides	***279.95***	***258.25***	***175.06***	***363.89***	***360.16***	***.***	***425.84***	***263.78***	***151.75***	***58.20***	***52.48***	***39.46***
Area grown (ha)	11,835	11,064	8,404	8,488	7,513	.	6,708	6,068	5,118	5,501	4,940	4,150

* Seed treatments not recorded

Table 40 (cont.): The quantity (tonnes) of pesticides applied to potato crops in Northern Ireland, 1990-2012.

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	-67%	-67%	-64%	-61%	-59%	.	-61%	-47%	-42%	-39%	-31%
Herbicides & desiccants	-95%	-94%	-89%	-96%	-96%	.	-97%	-95%	-90%	-13%	-9%
Insecticides											
Carbamates	.	.	.	.	.	.	-73%	-79%	244%	-77%	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	-58%	.	.	-79%	.	.	-50%	-58%	-30%	-40%	-58%
Azomethine	.	.	.	.	.	.	.	-58%	766%	.	.
Neonicotinoid	.	.	.	.	.	.	.	.	111%	.	252%
Feeding blocker	.	.	.	.	.	.	.	.	.	-74%	-12%
Mixed Formulation	.	.	.	.	.	.	.	-73%	-7%	.	.
Unknown insecticides	.	.	.	.	.	.	.	.	.	.	.
All insecticides	-48%	-12%	-69%	-69%	-33%	.	17%	-76%	-57%	1%	144%
Molluscicides	.	.	.	125%	-8%	.	-66%	463%	-61%	22%	.
Mixed formulations	.	.	.	.	.	.	.	.	.	.	.
Growth regulators	.	.	.	.	.	.	-2%	.	.	143%	.
Seed treatments	.	-74%	-42%	14%	-65%	.	-43%	-23%	-73%	-4%	.
All pesticides	***-86%***	***-85%***	***-77%***	***-89%***	***-89%***	***.***	***-91%***	***-85%***	***-74%***	***-32%***	***-25%***
Area grown (ha)	-65%	-62%	-51%	-51%	-45%	.	-38%	-32%	-19%	-25%	-16%

Table 41: The area (spha) of seed potatoes treated with pesticides in Northern Ireland, 1990-2012.

	Survey Year											
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	18,326	18,603	16,465	13,462	14,242	.	9,219	10,226	5,618	5,530	6,662	6,076
Herbicides & desiccants	6,535	8,118	3,784	4,035	3,363	.	2,650	4,917	2,285	3,170	2,240	2,344
Insecticides												
Carbamates	.	*23*	.	.	.	.	.	*365*	.	*252*	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	*18*	.	.	*26*	.	.	*365*	.	.	.	.
Pyrethroids	*501*	.	.	*586*	*205*	.	*16*	*406*	*931*	*168*	*84*	*369*
Azomethine	.	.	.	.	.	.	.	.	.	.	.	*204*
Neonicotinoid	.	.	.	.	.	.	.	.	*39*		.	*249*
Feeding blocker	.	.	.	.	.	.	.	.	.	*252*	*77*	*65*
Mixed Formulations	.	.	.	.	.	.	.	*453*	*39*	.	*120*	.
All insecticides	501	41	8	586	230	.	*16*	1,589	1,008	671	281	887
Molluscicides	.	.	.	.	66	.	*267*	.	77	160	86	71
Mixed formulations	8	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	*	2,039	744	1,065	882	.	512	1,224	303	622	238	562
All pesticides	***25,370***	***28,801***	***21,000***	***19,148***	***18,783***	***.***	***12,665***	***17,956***	***9,291***	***10,153***	***9,507***	***9,940***
Area grown (ha)	3,509	3,688	1,678	1,798	1,607	.	1,239	1,148	763	792	707	555

* Seed treatments not recorded

Table 41 (cont.): The area (spha) of seed potatoes treated with pesticides in Northern Ireland, 1990-2012.

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	-67%	-67%	-63%	-55%	-57%	.	-34%	-41%	8%	10%	-9%
Herbicides & desiccants	-64%	-71%	-38%	-42%	-30%	.	-12%	-52%	3%	-26%	5%
Insecticides											
Carbamates	.	.	.	.	.	.	.	.	.	.	
Organochlorines	.	.	.	.	.	.	.	.	.	.	
Organophosphates	.	.	.	.	.	.	.	.	.	.	
Pyrethroids	-26%	.	.	-37%	80%	.	2162%	-9%	-60%	119%	339%
Azomethine	.	.	.	.	.	.	.	.	.	.	.
Neonicotinoid	.	.	.	.	.	.	.	.	538%	.	.
Feeding blocker	.	.	.	.	.	.	.	.	.	-74%	-16%
Mixed Formulations	.	.	.	.	.	.	.	-74%	208%		
All insecticides	77%	2064%	11277%	51%	285%	.	5344%	-44%	-12%	32%	216%
Molluscicides	.	.	.	.	31%	.	-68%	.	12%	-46%	.
Mixed formulations	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	.	-88%	-68%	-78%	-73%	.	-53%	-81%	-21%	-62%	.
All pesticides	***-61%***	***-65%***	***-53%***	***-48%***	***-47%***	***.***	***-22%***	***-45%***	***7%***	***-2%***	***5%***
Area grown (ha)	-84%	-85%	-67%	-69%	-65%	.	-55%	-52%	-27%	-30%	-21%

Table 42: The quantity (tonnes) of pesticides applied to seed potatoes in Northern Ireland, 1990-2012.

	Survey Year											
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	22.92	24.82	15.24	13.45	14.29	.	9.08	8.79	6.16	3.14	5.99	3.07
Herbicides & desiccants	127.42	100.45	41.73	146.03	148.63	.	129.71	31.62	7.38	2.88	1.41	1.48
Insecticides												
Carbamates	.	*<0.01*	.	.	.	.	.	*0.051*	.	*0.035*	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	*0.06*	.	.	*<0.01*	.	.	*0.124*	.	.	.	.
Pyrethroids	*0.01*	.	.	*0.02*	*<0.01*	.	*<0.01*	*0.002*	*0.004*	*0.002*	*<0.001*	*0.002*
Azomethine	.	.	.	.	.	.	.	.	.	.	.	*0.033*
Neonicotinoid	.	.	.	.	.	.	.	.	*0.004*	.	.	*0.019*
Feeding blocker	.	.	.	.	.	.	.	.	.	*0.02*	*0.006*	*0.005*
Mixed Formulations	.	.	.	.	.	.	.	*0.04*	*0.006*		*0.013*	.
All insecticides	0.01	0.06	0.03	0.02	0.01	.	<0.01	0.22	0.014	0.057	0.020	0.059
Molluscicides	.	.	.	.	0.01	.	0.04	.	0.02	0.01	0.01	0.003
Mixed formulations	0.02	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	*	1.97	0.30	0.21	0.74	.	0.08	0.41	0.11	0.17	0.10	0.27
All pesticides	***150.37***	***127.30***	***57.30***	***159.70***	***163.68***	***.***	***138.91***	***41.04***	***13.67***	***6.27***	***7.52***	***4.89***
Area grown (ha)	3,509	3,688	1,678	1,798	1,607	.	1,239	1,148	763	792	707	555

* Seed treatments not recorded

Table 42 (cont.): The quantity (tonnes) of pesticides applied to seed potatoes in Northern Ireland, 1990-2012.

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	-87%	-88%	-80%	-77%	-79%	.	-66%	-65%	-50%	-2%	-49%
Herbicides & desiccants	-99%	-99%	-96%	-99%	-99%	.	-99%	-95%	-80%	-49%	5%
Insecticides											
Carbamates	.	.	.	.	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	-78%	.	.	-89%	.	.	.	9%	-46%	9%	.
Azomethine	.	.	.	.	.	.	.	.	.	.	.
Neonicotinoid	.	.	.	.	.	.	.	.	368%	.	.
Feeding blocker	.	.	.	.	.	.	.	.	.	-74%	-12%
Mixed Formulations	.	.	.	.	.	.	.	-65%	117%	.	
All insecticides	493%	-1%	125%	197%	489%	.	.	-72%	324%	4%	197%
Molluscicides	.	.	.	.	-80%	.	-94%	.	-83%	-78%	-60%
Mixed formulations	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	.	-86%	-9%	29%	-63%	.	254%	-33%	159%	57%	174%
All pesticides	***-97%***	***-96%***	***-91%***	***-97%***	***-97%***	***.***	***-96%***	***-88%***	***-64%***	***-22%***	***-35%***
Area grown (ha)	-84%	-85%	-67%	-69%	-65%	.	-55%	-52%	-27%	-30%	-21%

Table 43: The area (spha) of early potatoes treated with pesticides in Northern Ireland, 1990-2012.

	Survey Year											
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	2,037	3,250	3,706	3,089	1,693	.	5,561	2,116	2,080	2,154	1,096	1,056
Herbicides & desiccants	849	1,304	835	1,312	618	.	1,520	841	1,124	1,280	484	665
Insecticides												
Carbamates	.	.	.	*28*	.	.	.	*87*	.	.	.	*17*
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	*63*	*66*	.	*24*	.	*25*	.	.	.
Pyrethroids	.	.	.	.	*39*	.	*173*	*150*	.	*22*	*37*	*8*
Unknown insecticide	.	.	.	.	*2.2*	.	.	.	.	.	.	.
Azomethine	.	.	.	.	.	.	.	*30*	.	.	.	.
All insecticides	.	.	.	90	107	.	197	267	25	22	37	26
Molluscicides	.	.	.	.	10	.	206	.	.	58	20	81
Seed treatments	*	360	130	303	154	.	481	212	147	327	68	130
All pesticides	***2,886***	***4,914***	***4,672***	***4,794***	***2,582***	**.**	***7,966***	***3,436***	***3,376***	***3,842***	***1,705***	***1,958***
Area grown (ha)	463	836	813	729	391	.	728	403	370	401	191	192

* Seed treatments not recorded

Table 43 (cont.): The area (spha) of early potatoes treated with pesticides in Northern Ireland, 1990-2012.

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	-48%	-68%	-72%	-66%	-38%	.	-81%	-50%	-49%	-51%	-4%
Herbicides & desiccants	-22%	-49%	-20%	-49%	8%	.	-56%	-21%	-41%	-48%	37%
Insecticides											
Carbamates	.	.	.	-38%	.	.	.	-80%	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	.	.	.	.	-79%	.	-95%	-95%	.	-63%	-78%
Unknown insecticide	.	.	.	.	.	.	.	.	.	.	.
Azomethine	.	.	.	.	.	.	.	.	.	.	.
All insecticides	.	.	.	-72%	-76%	.	-87%	-90%	2%	16%	-31%
Molluscicides	.	.	.	.	694%	.	-61%	.	.	40%	307%
Seed treatments	.	-64%	0%	-57%	-16%	.	-73%	-39%	-12%	-60%	91%
All pesticides	***-32%***	***-60%***	***-58%***	***-59%***	***-24%***	***.***	***-75%***	***-43%***	***-42%***	***-49%***	***15%***
Area grown (ha)	-59%	-77%	-76%	-74%	-51%	.	-74%	-52%	-48%	-52%	1%

Table 44: The quantity (tonnes) of pesticides applied to early potatoes in Northern Ireland, 1990-2012.

	Survey Year											
	1990	**1992**	**1994**	**1996**	**1998**	**2000**	**2002**	**2004**	**2006**	**2008**	**2010**	**2012**
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	2.54	4.11	4.46	3.85	2.07	.	5.48	2.43	1.99	1.92	0.66	0.59
Herbicides & desiccants	0.51	3.09	0.55	4.05	1.73	.	32.56	24.26	1.70	0.74	0.43	0.52
Insecticides												
Carbamates	.	.	.	*< 0.1*	.	.	*<.01*	*0.012*	.	.	.	*0.002*
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	*0.02*	*0.08*	.	*0.01*	.	*0.074*	.	.	.
Pyrethroids	.	.	.	.	.	.	.	*0.001*	.	*<0.0001*	*<0.0001*	*<0.0001*
Azomethine	.	.	.	.	.	.	.	*0.005*	.	.	.	.
All insecticides	.	.	.	0.02	0.08	.	0.01	0.02	0.074	<0.0001	<0.0001	*0.002*
Molluscicides	.	.	.	.	0.002	.	0.038	.	.	0.004	0.002	0.008
Seed treatments	*	0.20	0.04	0.05	0.03	.	0.11	0.02	0.01	0.11	0.02	0.04
All pesticides	***3.05***	***7.40***	***5.05***	***7.96***	***3.92***	***.***	***38.21***	***26.72***	***3.78***	***2.77***	***1.11***	***1.16***
Area grown (ha)	463	836	813	729	391	.	728	403	370	401	191	192

Table 44 (cont.): The quantity (tonnes) of pesticides applied to early potatoes in Northern Ireland, 1990-2012.

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	-77%	-86%	-87%	-85%	-72%	.	-89%	-76%	-71%	-69%	-11%
Herbicides & desiccants	2%	-83%	-5%	-87%	-70%	.	-98%	-98%	-70%	-30%	22%
Insecticides											
Carbamates	.	.	.	.	.	.	.	-80%	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	.	.	.	.	.	.	.	.	.	.	.
Azomethine	.	.	.	.	.	.	.	.	.	.	.
All insecticides	.	.	.	-88%	-97%	.	-73%	-86%	-97%	.	.
Molluscicides	.	.	.	.	361%	.	-79%	.	.	104%	307%
Seed treatments	.	-78%	6%	-12%	45%	.	-62%	192%	265%	-60%	143%
All pesticides	***-62%***	***-84%***	***-77%***	***-85%***	***-70%***	***.***	***-97%***	***-96%***	***-69%***	***-58%***	***4%***
Area grown (ha)	-59%	-77%	-76%	-74%	-51%	.	-74%	-52%	-48%	-52%	1%

Table 45: The area (spha) of maincrop potatoes treated with pesticides in Northern Ireland, 1990-2012.

	Survey Year											
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	48,021	46,325	52,198	48,176	59,998	.	52,030	39,807	37,699	44,505	47,531	43,553
Herbicides & desiccants	13,762	12,397	11,309	12,316	12,635	.	10,682	14,081	12,562	15,393	15,029	14,347
Insecticides												
Carbamates	.	.	.	.	.	.	*357.4*	*20*	*30*	*179*	.	*80.88*
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	*308*	*10*	.	*549*	*32*	.	*101*	.	*30*	.	.	.
Pyrethroids	*11*	.	.	*70*	*110*	.	*1151*	*1852*	*622*	*723*	*973*	*282.06*
Azomethine	.	.	.	.	.	.	.	*642*	*71*	.	.	*67.8*
Neonicotinoid	.	.	.	.	.	.	.	.	*57*	.	*78*	*25.09*
Mixed Formulations	.	.	.	.	.	.	.	*128*	*57*	.	*9*	.
Unkown insecticide	.	.	.	.	.	.	.	*66*	.	.	.	.
All insecticides	319	10	94	619	155	.	1,609	2,709	867	902	1,061	456
Molluscicides	.	.	.	195	396	.	1,108	114	853	446	385	2,754
Growth regulators	.	.	.	.	.	.	72	.	.	23	56	10
Mixed formulations	225	186	134	137	128	.	86	.	.	.	.	.
Seed treatments	*	1,339	1,546	1,945	2,980	.	2,078	2,243	2,306	2,209	1,811	1,974
All pesticides	***62,328***	***60,257***	***65,280***	***63,388***	***76,292***	***.***	***67,664***	***58,955***	***54,287***	***63,478***	***65,873***	***63,094***
Area grown (ha)	7,863	6,540	5,913	5,961	5,515	.	4,741	4,517	3,984	4,308	4,041	3,403

Table 45: The area (spha) of maincrop potatoes treated with pesticides in Northern Ireland, 1990-2012.

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**	**sp ha**
Fungicides	-9%	-6%	-17%	-10%	-27%	.	-16%	9%	16%	-2%	-8%
Herbicides & desiccants	4%	16%	27%	16%	14%	.	34%	2%	14%	-7%	-5%
Insecticides											
Carbamates	.	.	.	.	.	.	-77%	304%	170%	-55%	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	2464%	.	.	303%	157%	.	-75%	-85%	-55%	-61%	-71%
Azomethine	.	.	.	.	.	.	.	-89%	-5%	.	.
Neonicotinoid	.	.	.	.	.	.	.	.	-56%	.	-68%
Mixed Formulations	.	.	.	.	.	.	.	-93%	-84%	.	.
Unkown insecticide	.	.	.	.	.	.	.	.	.	.	.
All insecticides	43%	4458%	386%	-26%	194%	.	-72%	-83%	-47%	-49%	-57%
Molluscicides	.	.	.	1312%	596%	.	149%	2316%	223%	517%	615%
Growth regulators	.	.	.	.	.	.	-86%	.	.	-56%	-82%
Mixed formulations	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	.	47%	28%	2%	-34%	.	-5%	-12%	-14%	-11%	9%
All pesticides	***1%***	***5%***	***-3%***	***0%***	***-17%***	***.***	***-7%***	***7%***	***16%***	***-1%***	***-4%***
Area grown (ha)	-57%	-48%	-42%	-43%	-38%	.	-28%	-25%	-15%	-21%	-16%

Table 46: The quantity (tonnes) of pesticides applied to maincrop potatoes in Northern Ireland, 1990-2012.

	Survey Year											
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	56.61	54.36	56.29	52.11	51.07	.	55.34	40.10	38.78	39.96	33.14	23.75
Herbicides & desiccants	69.27	68.21	55.01	143.18	139.86	.	191.80	155.30	92.70	8.60	9.86	8.59
Insecticides												
Carbamates	.	.	.	.	.	.	*0.05*	*0.003*	*0.004*	*0.025*	.	*0.011*
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	*0.17*	*0.03*	.	*0.24*	*0.03*	.	*0.01*	.	*0.09*	.	.	.
Pyrethroids	*< 0.01*	.	.	*< 0.01*	*<0.01*	.	*<0.01*	*0.01*	*0.002*	*0.005*	*0.009*	*0.002*
Azomethines	.	.	.	.	.	.	.	*0.097*	*0.005*	.	.	*0.010*
Neonicotinoid	.	.	.	.	.	.	.	.	*0.006*	.	*0.006*	*0.002*
Mixed formulations	.	.	.	.	.	.	.	*0.014*	*0.009*	.	*0.001*	.
Unknown insecticide	.	.	.	.	.	.	.	*0.003*	.	.	.	.
All insecticides	0.17	0.03	0.25	0.24	0.04	.	0.07	0.13	0.116	0.030	0.016	0.026
Molluscicides	.	.	.	0.04	0.08	.	0.18	0.02	0.21	0.06	0.08	0.227
Growth regulators	.	.	.	.	.	.	0.1721	.	.	0.069	0.168	0.031
Mixed formulations	0.50	0.41	0.29	0.30	0.28	.	0.13	.	.	.	.	.
Seed treatments	*	0.54	0.86	0.36	1.22	.	.	0.48	2.49	0.44	0.58	0.80
All pesticides	***126.55***	***123.55***	***112.71***	***196.23***	***192.56***	***.***	***248.72***	***196.03***	***134.30***	***49.16***	***43.85***	***33.42***
Area grown (ha)	7,863	6,540	5,913	5,961	5,515	.	4,741	4,517	3,984	4,308	4,041	3,403

* Seed treatments not recorded

Table 46 (cont.): The quantity (tonnes) of pesticides applied to maincrop potatoes in Northern Ireland, 1990-2012.

	Differences between:										
	2012-90	2012-92	2012-94	2012-96	2012-98	2012-00	2012-02	2012-04	2012-06	2012-08	2012-10
Pesticide type	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**	**tonnes**
Fungicides	-58%	-56%	-58%	-54%	-54%	.	-57%	-41%	-39%	-41%	-28%
Herbicides & desiccants	-88%	-87%	-84%	-94%	-94%	.	-96%	-94%	-91%	0%	-13%
Insecticides											
Carbamates	.	.	.	.	.	.	-78%	277%	183%	-55%	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	.	.	.	.	.	.	.	-84%	-3%	-61%	-78%
Azomethines	.	.	.	.	.	.	.	-90%	103%	.	.
Neonicotinoid	.	.	.	.	.	.	.	.	-60%	.	-60%
Mixed formulations	.	.	.	.	.	.	.	-93%	-89%	.	.
Unknown insecticide	.	.	.	.	.	.	.	.	.	.	.
All insecticides	-85%	-14%	-90%	-89%	-29%	.	-61%	-80%	-78%	-14%	62%
Molluscicides	.	.	.	466%	178%	.	26%	1316%	7%	297%	180%
Growth regulators	.	.	.	.	.	.	-82%	.	.	-56%	-82%
Mixed formulations	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	.	47%	-8%	121%	-35%	.	.	67%	-68%	79%	38%
All pesticides	***-74%***	***-73%***	***-70%***	***-83%***	***-83%***	***.***	***-87%***	***-83%***	***-75%***	***-32%***	***-24%***
Area grown (ha)	-57%	-48%	-42%	-43%	-38%	.	-28%	-25%	-15%	-21%	-16%

Table 47: Estimated quantity (tonnes) of potato crops stored regionally in Northern Ireland, 2012.

Location of holding	Early	Ware	Seed	Total
Antrim	.	21,639	4768	26,406
Down	.	19,172	6,391	25,563
Londonderry	.	14,018	1,462	15,479
Tyrone	.	1,244	112	1,356
Northern Ireland	***.***	***56,073***	***12,732***	***68,804***

Table 48: Estimated quantity (treated tonnes) of potatoes stored regionally in Northern Ireland, 2012.

Location of holding	Ware	Seed	Total quantity treated (tt)
Antrim	.	4,544	4,544
Down	.	92	92
Londonderry	3,183	315	3,498
Northern Ireland	***3,183***	***4,951***	***8,134***

Table 49: The weight of pesticides (kg) applied regionally to potatoes stored in Northern Ireland, 2012.

Location of holding	Ware	Seed	Total quantity (kg)
Antrim	.	135.36	135.36
Down	.	0.92	0.92
Londonderry	78.31	3.15	81.46
Northern Ireland	***78.31***	***139.43***	***217.74***

Table 50: Estimated quantity (treated tonnes) of potatoes in storage receiving pesticide treatment in Northern Ireland, 2012.

Active ingredients	Ware	Seed	Total quantity treated (tt)
Chlorpropham	3,183	.	3,183
Imazalil	.	2,382	2,382
Imazalil/thiabendazole	.	2,569	2,569
All pesticides	***3,183***	***4,951***	***8,134***

Table 51: Weight (kg) of active ingredients applied to stored potatoes in Northern Ireland, 2012 (weighted).

Active ingredients	Ware	Seed	Total (kg)
Chlorpropham	78.31	.	78.31
Imazalil	.	23.82	23.82
Imazalil/thiabendazole	.	115.61	115.61
All pesticides	***78.31***	***139.43***	***217.74***

Table 52: The active ingredients applied to stored potatoes in Northern Ireland in 2012, ranked by weight (kg).

	Active ingredients	Quantity used (kg)
1	Imazalil/thiabendazole	115.61
2	Chlorpropham	78.31
3	Imazalil	23.82

Table 53: Type of storage building, storage method, potato type and quantity (tonnes) of potatoes stored in Northern Ireland, 2012.

Type of storage building				
Barn store	**Early**	**Ware**	**Seed**	**Total**
Boxed	.	14,603	2,362	16,965
Bulk	.	928	.	928
Tray	.	.	55	55
All barn stores	**.**	***15,531***	***2,418***	***17,948***
Modified Barn				
Boxed	.	6,648	1,119	7,767
Bulk	.	3,281	.	3,281
All modified barns	**.**	***9,929***	1,119	***11,048***
Purpose built ventilated store				
Boxed	.	2,940	1,860	4,801
Bulk	.	.	.	.
All purpose built ventilated stores	**.**	*2,940*	*1,860*	*4,801*
Refrigerated store				
Boxed	.	27,672	7,335	35,007
Bulk	.	.	.	.
All refrigerated stores	**.**	***27,672***	***7,335***	***35,007***
Total	**.**	***56,073***	***12,732***	***68,804***

Table 54: Type of storage method, potato type and total quantity (tonnes) of potatoes stored in Northern Ireland, 2012.

Type of storage method	Early	Ware	Seed	Total
Boxed	.	51,864	12,676	64,540
Bulk	.	4,209	.	4,209
Tray	.	.	55	55
Total	**.**	***56,073***	***12,732***	***68,804***

Table 55: Comparison of ware potatoes stored (tonnes), treated (treated tonnes) and the weight of pesticides applied (kilograms) to stored potatoes between 1992 and 2012.

	Ware potatoes										Difference between:								
	1992	1994	1996	1998	2002	2004	2006	2008	2010	2012	2012-92	2012-94	2012-96	2012-98	2012-02	2012-04	2012-06	2012-08	2012-10
Quantity stored (t)	139,570	84,868	135,933	112,675	44,322	122,348	92,914	60,855	94,771	56,073	-60%	-34%	-59%	-50%	27%	-54%	-40%	-8%	-41%
Quantity treated (tt)	16,289	11,630	19,022	5,899	9,024	3,099	.	4680	9644	3,183	-80%	-73%	-83%	-46%	-65%	3%	.	-32%	-67%
Quantity of pesticides (kg)	1,998	1,001	750	227	439	148	.	173	203	78	-96%	-92%	-90%	-66%	-82%	-47%	.	-55%	-61%
Quantity untreated (t)	123,281	73,238	116,910	106,777	35,298	119,249	92,914	56,175	85,127	52,889	-57%	-28%	-55%	-50%	50%	-56%	-43%	-6%	-38%

Table 56: Comparison of seed potatoes stored (tonnes), treated (treated tonnes) and the weight of pesticides applied (kilograms) to stored potatoes between 1992 and 2012.

	Seed potatoes										Difference between:								
	1992	1994	1996	1998	2002	2004	2006	2008	2010	2012	2012-92	2012-94	2012-96	2012-98	2012-02	2012-04	2012-06	2012-08	2012-10
Quantity stored (t)	33,420	24,238	39,290	39,809	16,032	33,321	24,640	5,138	16,256	12,732	-62%	-47%	-68%	-68%	-21%	-62%	-48%	148%	-22%
Quantity treated (tt)	7,536	14,950	12,915	5,628	4,029	673	76	.	.	4,951	-34%	-67%	-62%	-12%	23%	636%	6404%	.	.
Quantity of pesticides (kg)	1,052	851	480	896	48	5	0.76	.	.	139	-87%	-84%	-71%	-84%	190%	2444%	18217%	.	.
Quantity untreated (t)	27,033	9,288	26,652	34,181	12,003	32,648	24,564	.	.	7,781	-71%	-16%	-71%	-77%	-35%	-76%	-68%	.	.

Table 57: Comparison of reserved potatoes stored (tonnes), treated (treated tonnes) and the weight of pesticides applied (kilograms) to stored potatoes between 1992 and 2012.

	Reserved potatoes										Difference between:								
	1992	1994	1996	1998	2002	2004	2006	2008	2010	2012	2012-92	2012-94	2012-96	2012-98	2012-02	2012-04	2012-06	2012-08	2012-10
Quantity stored (t)	.	.	15,169	10,123	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Quantity treated (tt)	.	.	6,705	2,524	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Quantity of pesticides (kg)	.	.	375	121	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Quantity untreated (t)	.	.	8,464	7,599	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table 58: Comparison of all potatoes stored (tonnes), treated (treated tonnes) and the weight of pesticides applied (kilograms) to stored potatoes between 1992 and 2012.

	All potatoes										Difference between:								
	1992	1994	1996	1998	2002	2004	2006	2008	2010	2012	2012-92	2012-94	2012-96	2012-98	2012-02	2012-04	2012-06	2012-08	2012-10
Quantity stored (t)	191,019	119,447	190,392	162,608	60,353	155,669	117,554	70,794	111,028	68,804	-64%	-42%	-64%	-58%	14%	-56%	-41%	-3%	-38%
Quantity treated (tt)	23,825	26,580	38,624	14,051	13,053	3,772	76	4,680	9,644	8,134	-66%	-69%	-79%	-42%	-38%	116%	10586%	74%	-16%
Quantity of pesticides (kg)	3,050	1,852	1,605	1,245	488	154	1	173	203	218	-93%	-88%	-86%	-83%	-55%	41%	28505%	26%	8%
Quantity untreated (t)	168,344	92,868	152,027	148,557	47,300	151,897	117,478	66,114	101,384	60,670	-64%	-35%	-60%	-59%	28%	-60%	-48%	-8%	-40%

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99	Grassland & Fodder Crops 1989	1-855 27 079 X
105	Arable Crops 1990	1-855 27 130 3
106	Soft Fruit Crops 1990	1-855 27 149 4
109	Vegetable Crops 1991	1-855 27 137 0
110	Protected Crops 1991 (edible & ornamental)	1-855 27 283 0
111	Mushroom Crops 1991	1-855 27 150 8
117	Arable Crops 1992	1-855 27 193 1
118	Top Fruit Crops 1992	1-855 27 194 X
124	Grassland & Fodder crops 1993	1-855 27 221 0
131	Forestry 1993	1-855 27 282 2
132	Arable Crops 1994	1-855 27 314 4
139	Vegetable Crops 1995	1-855 27 346 2
140	Mushroom Crops 1995	1-855 27 347 0
146	Arable Crops 1996	1-855 27 469 8
147	Top fruit 1996	1-855 27 470 1
156	Grassland & Fodder Crops 1997	1-855 27 506 6
157	Sheep Treatments 1997	1-855 27 425 6
167	Soft Fruit 1998	1-855 27 540 6
168	Arable Crops 1998	1-855 27 536 8
169	Vegetable Crops 1999	1-855 27 561 9
170	Mushroom Crops 1999	1-855 27 549 X
177	Arable Crops 2000	1-855 27 670 450
178	Top Fruit Crops 2002	1-855 27 618 6
194	Arable Crops 2002	1-855 27 674 7
198	Grassland & Fodder Crops 2003	1-855 27 797 2
199	Hardy Nursery Stock Crops 2003	1-855 27 789 1
201	Protected Ornamental Crops 2003	1-855 27 739 5
206	Arable Crops 2004	1-855 27 833 2
207	Vegetable crops 2004	1-855 27 869 3
208	Grassland & Fodder Crops 2005	1-855 27 998 8
209	Sheep Treatments 2005	1-855 27 999 5
216	Arable Crops 2006	1-848 07 035 6
217	Top Fruit Crops 2006	1-848 07 019 6
218	Soft Fruit Crops 2006	1-848 07 036 3
222	Vegetable Crops 2007	1-848 07 062 2
223	Mushroom Crops 2007	1 848 07 061 5
230	Arable Crops 2008	1 848 07 135 3

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231	Top Fruit Crops 2008	1-848 07 134 6
238	Grassland & Fodder Crops 2009	1-848 07 186 5
239	Hardy Nursery Stock Crops 2009	1-848 07 187 2
240	Soft Fruit Crops 2010	1-848 07 251 0
242	Arable Crops 2010	1-848 07 252 7
245	Mushroom Crops 2011	1-848 07 308 1
246	Vegetable Crops 2011	1-848 07 309 8
248	Soft Fruit Crops 2012	1-84807 402 6
249	Top Fruit Crops 2012	1-84807 403 3

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