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PESTICIDE USAGE IN NORTHERN IRELAND
SURVEY REPORT 242

NORTHERN IRELAND ARABLE CROPS 2010

Agriculture, Fishing and Forestry

A National Statistics Publication

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PESTICIDE USAGE SURVEY REPORT 242

NORTHERN IRELAND

ARABLE CROPS

2010

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CONTENTS	PAGE
Summary	1
Definitions and notes	3
Introduction	4
Methods	4
Crops	5
Pesticide usage on arable crops	9
Spring barley	15
Undersown barley	20
Winter barley	24
Spring wheat	29
Undersown wheat	34
Winter wheat	38
Spring oats	43
Undersown oats	48
Winter oats	50
Oilseed rape	55
Peas & beans	59
Triticale	64
Seed potatoes	67
Early potatoes	71
Maincrop potatoes	76
Potato storage	81
Tables	84
Acknowledgements	150
References	150

The County Regions of Northern Ireland

SUMMARY

This is the eleventh 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) and 2008 (Withers *et al*.,2009).

Information on all aspects of pesticide usage was collected from 249 holdings throughout the Province, representing 25% 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 2010 was 43,027 hectares. This represented a decrease of 7% compared to that recorded in 2008 and a 23% reduction compared to that recorded in the first pesticide usage survey of the arable sector, in 1990. Approximately 42% of the arable cropping area in 2010 was in County Down, 24% in County Londonderry, 18% in County Antrim, 9% in County Armagh and 7% in County Tyrone. This distribution is similar to that recorded in 2008 and 2006. There was no significant area of arable cropping in County Fermanagh.

A total of 297 products, comprising 101 active ingredients were recorded in use on field crops in the survey.

During the period 2008 to 2010, the area of arable crops treated with pesticides decreased by 10%, to 337,336 spray-hectares. Applications of pesticide groups mainly decreased with the exception of a synthetic latex application to oilseed rape to minimise seed loss at harvest time and growth regulator applications which increased by 7% when compared to 2008. The principal growth regulator used in 2010 was chlormequat which is consistent with previous surveys conducted in 1998-2008. Similar to 2008 data, in 2010 growth regulators were applied primarily to spring barley, winter barley and most frequently to winter wheat. Fungicide applications decreased by 7% and herbicides and desiccants by 12%. Insecticide applications decreased by 26% when compared with 2008 and the weight applied decreased by 21%. Pyrethroids were the most frequently applied insecticides representing 95% of all insecticide applications. Esfenvalerate was the most frequently applied insecticide primarily to spring barley crops to control aphids. Molluscicide applications decreased by 36% and were similar to levels first recorded in 1990. An estimated 60% of molluscicide applications were to control slugs on potato crops. The total weight of pesticides applied to arable crops in 2010 decreased to 136 tonnes of active ingredients, a reduction of 19% compared with 2008 and 43% compared with 2006. Seed treatment applications decreased by 7%. However, the weight applied increased by 15%. In keeping with 2008 data, the formulation prochloraz/triticonazole was the most commonly applied cereal seed treatment in 2010. 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 used seed treatment on potatoes.

During 2010, regional pesticide usage was related to the area of arable crops grown in each county. Pesticides were applied to 97% of the total area of arable crops grown in Northern Ireland in 2010 with a range of 1.0 – 10 applications per crop.

Fungicides were applied to 44% of the pesticide-treated area, accounting for 50% of the total weight of pesticides used. Herbicides and desiccants were applied to 31% of the pesticide-treated area, representing 37% of the total weight of pesticides used. Insecticides accounted for 8% of the pesticide-treated area of arable crops, representing less than 1% 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 7% of the pesticide-treated area and 10% 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 9% of the area of arable crops grown in Northern Ireland in 2010, accounting for 23% of the total pesticide-treated area. However, the weight of pesticides applied to potato crops represented 39% of the total weight of pesticides used on all arable crops. The total area of potatoes grown comprised 82% maincrop, 14% seed and 4% early potatoes. Potato crops accounted for 37% of the area of arable crops treated with fungicides and received 59% of the total weight of fungicides applied. Furthermore, applications of herbicides and desiccants to potato crops represented 17% of the area treated and 23% of the weight applied of this pesticide group. The most commonly recorded fungicide applied to potato crops was fluazinam, applied mainly as a single active ingredient but also in formulation with metalaxyl-M. Fluazinam was used on 31% of the fungicide-treated area and accounted for 7% 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. Chlorothalonil, applied mainly as a single active ingredient but also in formulation, was the most frequently applied fungicide to cereal crops. The most frequently applied herbicide and desiccant used on cereal crops, principally spring barley, was glyphosate. It accounted for 21% of the area of arable crops treated with herbicides and desiccants and 31% of the total weight of herbicides and desiccants applied.

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

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 111,028 tonnes of potatoes were stored on-farm following the 2010 growing season. This represented a 52% increase compared with 2008. Ware potatoes accounted for 85% of the total quantity of stored potatoes, with seed potatoes representing the remainder. No early potatoes were recorded as stored. County Down and County Londonderry accounted for 43% and 35% of all potatoes stored, respectively. All potatoes receiving treatments in storage were in County Londonderry. Overall, approximately 9% of stored potatoes received pesticide treatment. The sprout suppressant chlorpropham was the only pesticide used with an estimated 203 kg applied to 9,644 tonnes of stored ware potatoes in Northern Ireland in 2010. Approximately 40% of all potatoes in 2010 were stored in 'refrigerated' buildings and 34% in 'barns'. Overall, 76% of potatoes were stored on-farm in boxes, while 23% 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'.

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

- '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, 2010 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 eleventh 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) and 2008 (Withers *et al.,* 2009). 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 2009 (Anon., 2010). 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, oilseed rape, peas and beans, triticale and potatoes.

The sample was stratified into six size groups, according to the total area of arable 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.

The purpose of the survey was explained to the occupiers of selected holdings in preliminary correspondence. A total of 249 holdings were contacted during November 2010 to April 2011. 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' perceived reasons for pesticide use were also included but may not always seem appropriate. 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 2010 (Anon., 2011). 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, oilseed rape, peas & beans, triticale, seed potatoes, early potatoes and maincrop potatoes.

Data on pesticide usage on these crops were collected from 977 crops surveyed on 249 holdings. This accounted for 25% of crops (table 2).

Figure 1: Comparison of the areas of arable crops grown in Northern Ireland (ha), 1990 - 2010.

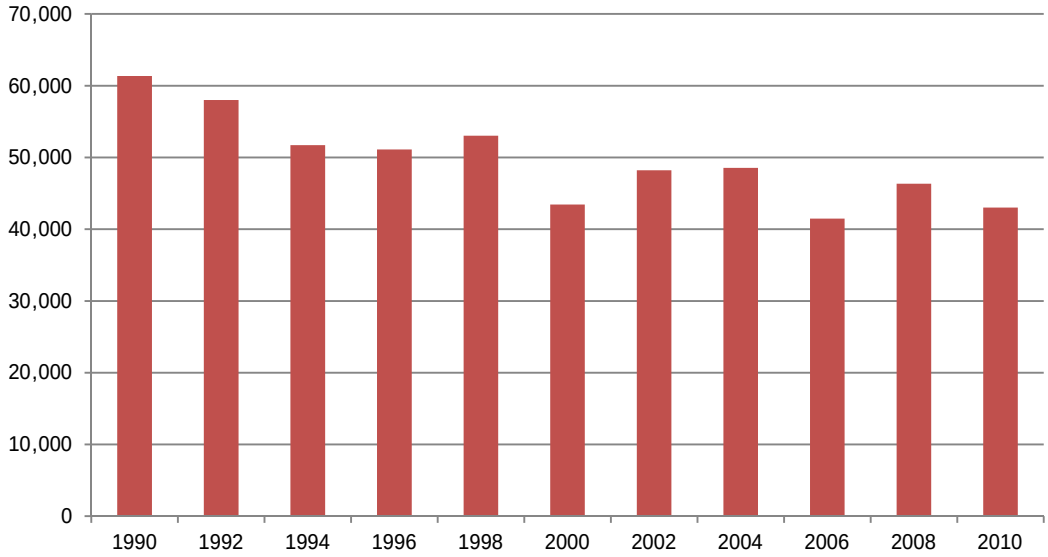


Figure 2: Regional distribution of arable crops grown in Northern Ireland (ha), 2010.

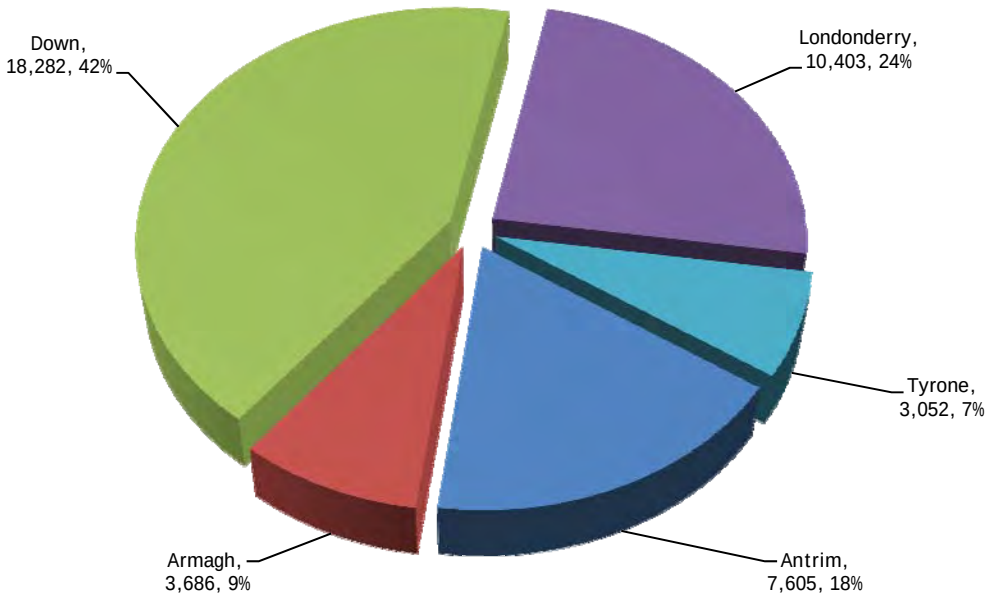


Figure 3: Regional distribution of individual arable crops grown in Northern Ireland (ha), 2010.

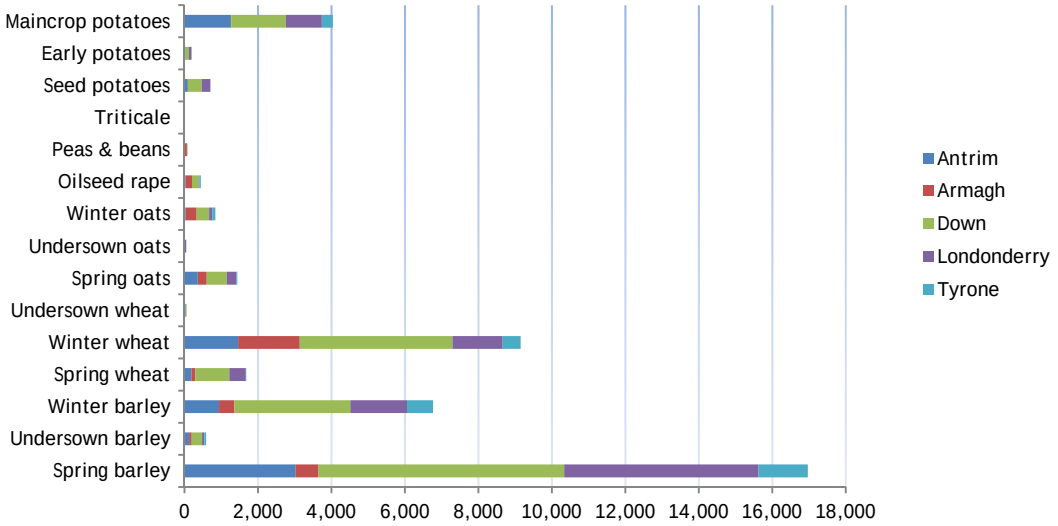


Figure 4: Areas of individual crops grown in Northern Ireland (ha), 2010.

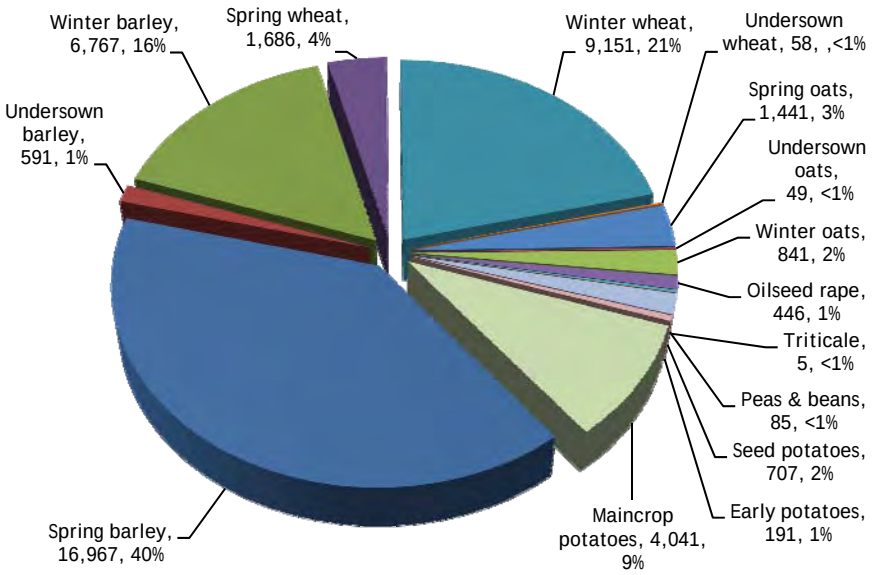


Figure 5: Comparison of the areas of cereal crops grown in Northern Ireland (ha), 1990 - 2010.

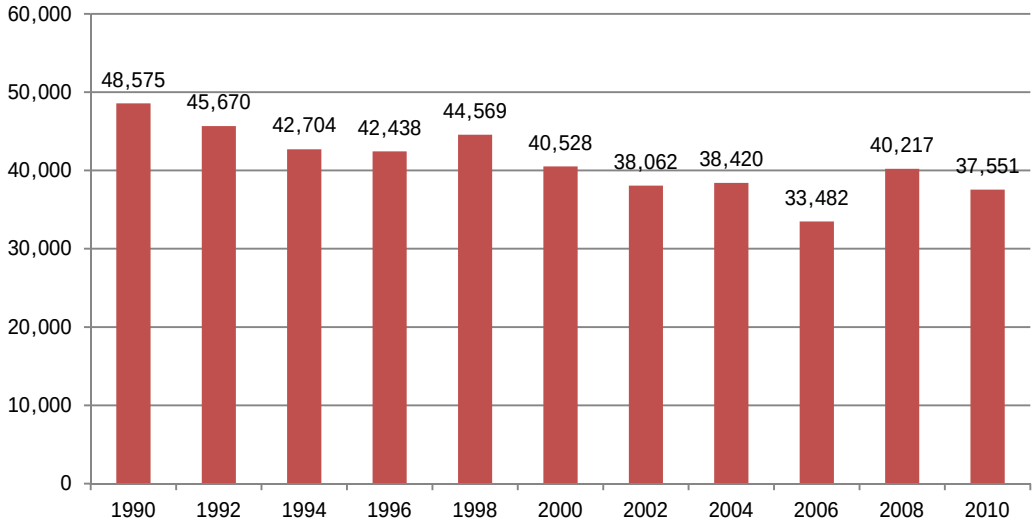


Figure 6: Regional distribution of cereal crops grown in Northern Ireland (ha), 2010.

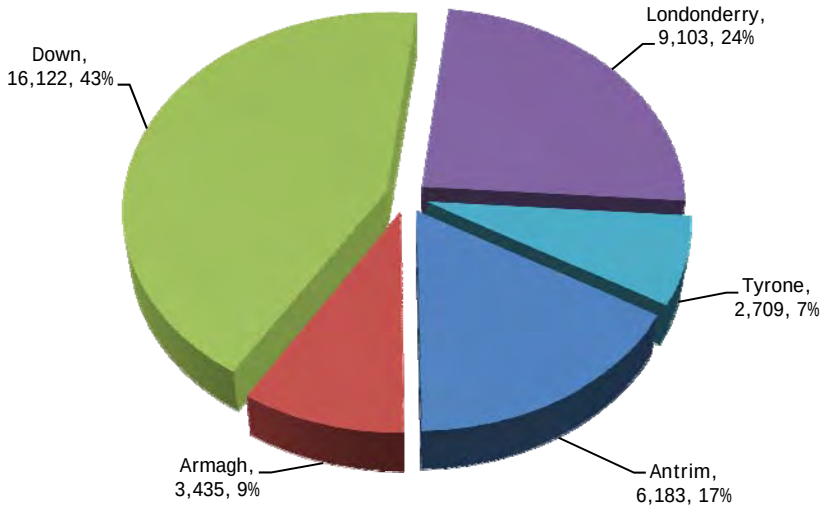


Figure 7: Comparison of the areas of potato crops grown in Northern Ireland (ha), 1990 - 2010.

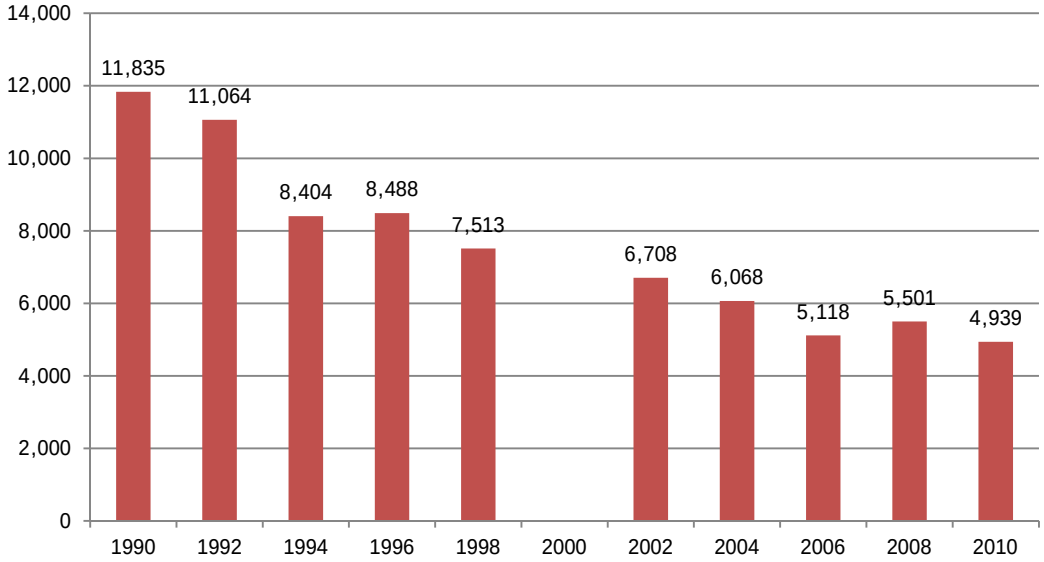


Figure 8: Regional distribution of potato crops grown in Northern Ireland (ha), 2010.

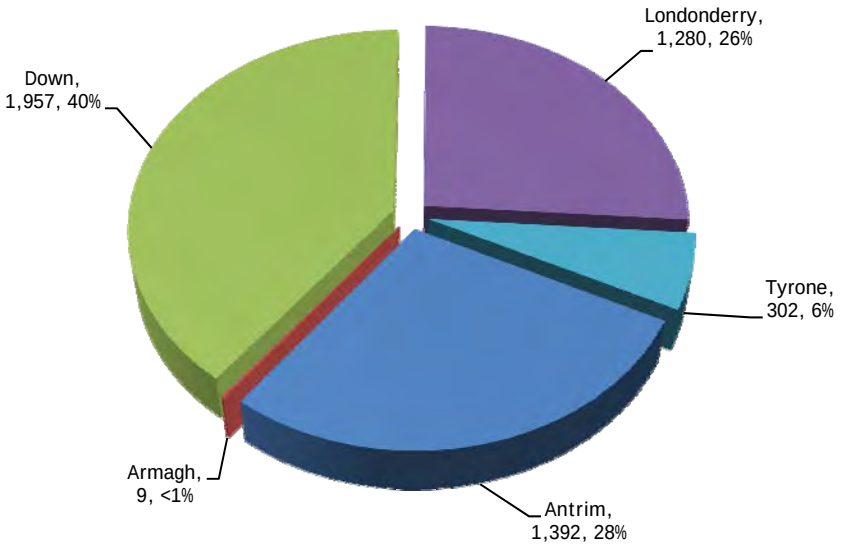
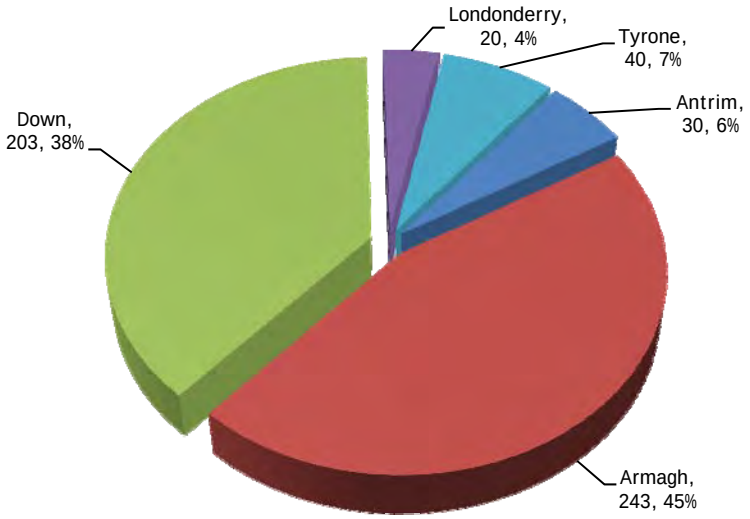


Figure 9: Regional distribution of other arable (oilseed rape, peas & beans, triticale) crops grown in Northern Ireland (ha), 2010.



Pesticide usage

Figure 10: Comparison of the areas of arable crops treated (spha) in Northern Ireland (ha), 1990 - 2010.

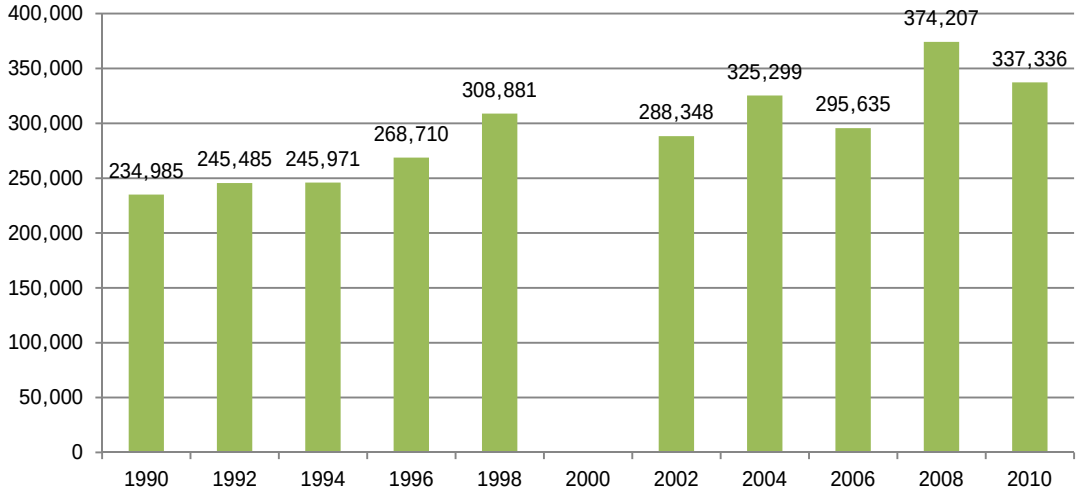


Figure 11: Pesticide usage (spray-hectares) on arable crops in Northern Ireland, 2010.

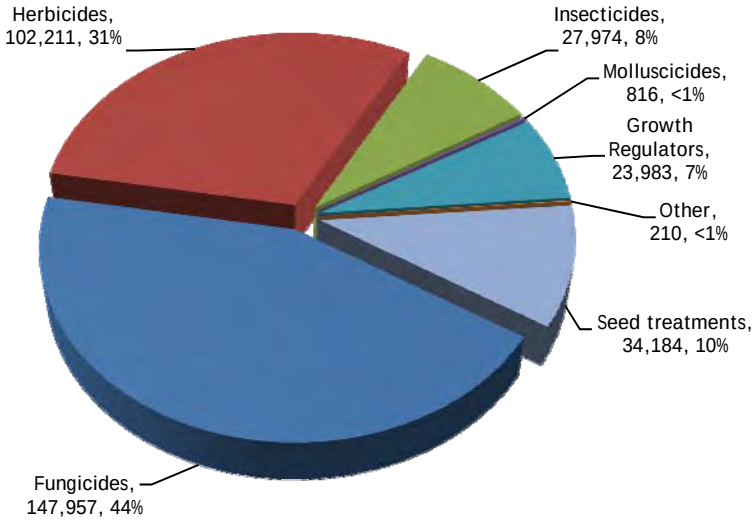


Figure 12: Comparison of the weight of pesticides applied (tonnes) to arable crops in Northern Ireland (ha), 1990 - 2010.

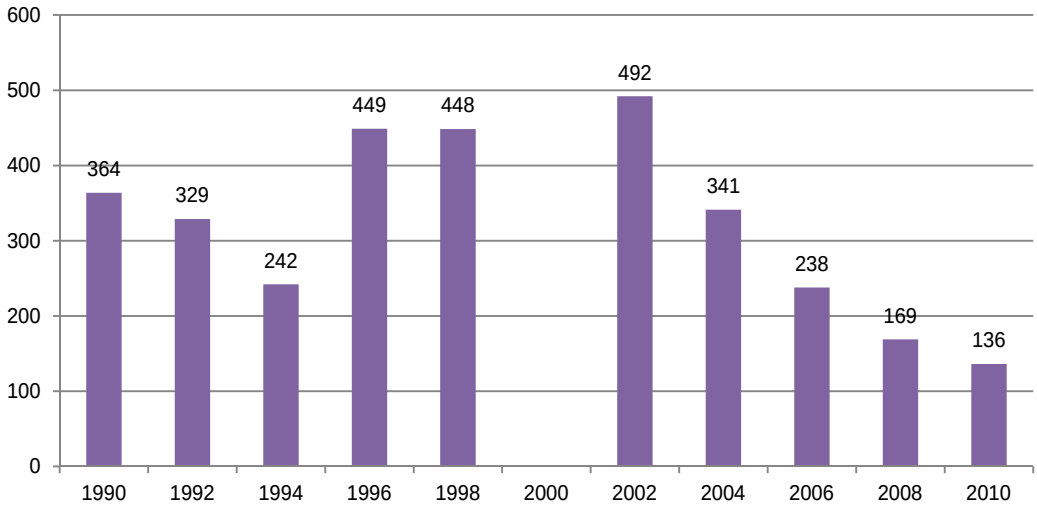


Figure 13: Weight (kg) of pesticides applied to arable crops in Northern Ireland, 2010.

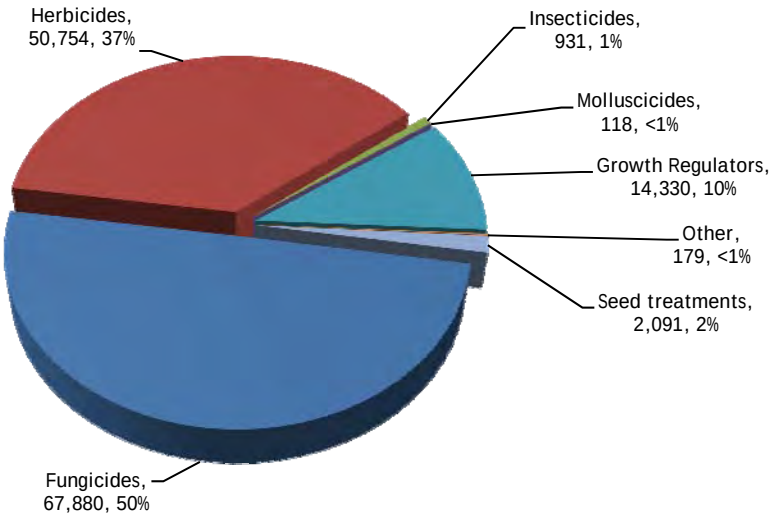


Figure 14: Area (spha) of arable crops treated with each pesticide type in Northern Ireland, 2010, by region.

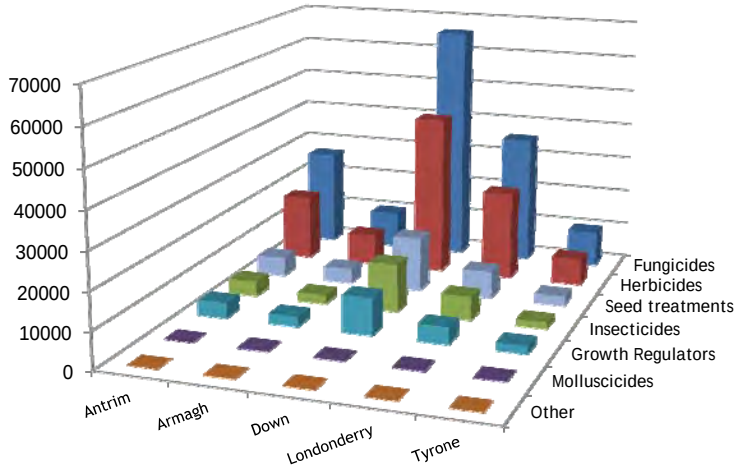


Figure 15: Weight (kg) of each pesticide type applied to arable crops in Northern Ireland, 2010, by region.

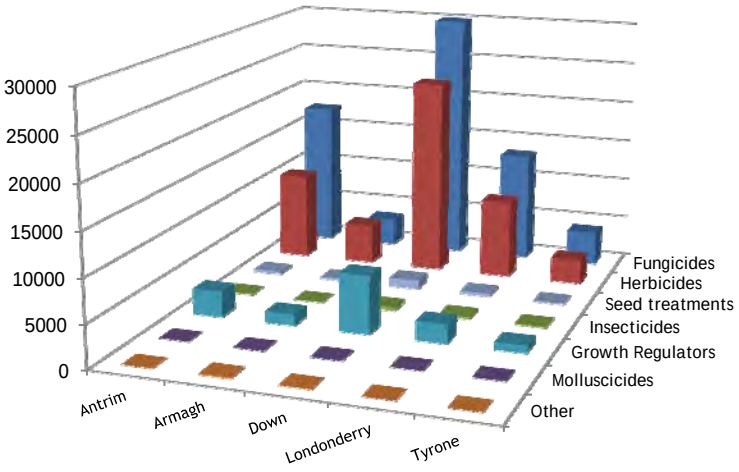


Figure 16: Comparison of the areas of cereal crops treated (spha) in Northern Ireland (ha), 1990 - 2010.

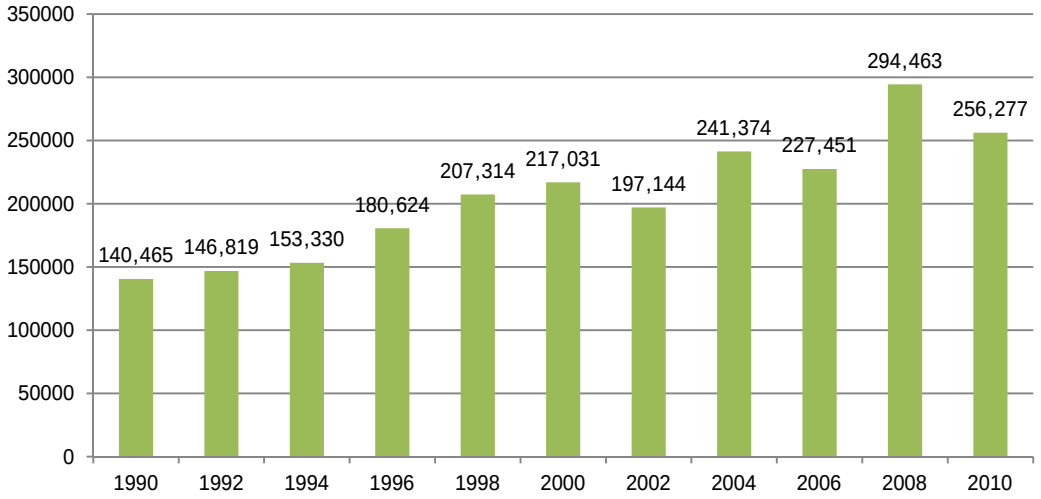


Figure 17: Pesticide usage (spha) on cereal crops in Northern Ireland, 2010.

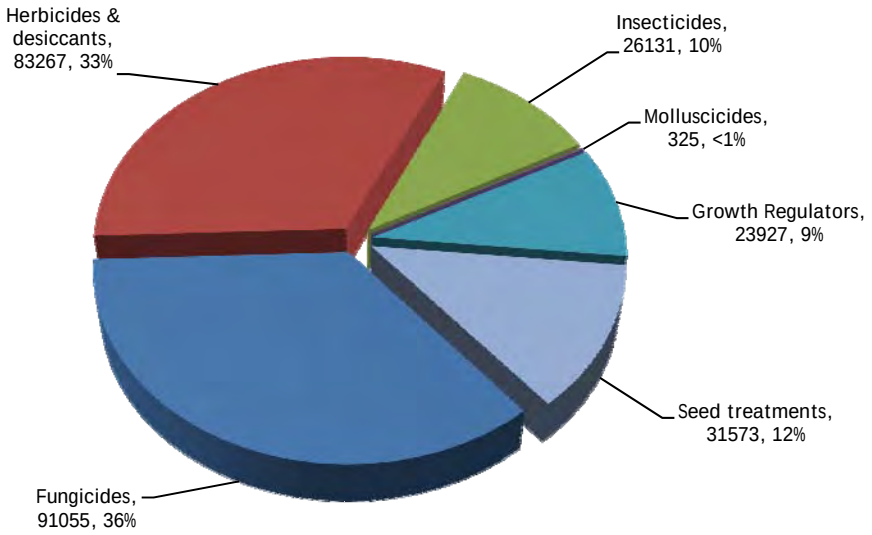


Figure 18: Comparison of the weight of pesticides applied (tonnes) to cereal crops in Northern Ireland (ha), 1990 - 2010.

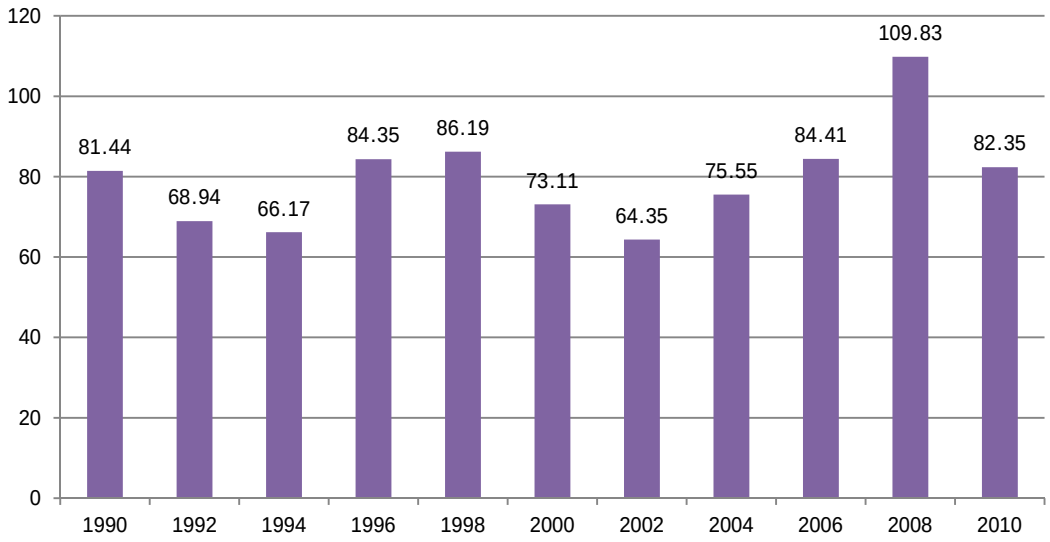


Figure 19: Weight of pesticides (kg) applied to cereal crops in Northern Ireland, 2010.

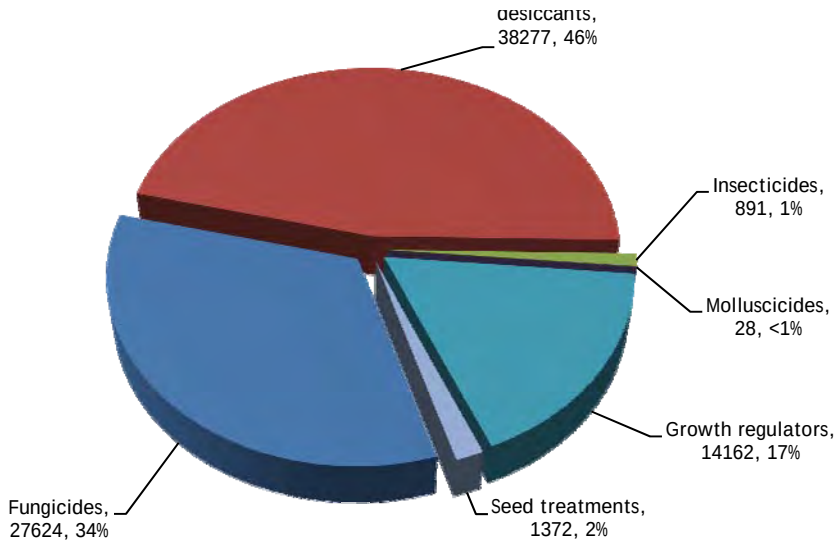


Figure 20: Pesticide usage (spha) on other arable crops in Northern Ireland, 2010.

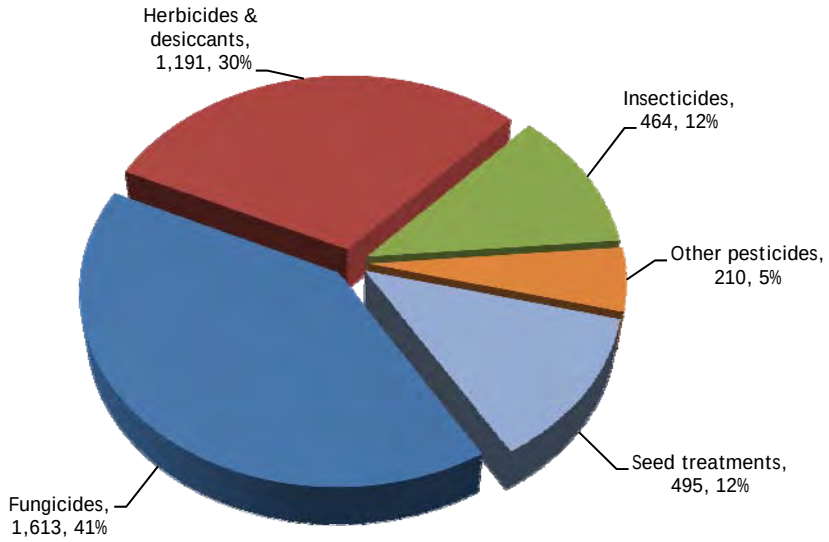


Figure 21: Weight of pesticides (kg) applied to other arable crops in Northern Ireland, 2010.

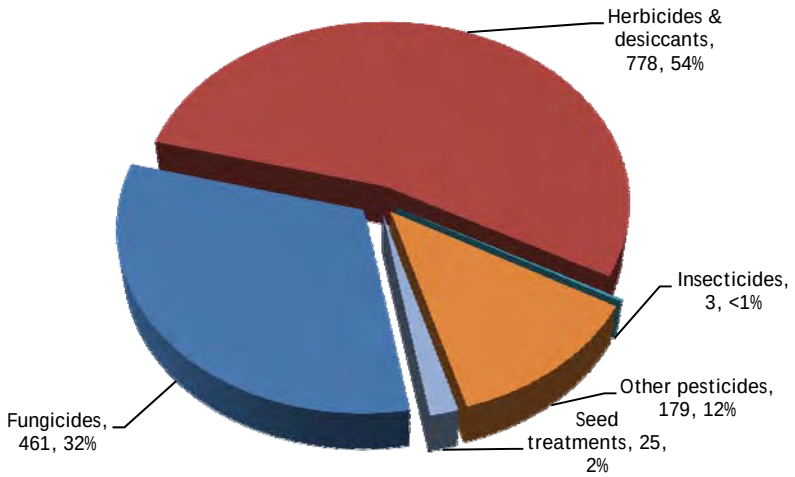


Figure 22: Comparison of the areas of potato crops treated (spha) in Northern Ireland (ha), 1990 - 2010.

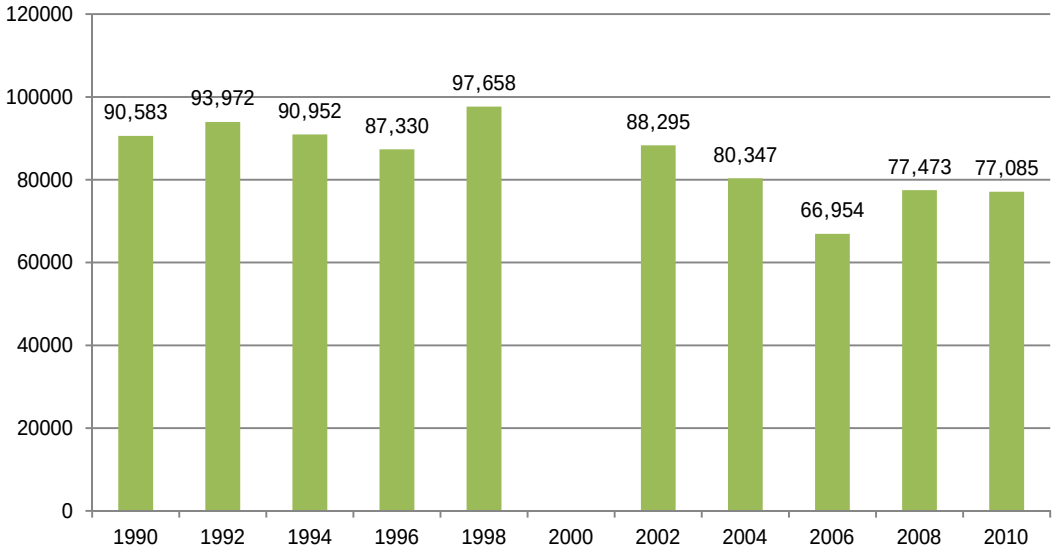


Figure 23: Pesticide usage (spha) on potato crops in Northern Ireland, 2010.

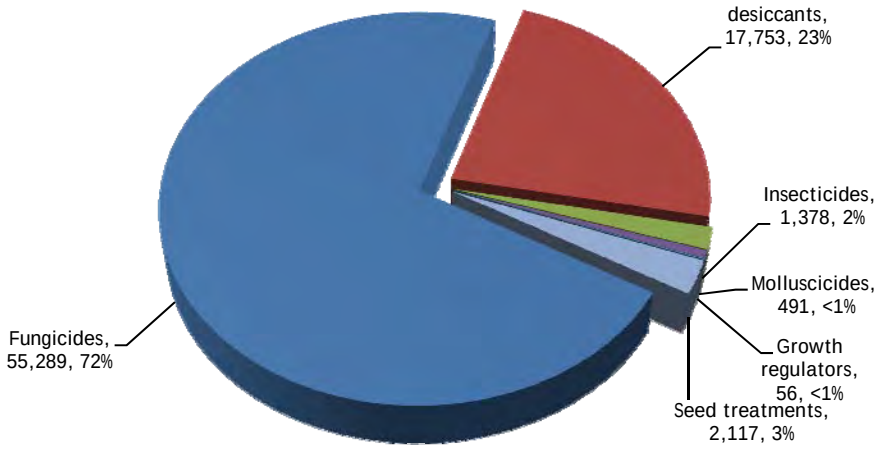


Figure 24: Comparison of the weight of pesticides applied (tonnes) to potato crops in Northern Ireland (ha), 1990 - 2010.

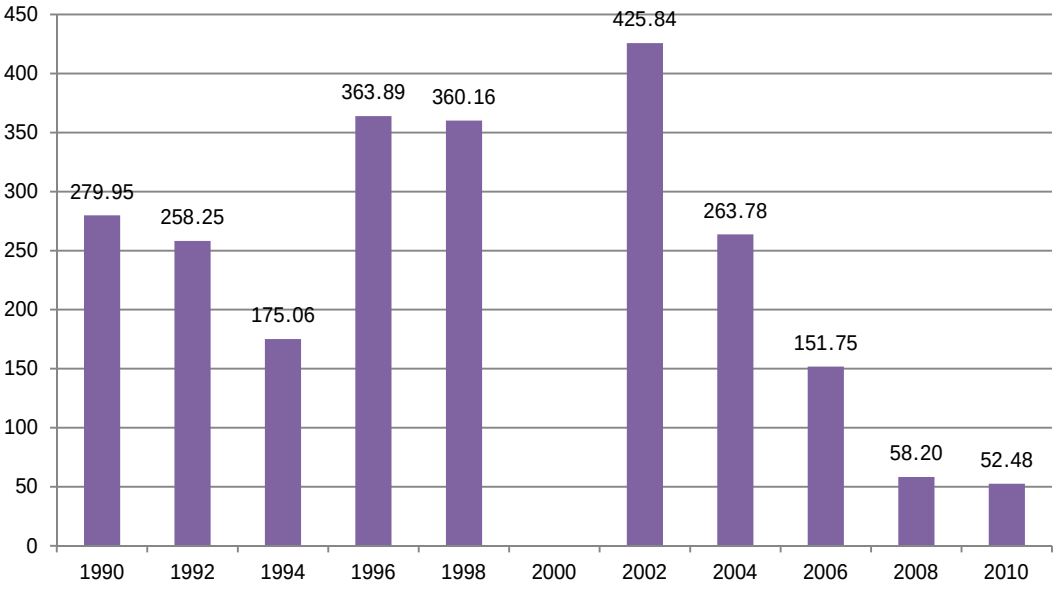
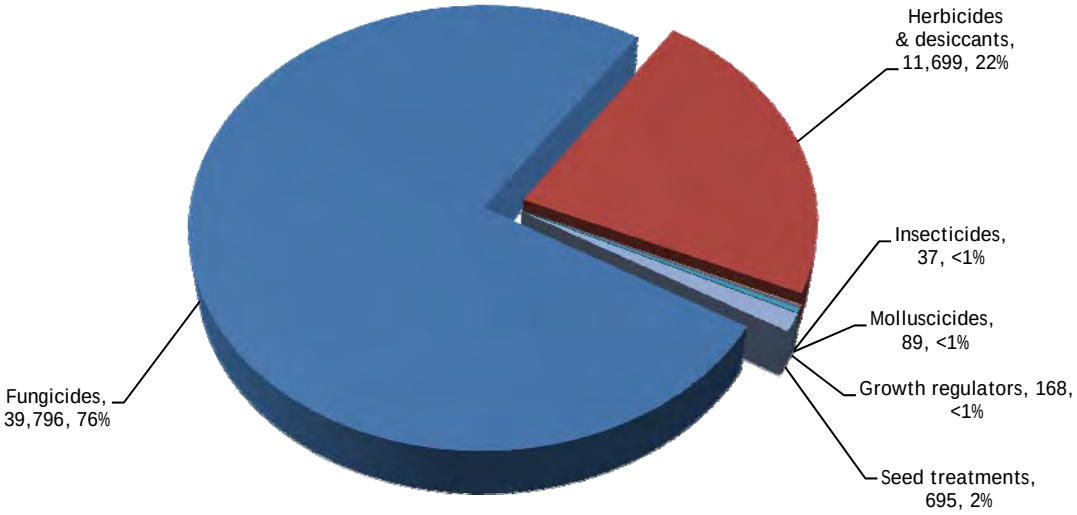


Figure 25: Weight of pesticides (kg) applied to potato crops in Northern Ireland, 2010.



Pesticide usage on spring barley:

· 16,967 hectares of spring barley grown in Northern Ireland

· 91,111 treated hectares

· 25,233 kilogrammes applied

· 97% of the area of spring barley crops grown received a pesticide treatment

· Spring barley received on average 1.5 fungicide, 2.1 herbicide, 1.0 growth regulator and 1.0 insecticide applications

Figure 26: Comparison of the areas of spring barley crops grown in Northern Ireland (ha), 1990 - 2010.

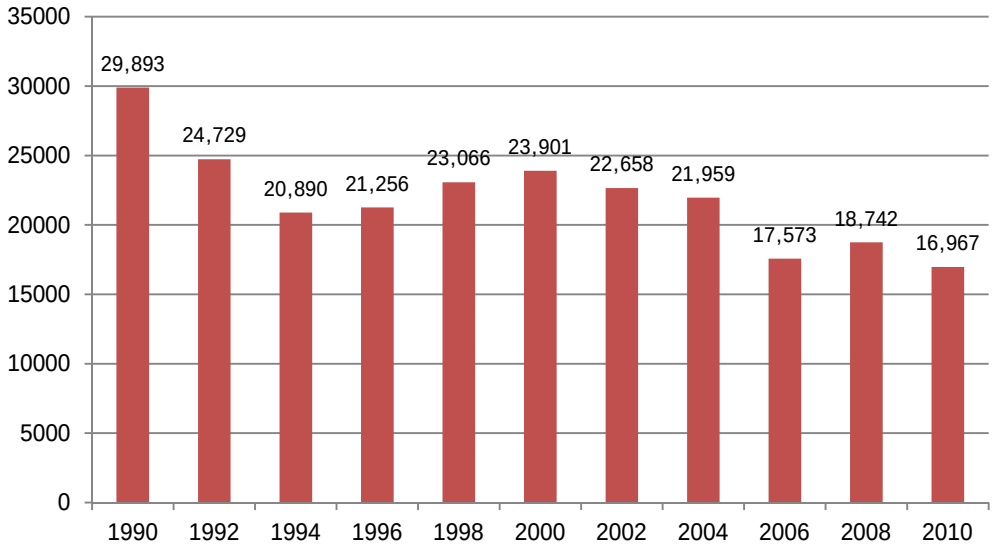


Figure 27: Regional distribution of spring barley crops grown in Northern Ireland (ha), 2010.

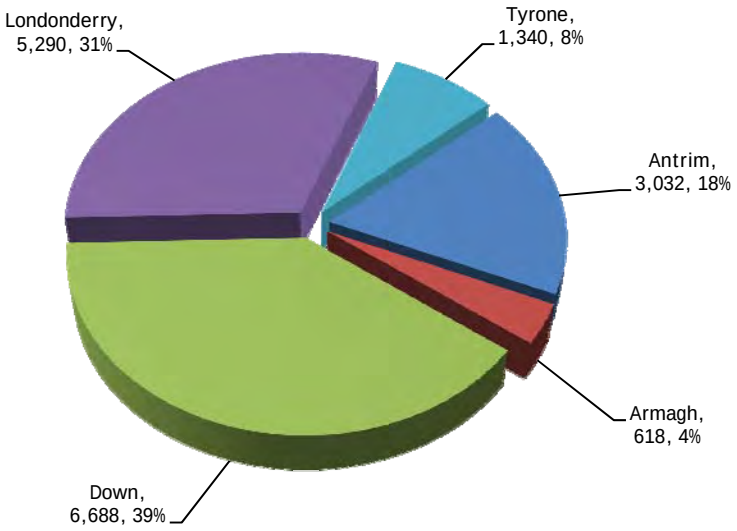


Figure 28: Pesticide usage (spha) on spring barley crops in Northern Ireland, 2010.

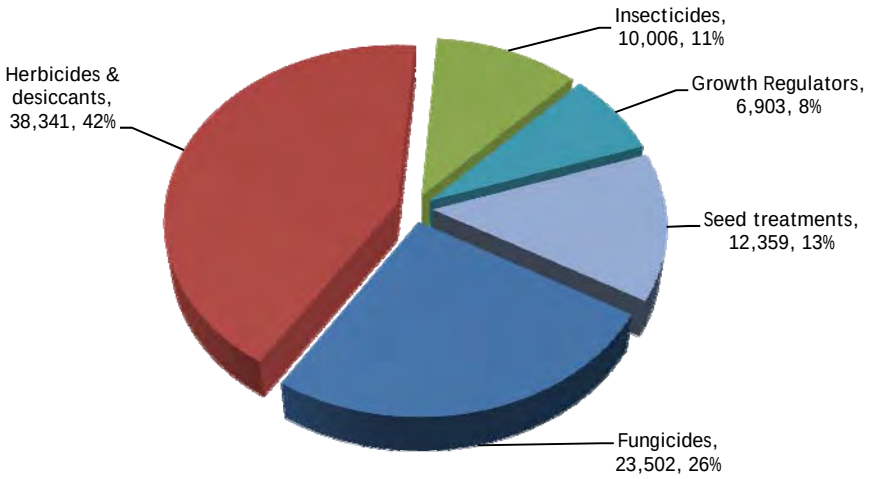


Figure 29: Weight of pesticides (kg) applied to spring barley crops in Northern Ireland, 2010.

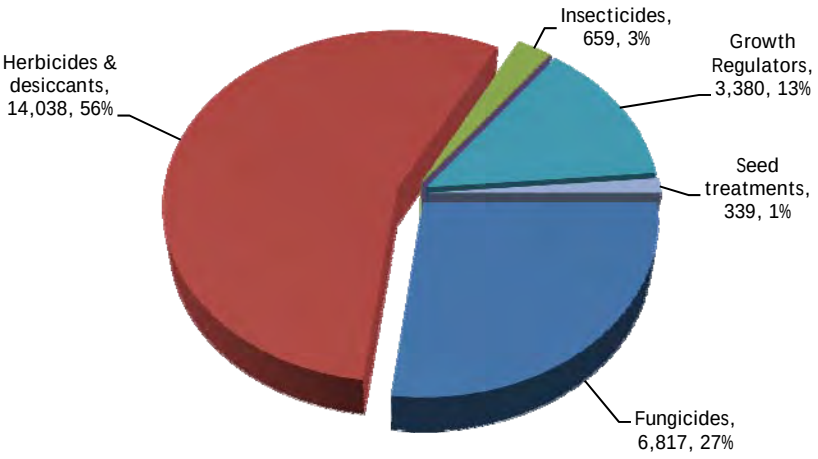
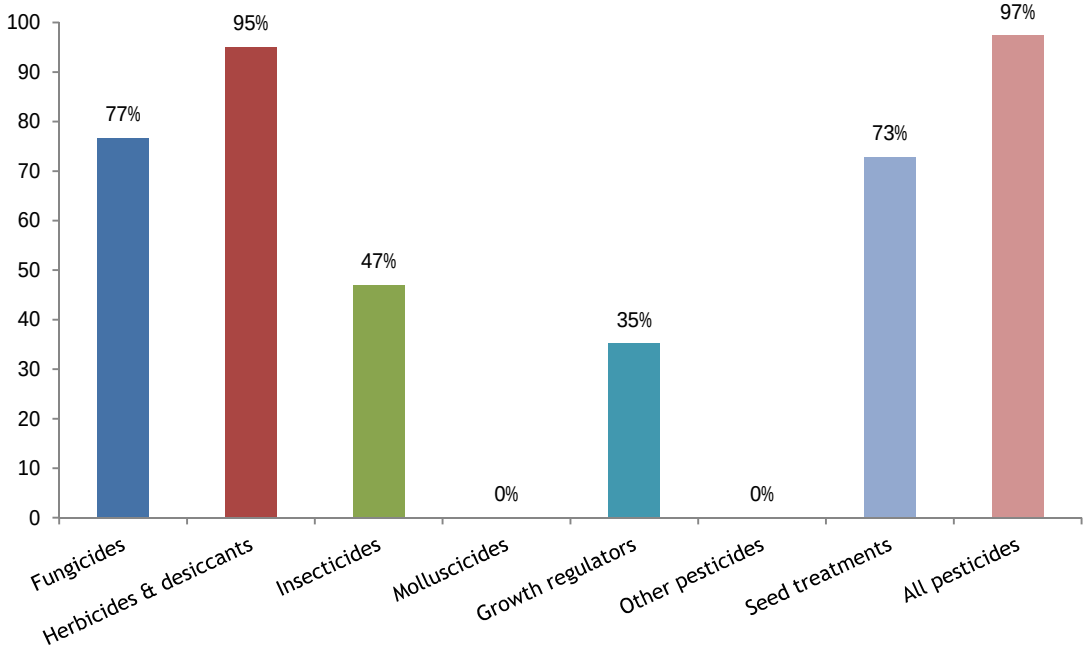


Figure 30: Proportional area (%) of spring barley crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – spring barley

· Basic area treated: 13,013 hectares

· Area treated: 23,502 spray hectares

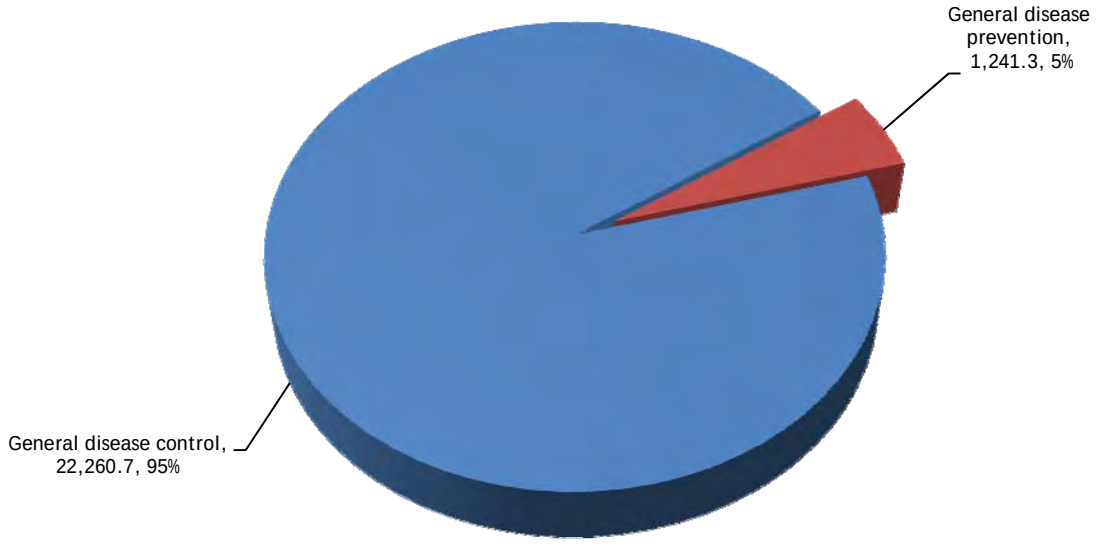
· Weight of active substances applied: 6,817 kilogrammes

· 77% 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
Prothioconazole	2,717.0	2,056.7	340.7	11.6
Chlorothalonil	2,236.6	1,949.8	1,168.8	9.5
Fluoxastrobin/prothioconazole	1,826.6	1,362.5	313.2	7.8
Chlorothalonil/flusilazole	1,727.7	1,688.4	721.0	7.4
Cyprodinil	1,658.5	1,658.5	416.8	7.1

Figure 31: Spring barley: reasons for fungicide use (spha), 2010.



Herbicide & desiccants – spring barley

· Basic area treated: 16,127 hectares

· Area treated: 38,341 spray hectares

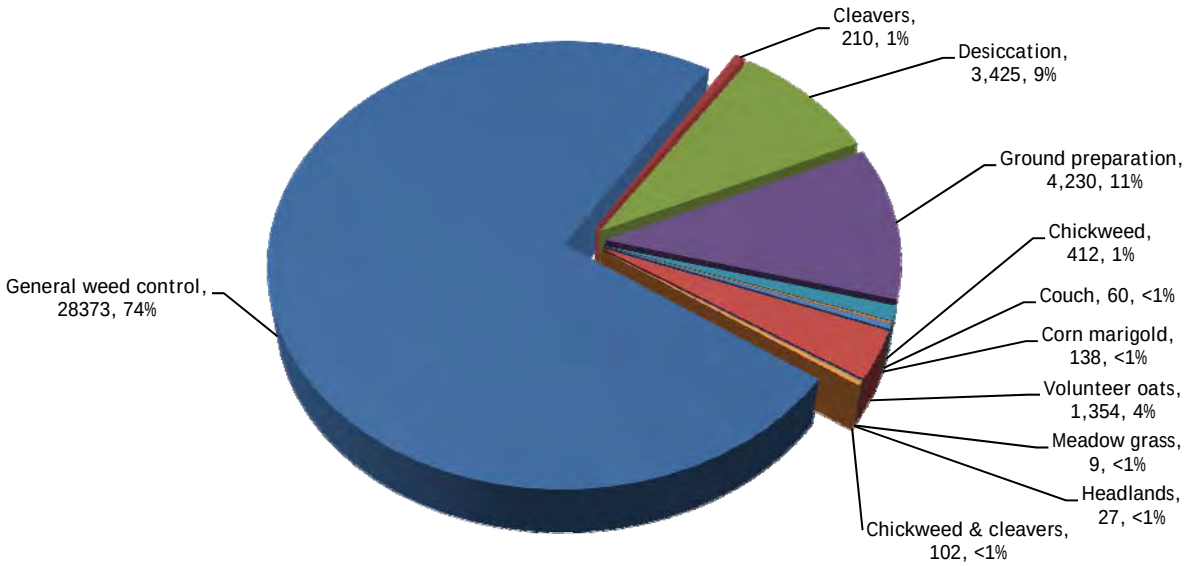
· Weight of active substances applied: 14,038 kilogrammes

· 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
Metsulfuron-methyl/tribenuron-methyl	8,730.3	8,730.3	93.9	22.8
Glyphosate	7,974.7	7,353.9	6,184.2	20.8
Mecoprop-P	5,561.6	5,561.6	4,670.8	14.5
Fluroxypyr	4,413.5	4,350.2	542.7	11.5
Iodosulfron-methyl-sodium	2,645.6	2,645.6	19.1	6.9

Figure 32: Spring barley: reasons for herbicide & desiccant use (spha), 2010



Insecticides – spring barley

· Basic area treated: 7,974 hectares

· Area treated: 10,006 spray hectares

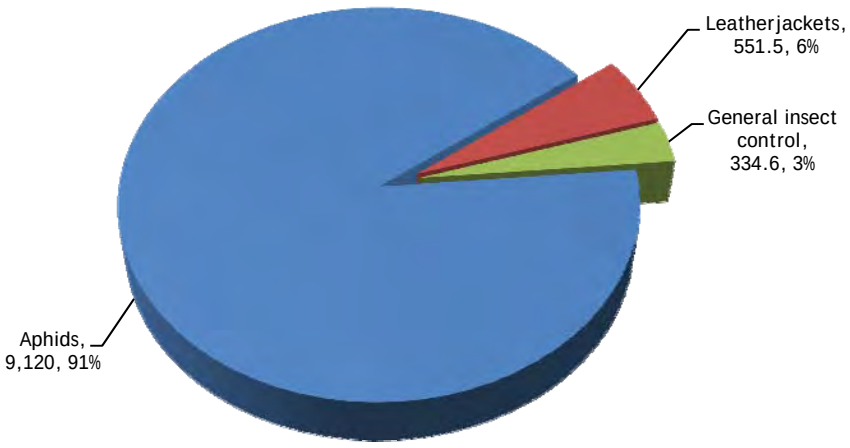
· Weight of active substances applied: 659 kilogrammes

· 47% 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	5,142.0	4,595.9	19.8	51.4
Lambda-cyhalothrin	2,115.9	1,657.3	9.3	21.1
Cypermethrin	1,235.6	1,177.6	28.0	12.3
Chlorpyrifos	956.5	956.5	599.1	9.6
Deltamethrin	491.1	491.1	2.4	4.9

Figure 33: Spring barley: reasons for insecticide use (spha), 2010



Growth regulators – spring barley

· Basic area treated: 5,967hectares

· Area treated: 6,903 spray hectares

· Weight of active substances applied: 3,380 kilogrammes

· 35% 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	3,538.4	3,498.5	3,021.6	51.3
Trinexapac-ethyl	2,446.7	2,446.7	159.7	35.4
2-chloroethylphosphonic acid	708.9	708.9	123.2	10.3
2-chloroethylphosphonic acid/mepiquat chloride	104.7	104.7	38.5	1.5
Chlormequat/2-chloroethylphosphonic acid	64.4	64.4	17.4	0.9

Seed treatments – spring barley

· Area treated: 12,359 hectares

· Weight of active substances applied: 339 kilogrammes

· 73% 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	7,998	230	64.7
Fludioxonil	2,660	24	21.5
Fludioxonil/flutriafol	1,090	20	8.8
Carboxin/thiram	290	52	2.3
Imazalil/triticonazole	224	4	1.8

Pesticide usage on undersown barley:

· 591 hectares of undersown barley grown in Northern Ireland

· 1,605 treated hectares

· 750 kilogrammes applied

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

· Spring barley received on average 1.3 fungicide, 1.3 herbicide and 1.0 insecticide applications

Figure 34: Comparison of the areas of undersown barley crops grown in Northern Ireland (ha), 1990 - 2010.

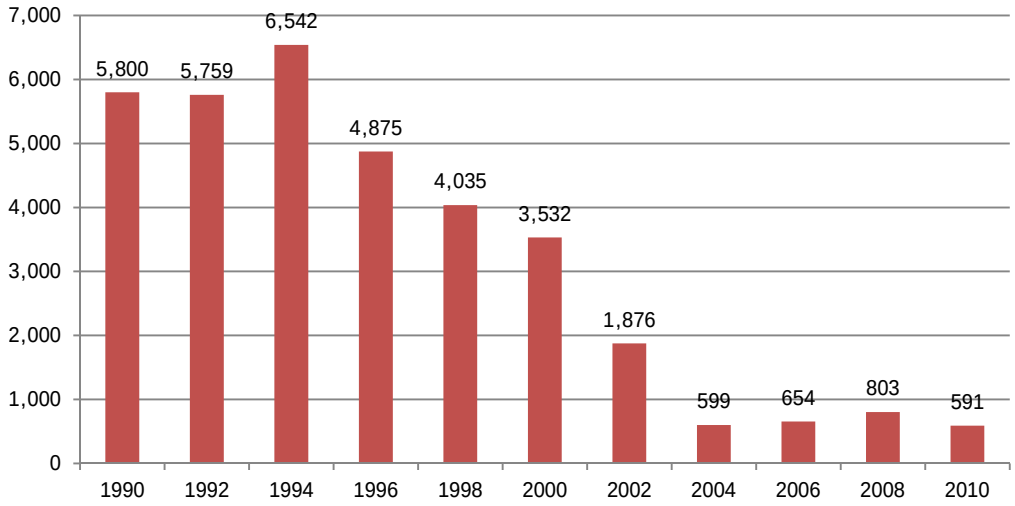


Figure 35: Regional distribution of undersown barley crops grown in Northern Ireland (ha), 2010.

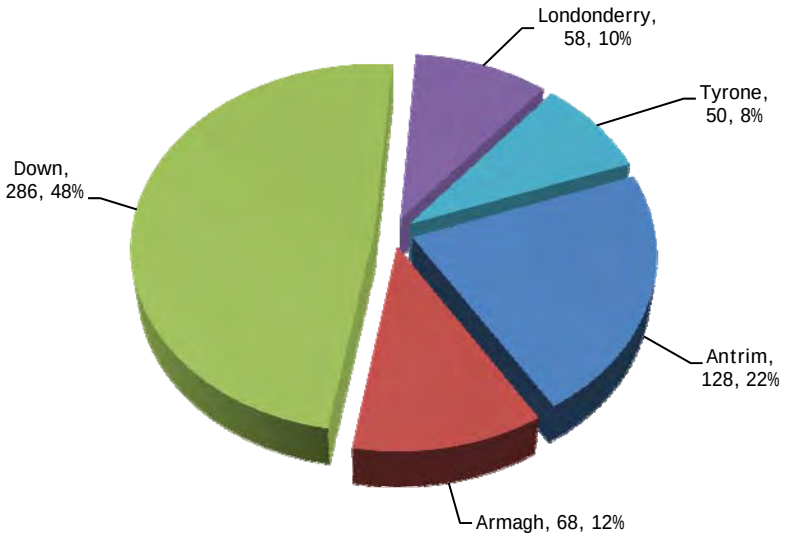


Figure 36: Pesticide usage (spha) on undersown barley crops in Northern Ireland, 2010.

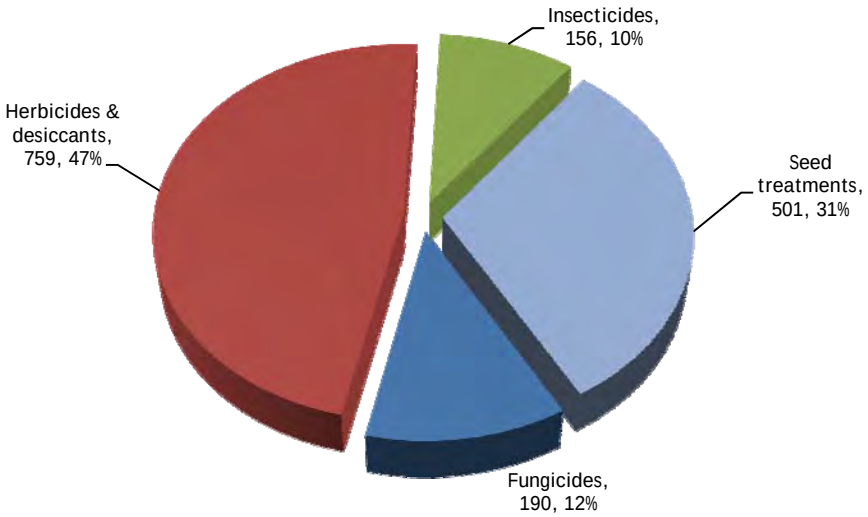


Figure 37: Weight of pesticides (kg) applied to undersown barley crops in Northern Ireland, 2010.

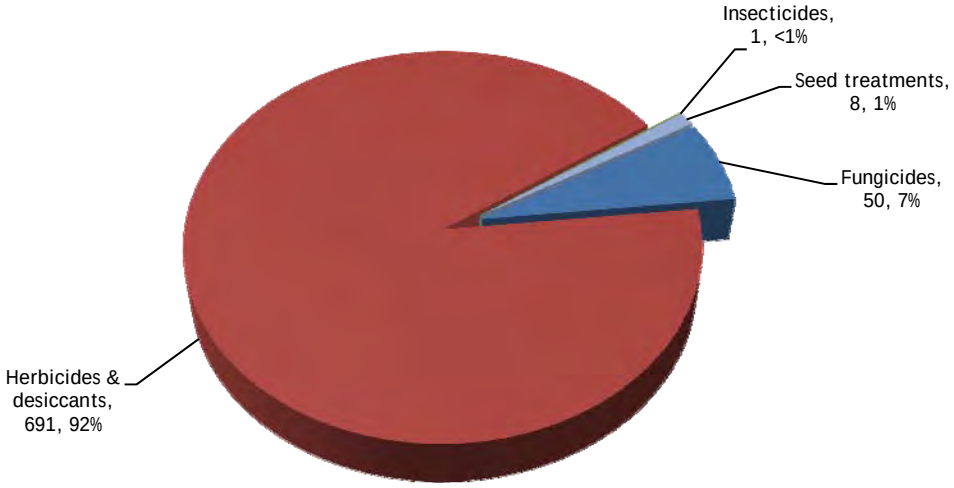
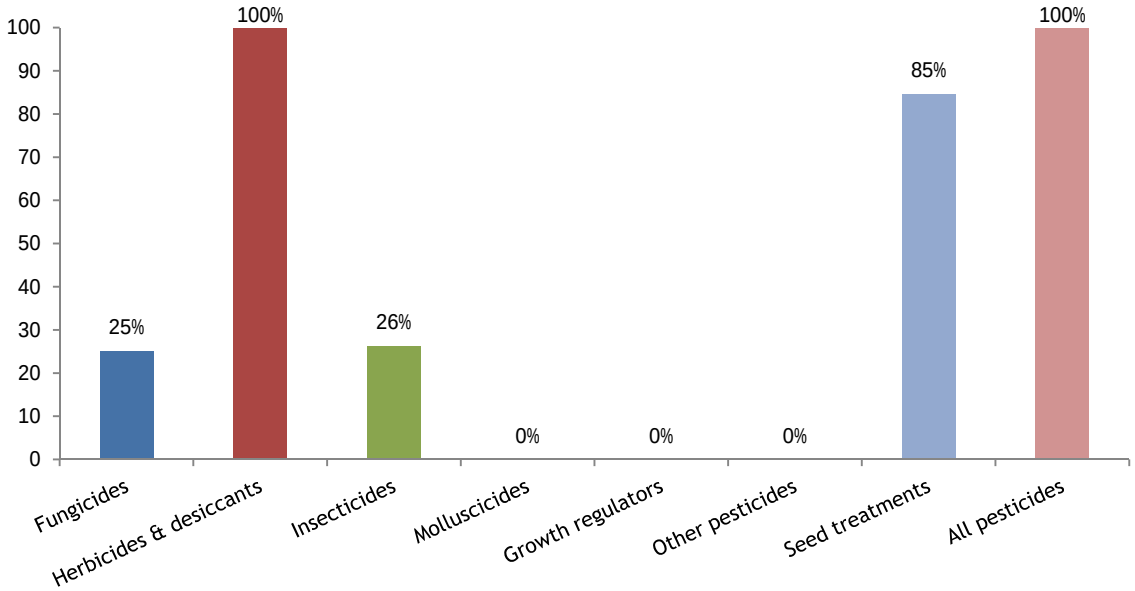


Figure 38: Proportional area (%) of undersown barley crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – undersown barley

· Basic area treated: 148 hectares

· Area treated: 190 spray hectares

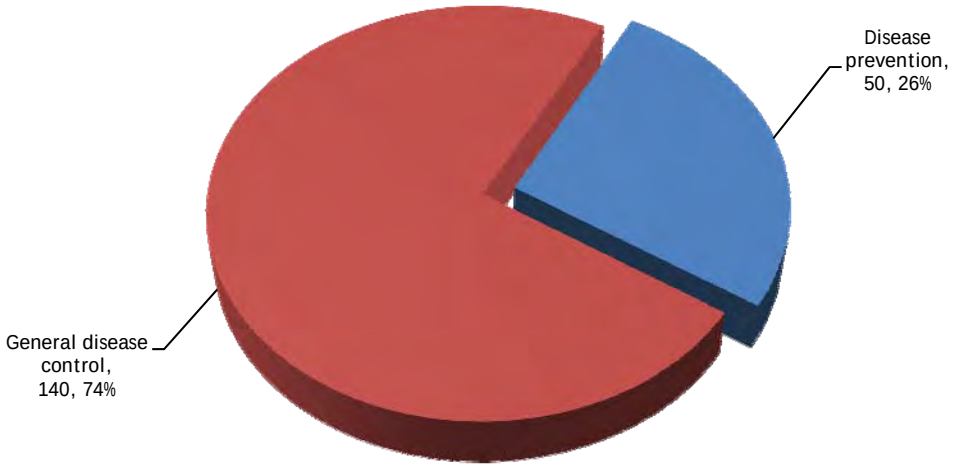
· Weight of active substances applied: 50 kilogrammes

· 25% of the area grown were treated with fungicides

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Carbendazim/flusilazole	50.3	50.3	7.5	26.4
Chlorothalonil	42.2	42.2	21.0	22.2
Prothioconazole	31.1	31.1	3.9	16.3
Fenpropimorph/flusilazole	30.9	30.9	12.4	16.2
Cyprodinil	24.9	24.9	3.7	13.1

Figure 39: Undersown barley: reasons for fungicide use (spha), 2010



Herbicides & desiccants – undersown barley

· Basic area treated: 591 hectares

· Area treated: 759 spray hectares

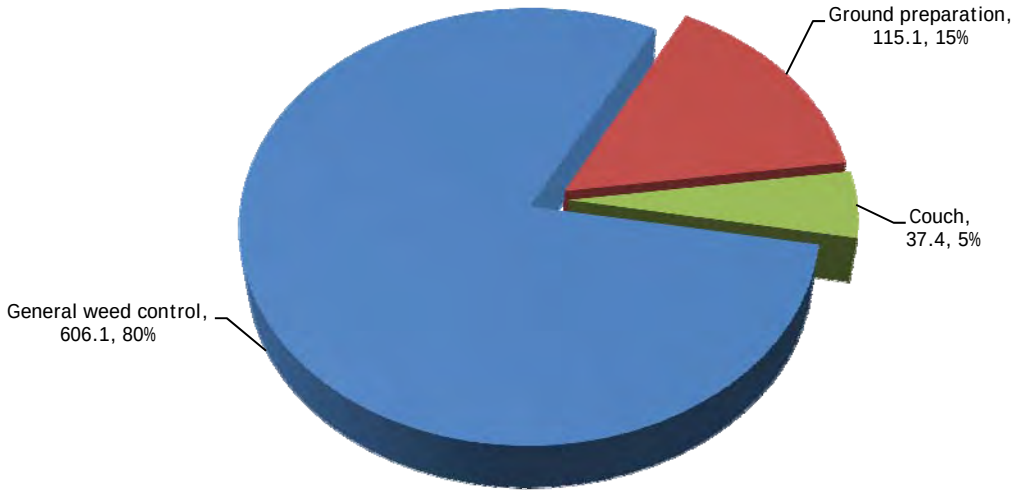
· Weight of active substances applied: 691 kilogrammes

· 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
2,4-DB/linuron/MCPA	443.0	443.0	406.6	58.4
Glyphosate	152.5	152.5	173.6	20.1
Dicamba/MCPA/mecoprop-P	71.4	71.4	97.7	9.4
Fluroxypyr	34.8	34.8	5.2	4.6
Metsulfuron-methyl	34.8	34.8	0.2	4.6

Figure 40: Undersown barley: reasons for herbicide & desiccant use (spha), 2010



Insecticides – undersown barley

· Basic area treated: 156 hectares

· Area treated: 156 spray hectares

· Weight of active substances applied: 1 kilogramme

· 26% 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	121.6	121.6	0.5	78.1
Lambda-cyhalothrin	34.0	34.0	0.2	21.8

Seed treatments – undersown barley

· Area treated: 501 hectares

· Weight of active substances applied: 8 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	308	3	61.5
Prochloraz/triticonazole	193	6	38.5

Pesticide usage on winter barley:

· 6,767 hectares of winter barley grown in Northern Ireland

· 55,696 treated hectares

· 20,121 kilogrammes applied

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

· Winter barley received on average 2.9 fungicide, 2.3 herbicide, 1.3 growth regulator, 1.4 insecticide and 1 molluscide applications.

Figure 41: Comparison of the areas of winter barley crops grown in Northern Ireland (ha), 1990 - 2010.

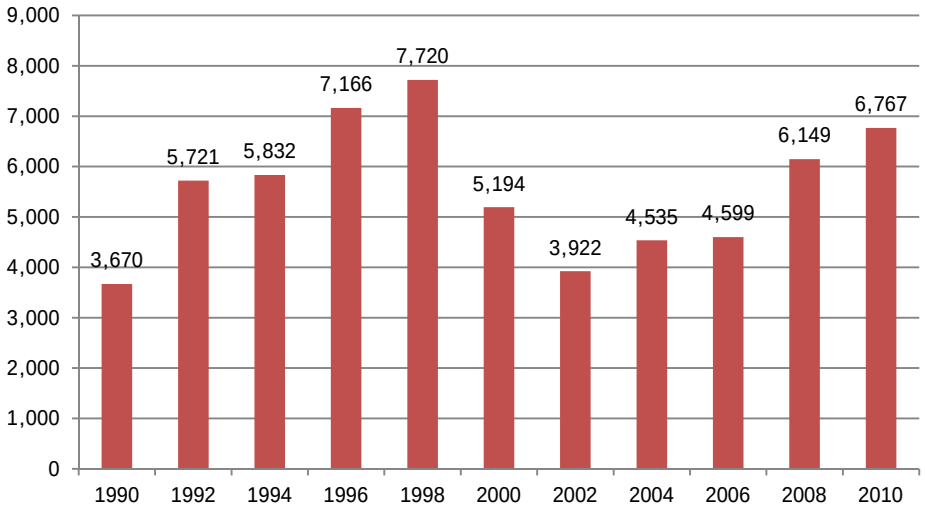


Figure 42: Regional distribution of winter barley crops grown in Northern Ireland (ha), 2010.

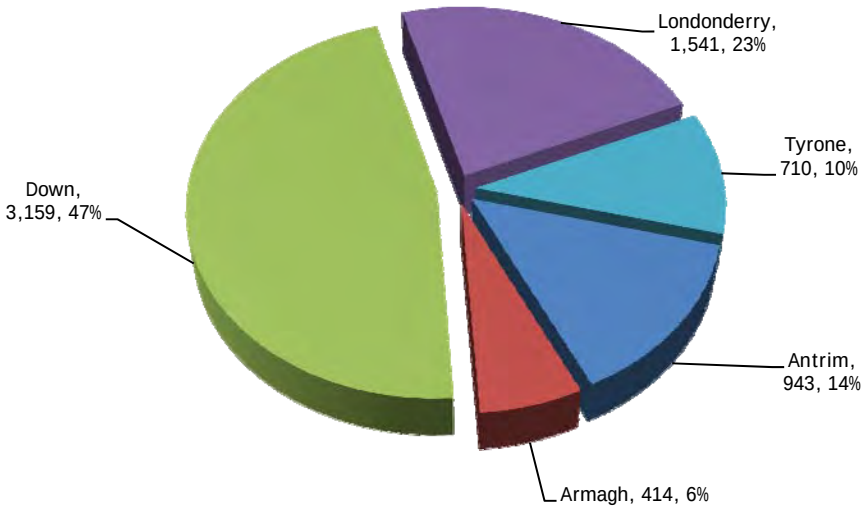


Figure 43: Pesticide usage (spha) on winter barley crops in Northern Ireland, 2010.

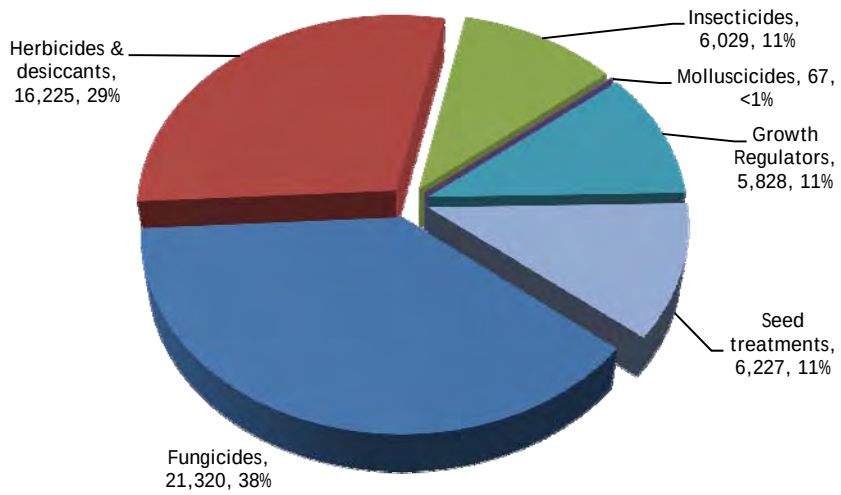


Figure 44: Weight of pesticides (kg) applied to winter barley crops in Northern Ireland, 2010.

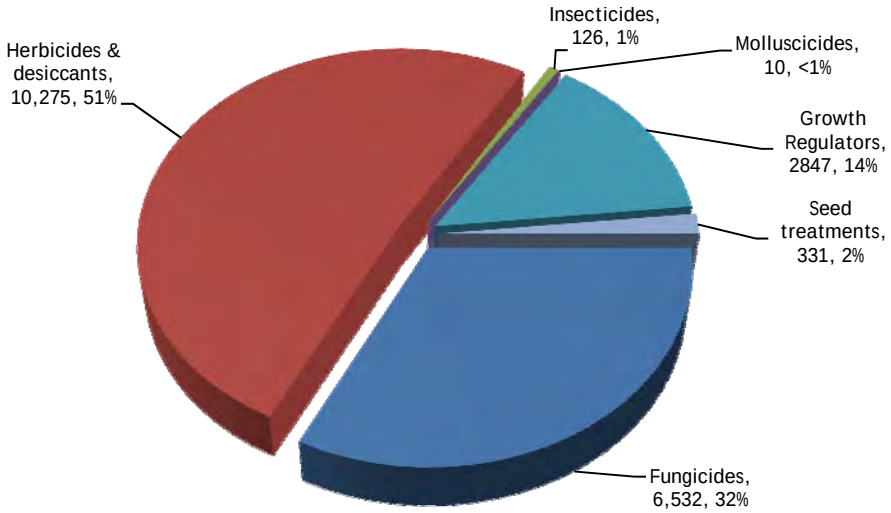
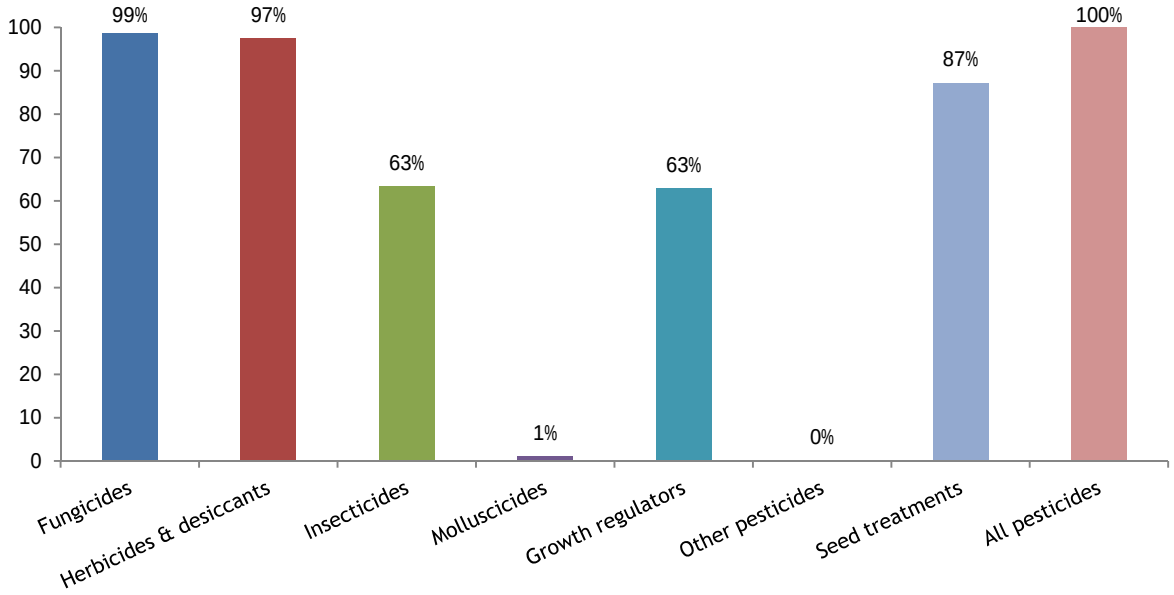


Figure 45: Proportional area (%) of winter barley crops treated with each pesticide group in Northern Ireland. 2010.



Fungicides – winter barley

· Basic area treated: 6,672 hectares

· Area treated: 21,320 spray hectares

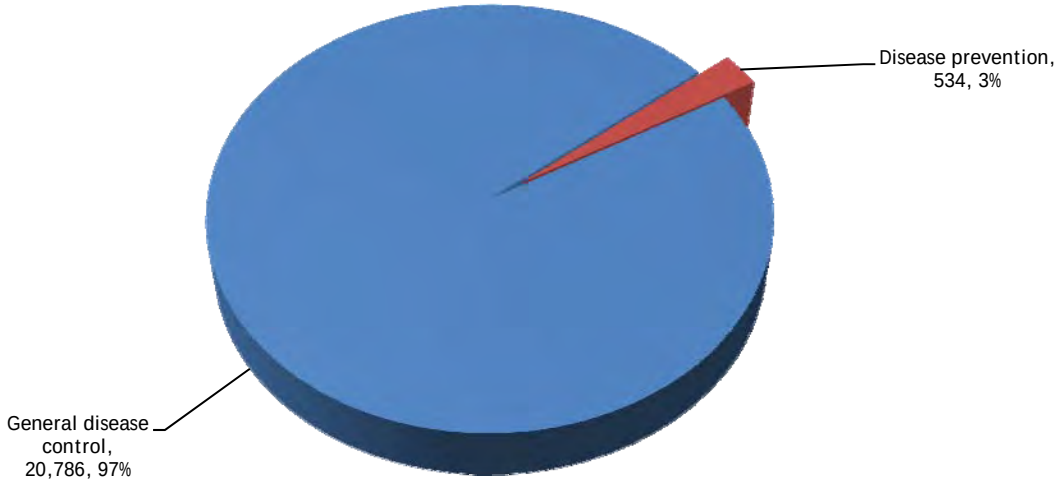
· Weight of active substances applied: 6,532 kilogrammes

· 99% 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	3,647.8	3,058.0	1,659.3	17.1
Prothioconazole	2,506.5	1,737.9	332.4	11.8
Cyprodinil/isopyrazam	1,391.0	913.2	542.3	6.5
Fluoxastrobin/prothioconazole	1,382.1	1,050.1	251.5	6.5
Cyprodinil	1,103.6	1,039.3	238.0	5.2

Figure 46: Winter barley: reasons for fungicide use (spha), 2010



Herbicides & desiccants – winter barley

· Basic area treated: 6,597 hectares

· Area treated: 16,225 spray hectares

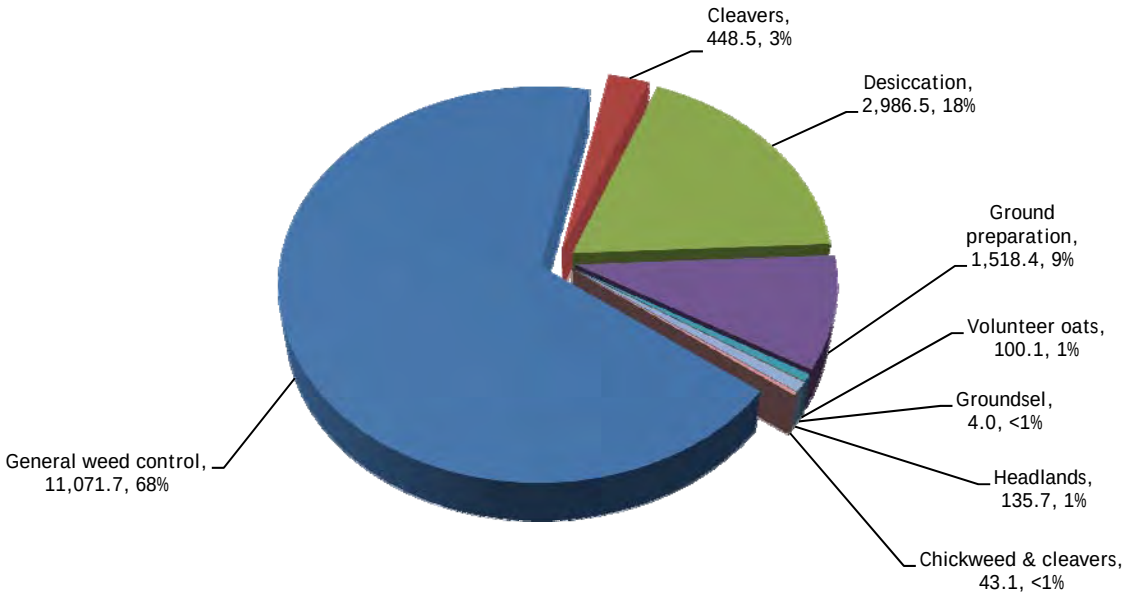
· Weight of active substances applied: 10,275 kilogrammes

· 97% 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	4,757.9	4,221.8	3,194.7	29.3
Diflufenican/flufenacet	1,226.6	1,226.6	220.6	7.6
Diflufenican	1,170.6	1,170.6	172.8	7.2
Chlorotoluron/diflufenican	1,117.4	1,117.4	1,585.5	6.9
Fluroxypyr	1,116.9	1,116.9	215.6	6.9

Figure 47: Winter barley: reasons for herbicide & desiccant use (spha), 2010



Insecticides - winter barley

· Basic area treated: 4,287 hectares

· Area treated: 6,029 spray hectares

· Weight of active substances applied: 126 kilogrammes

· 63% of the area sown 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	3,190.3	2,309.3	11.8	52.9
Lambda-cyhalothrin	1,797.4	1,496.4	8.2	29.8
Deltamethrin	513.2	513.2	2.7	8.5
Cypermethrin	278.7	278.7	6.7	4.6
Chlorpyrifos	137.1	137.1	88.6	2.3

Molluscicides - winter barley

· Basic area treated: 67 hectares

· Area treated: 67 spray hectares

· Weight of active substances applied: 10 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	67.2	67.2	10.1	100

Growth regulators - winter barley

· Basic area treated: 4,258 hectares

· Area treated: 5,828 spray hectares

· Weight of active substances applied: 2,847 kilogrammes

· 63% 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
Chlormequat	2,289.1	1,877.0	2,046.2	39.3
Trinexapac-ethyl	2,021.0	1,842.9	131.1	34.7
2-chloroethylphosphonic acid	1,155.4	1,155.4	293.1	19.8
Chlormequat with choline chloride	330.1	330.1	361.9	5.7
2-chloroethylphosphonic acid/mepiquat chloride	32.3	32.3	14.8	0.6

Seed treatments – winter barley

· Area treated: 6,227 hectares

· Weight of active substances applied: 331 kilogrammes

· 87% 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	2,821	77	45.3
Clothianidin/prothioconazole	2,212	218	35.5
Fludioxonil	272	2	4.4
Fludioxonil/flutriafol	214	4	3.4
Prothioconazole	207	4	3.3

Pesticide usage on spring wheat:

· 1,686 hectares of spring wheat grown in Northern Ireland

· 9,327 treated hectares

· 2,511 kilogrammes applied

· 88% of the area of spring wheat crops grown received a pesticide treatment

· Spring wheat received on average 2.3 fungicide, 1.9 herbicide, 1.2 growth regulator and 1 insecticide applications

Figure 48: Comparison of the areas of spring wheat crops grown in Northern Ireland (ha), 1990 - 2010.

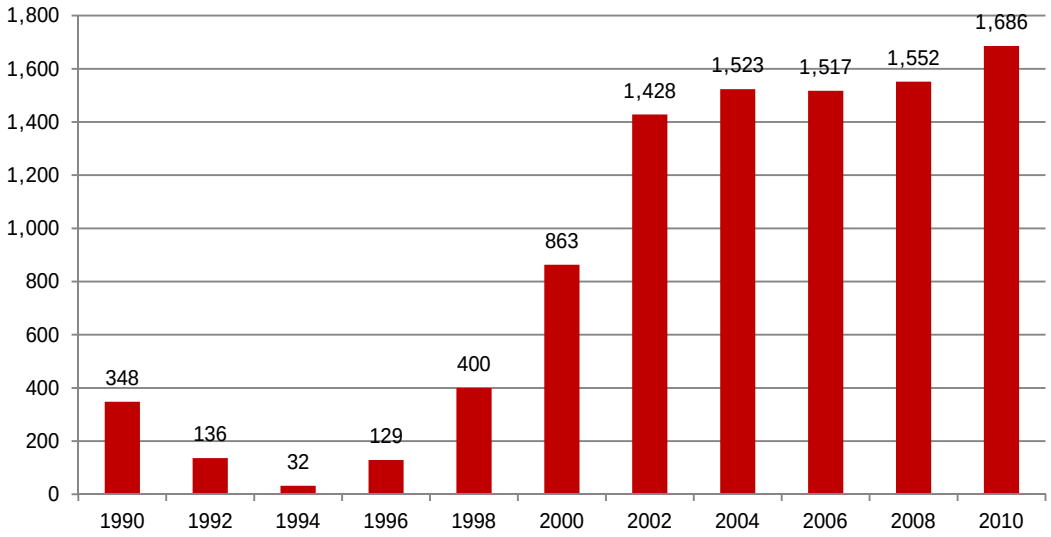


Figure 49: Regional distribution of spring wheat crops grown in Northern Ireland (ha), 2010.

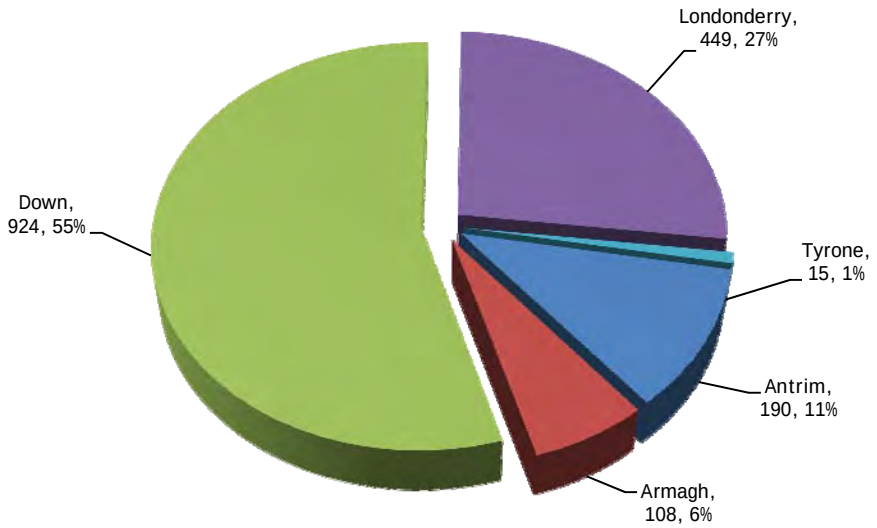


Figure 50: Pesticide usage (spha) on spring wheat crops in Northern Ireland, 2010.

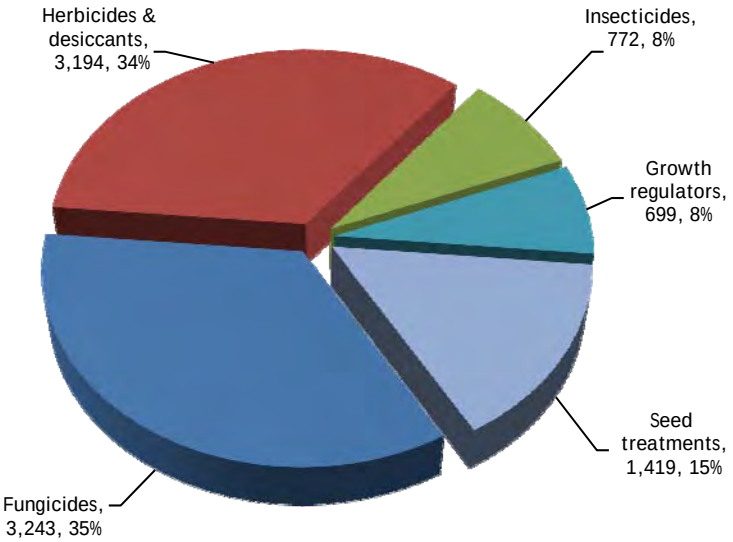


Figure 51: Weight of pesticides (kg) applied to spring wheat crops in Northern Ireland, 2010.

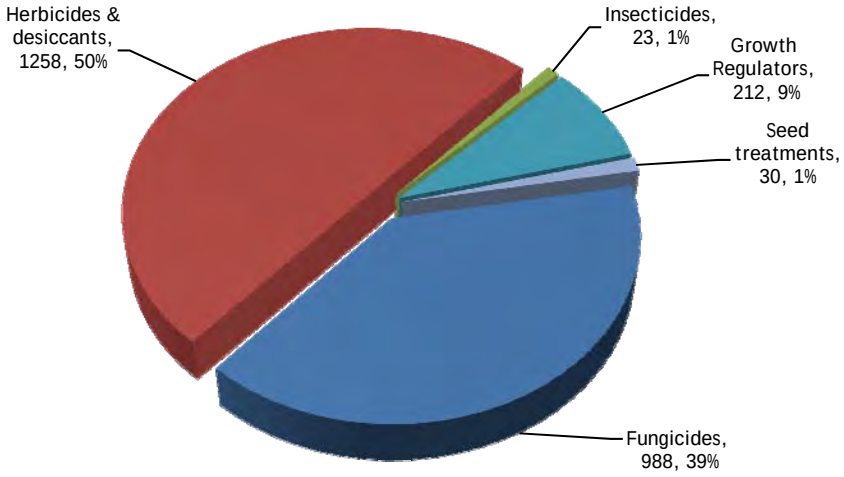
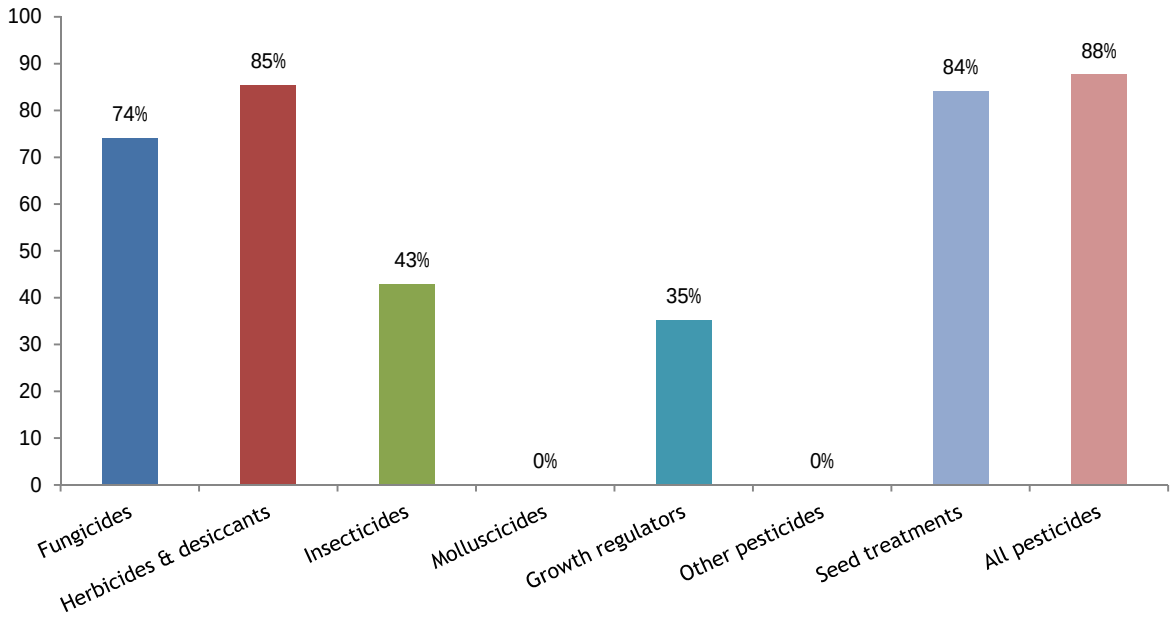


Figure 52: Proportional area (%) of spring wheat crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – spring wheat

· Basic area treated: 1,249 hectares

· Area treated: 3,243 spray hectares

· Weight of active substances applied: 988 kilogrammes

· 74% of the area grown treated with fungicides

· All applications were for general disease control

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Chlorothalonil	605.7	430.4	277.1	18.7
Epoxiconazole	362.9	330.1	22.7	11.2
Prothioconazole	275.4	275.4	65.3	8.5
Carbendazim/flusilazole	233.5	233.5	54.7	7.2
Epoxiconazole/fenpropimorph/kresoxim-methyl	233.5	233.5	93.4	7.2

Herbicides & desiccants – spring wheat

· Basic area treated: 1,439 hectares

· Area treated: 3,194 spray hectares

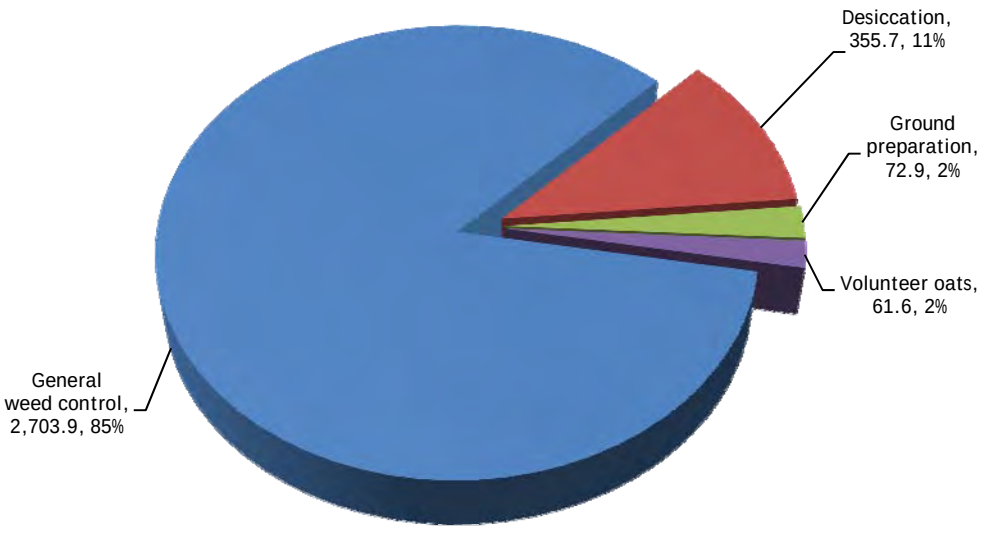
· Weight of active substances applied: 1,258 kilogrammes

· 85% 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
Metsulfuron-methyl/tribenuron-methyl	723.1	723.1	7.9	22.6
Mecoprop-P	613.0	613.0	684.7	19.2
Glyphosate	428.5	419.5	253.6	13.4
Fluroxypyr	381.2	381.2	40.3	11.9
Metsulfuron-methyl/thifensulfuron-methyl	370.3	370.3	12.1	11.6

Figure 53: Spring wheat: reasons for herbicide & desiccant use (spha), 2010



Insecticides – spring wheat

· Basic area treated: 723 hectares

· Area treated: 772 spray hectares

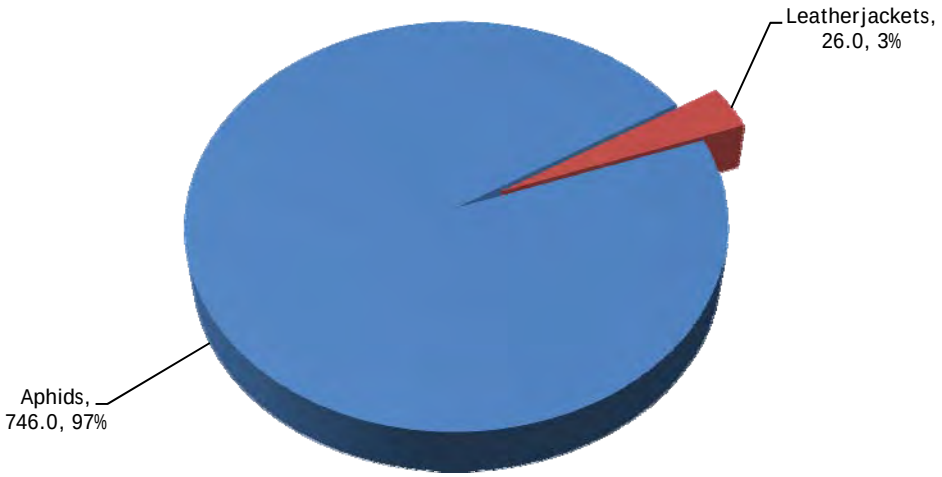
· Weight of active substances applied: 23 kilogrammes

· 43% 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	425.0	425.0	1.9	55.1
Deltamethrin	132.3	132.3	0.7	17.1
Lambda-cyhalothrin	130.4	104.1	0.7	16.9
Cypermethrin	45.1	22.5	0.9	5.8
Chlorpyrifos	26.0	26.0	18.4	3.4

Figure 54: Spring wheat: reasons for insecticide use (spha), 2010



Growth regulators – spring wheat

· Basic area treated: 593 hectares

· Area treated: 699 spray hectares

· Weight of active substances applied: 212 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
2-chloroethylphosphonic acid	289.1	289.1	53.5	41.3
Chlormequat	241.6	241.6	143.3	34.5
Trinexapac-ethyl	159.7	159.7	9.0	22.8
2-chloroethylphosphonic acid/mepiquat chloride	9.0	9.0	6.2	1.3

Seed treatments – spring wheat

· Area treated: 1,419 hectares

· Weight of active substances applied: 212 kilogrammes

· 84% 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	860	25	60.6
Fludioxonil	550	5	38.8
Ipconazole	8	<1	0.6

Pesticide usage on undersown wheat:

· 58 hectares of undersown wheat grown in Northern Ireland

· 300 treated hectares

· 116 kilogrammes applied

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

· Undersown wheat received on average 1.3 fungicide, 2.7 herbicide and 1.0 insecticide application.

Figure 55: Comparison of the areas of undersown wheat crops grown in Northern Ireland (ha), 1990 - 2010.

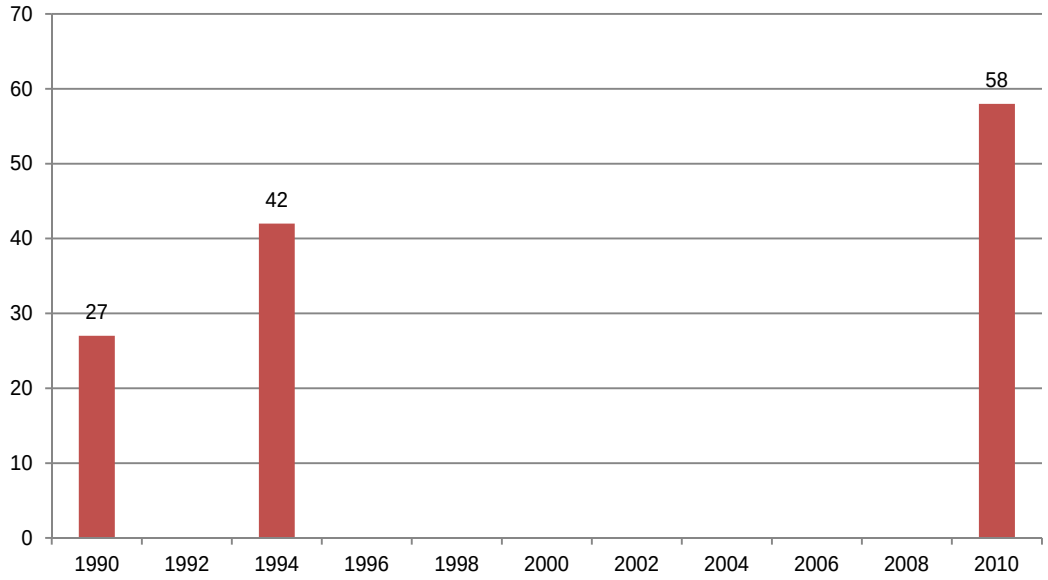


Figure 56: Regional distribution of undersown wheat crops grown in Northern Ireland (ha), 2010.

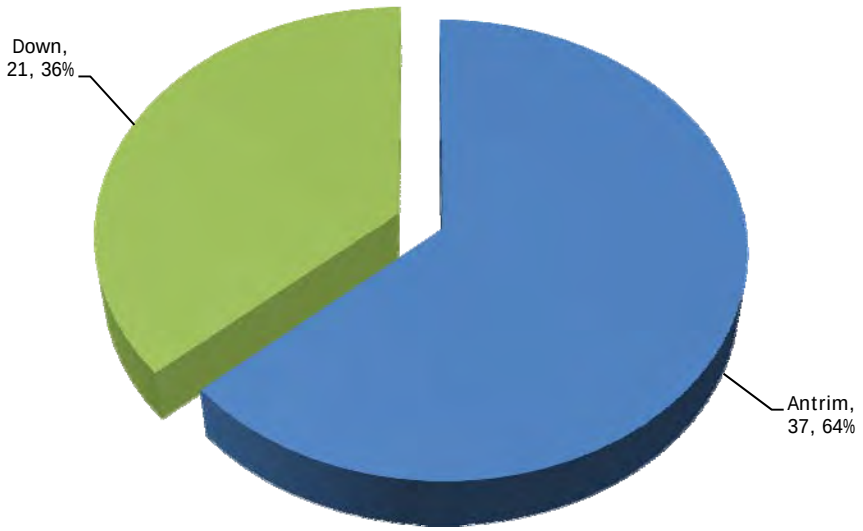


Figure 57: Pesticide usage (spha) on undersown wheat crops in Northern Ireland, 2010.

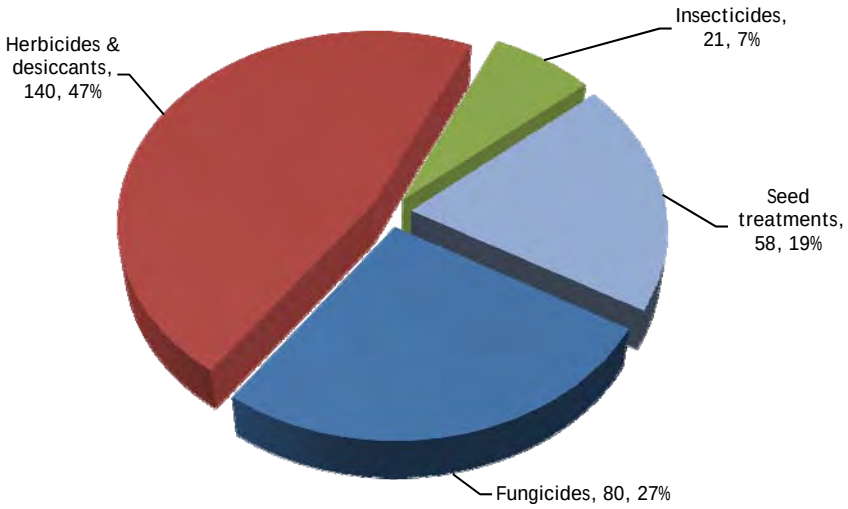


Figure 58: Weight of pesticides (kg) applied to undersown wheat crops in Northern Ireland, 2010.

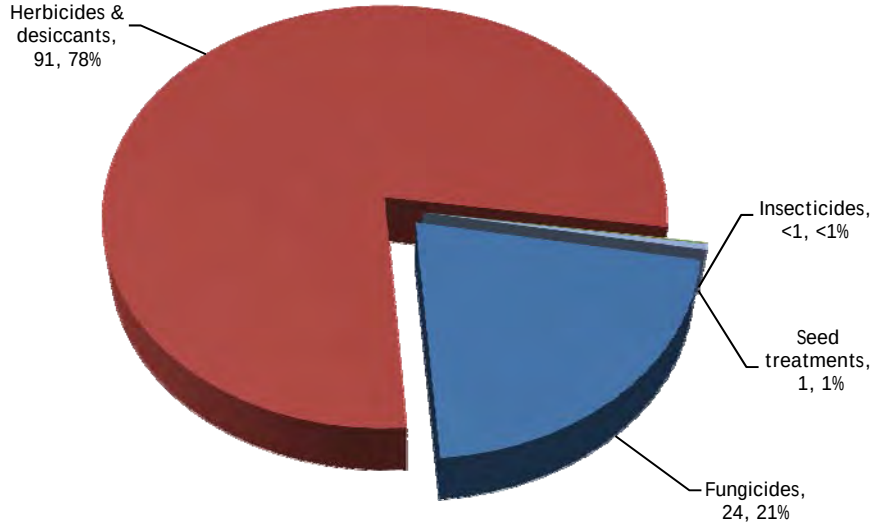
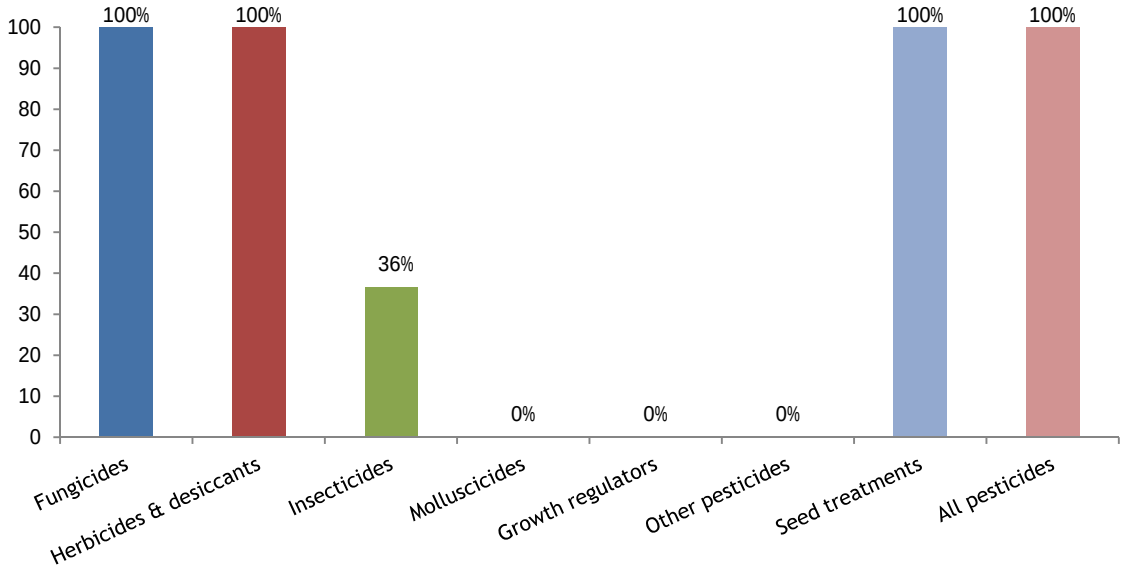


Figure 59: Proportional area (%) of undersown wheat crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – undersown wheat

· Basic area treated: 58 hectares

· Area treated: 80 spray hectares

· Weight of active substances applied: 24 kilogrammes

· 100% of the area grown treated with fungicides

· All applications were for general disease control

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Fluoxastrobin/prothioconazole/trifloxystrobin	37.1	37.1	11.1	46.5
Chlorothalonil	21.3	21.3	10.7	26.7
Prothioconazole	21.3	21.3	2.7	26.7

Herbicides & desiccants – undersown wheat

· Basic area treated: 58 hectares

· Area treated: 140 spray hectares

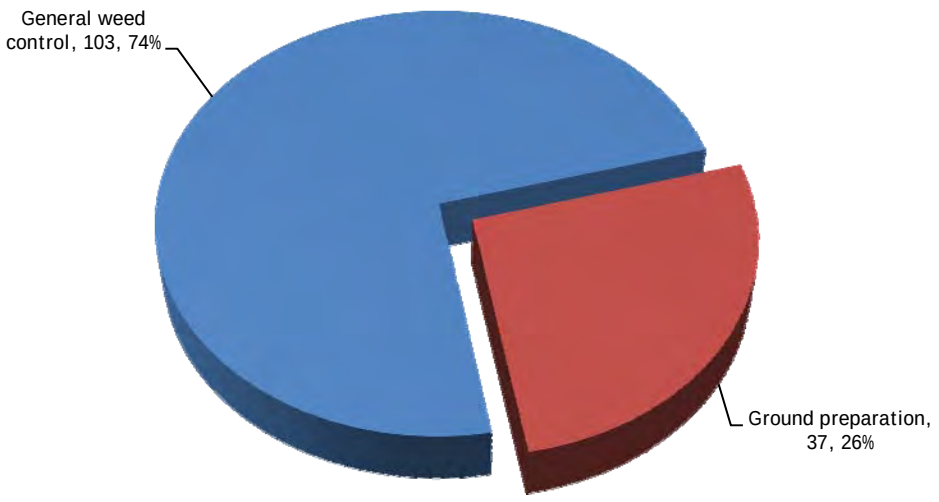
· Weight of active substances applied: 91 kilogrammes

· 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
2,4-DB/MCPA	37.1	37.1	10.4	26.5
Glyphosate	37.1	37.1	41.3	26.5
Tribenuron-methyl	37.1	37.1	0.1	26.5
Dicamba/MCPA/mecoprop-P	21.3	21.3	39.1	15.2
Fluroxypyr	7.4	7.4	0.4	5.3

Figure 60: Undersown wheat: reasons for herbicide & desiccant use (spha), 2010



Insecticides – undersown wheat

· Basic area treated: 21 hectares

· Area treated: 21 spray hectares

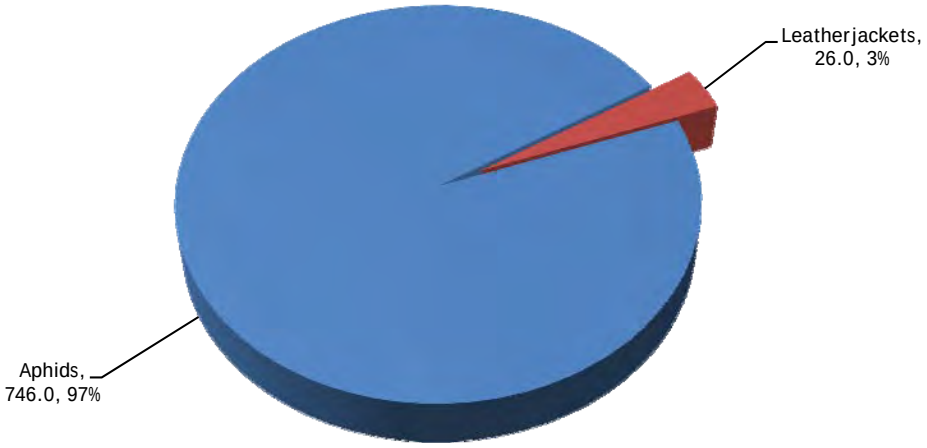
· Weight of active substances applied: 0.1 kilogrammes

· 36% of the area grown treated with insecticides

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Deltamethrin	21.3	21.3	0.1	100

Figure 46: Undersown wheat: reasons for insecticide use (spha), 2010



Seed treatments – undersown wheat

· Area treated: 58 hectares

· Weight of active substances applied: 1 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	58	1	100

Pesticide usage on winter wheat:

· 9,151 hectares of winter wheat grown in Northern Ireland

· 89,061 treated hectares

· 31,432 kilogrammes applied

· 99% of the area of winter wheat crops grown received a pesticide treatment

· Winter wheat received on average 3.9 fungicide, 2.3 herbicide, 1.2 insecticide, 1.2 molluscicide and 1.3 growth regulator applications.

Figure 61: Comparison of the areas of winter wheat crops grown in Northern Ireland (ha), 1990 - 2010.

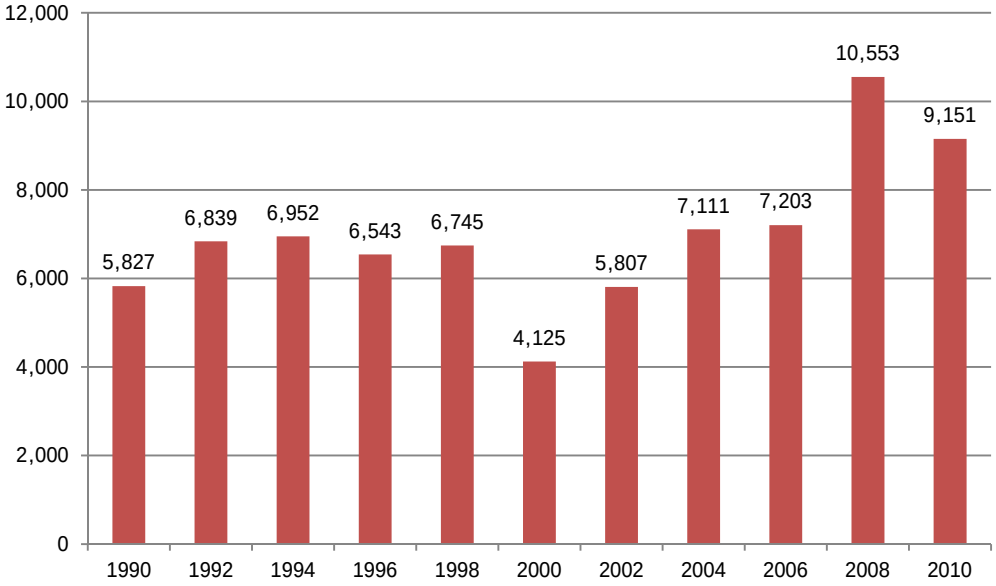


Figure 62: Regional distribution of winter wheat crops grown in Northern Ireland (ha), 2010.

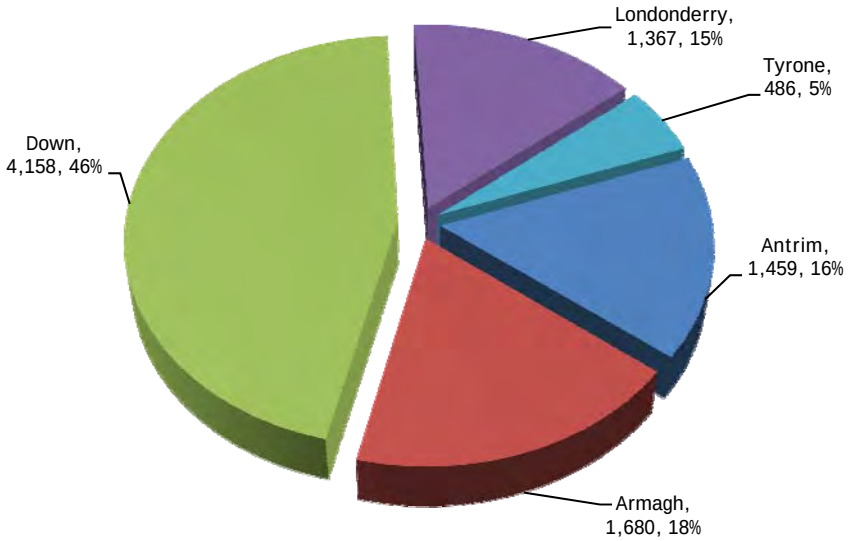


Figure 63: Pesticide usage (spha) on winter wheat crops in Northern Ireland, 2010.

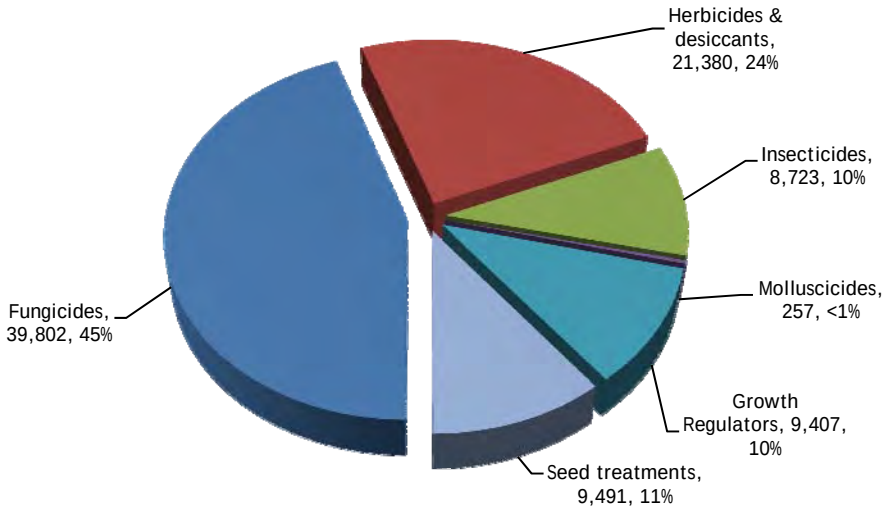


Figure 64: Weight of pesticides (kg) applied to winter wheat crops in Northern Ireland, 2010.

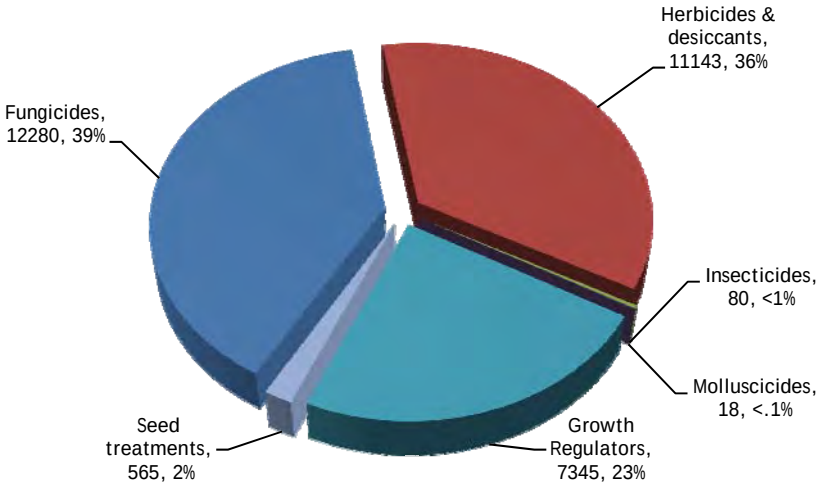
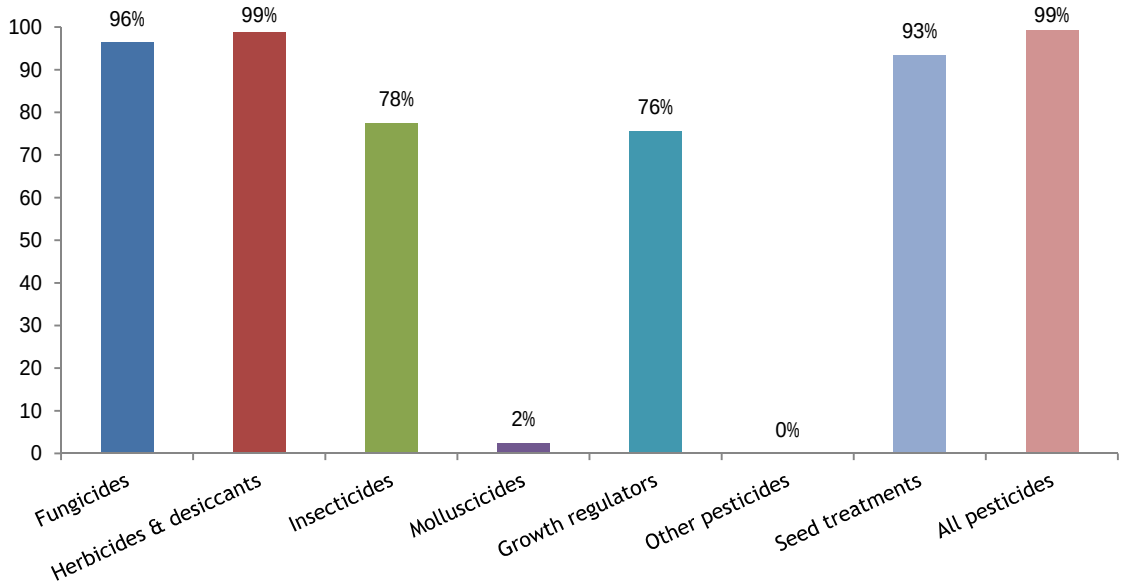


Figure 65: Proportional area (%) of winter wheat crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – winter wheat

· Basic area treated: 8,818 hectares

· Area treated: 39,802 spray hectares

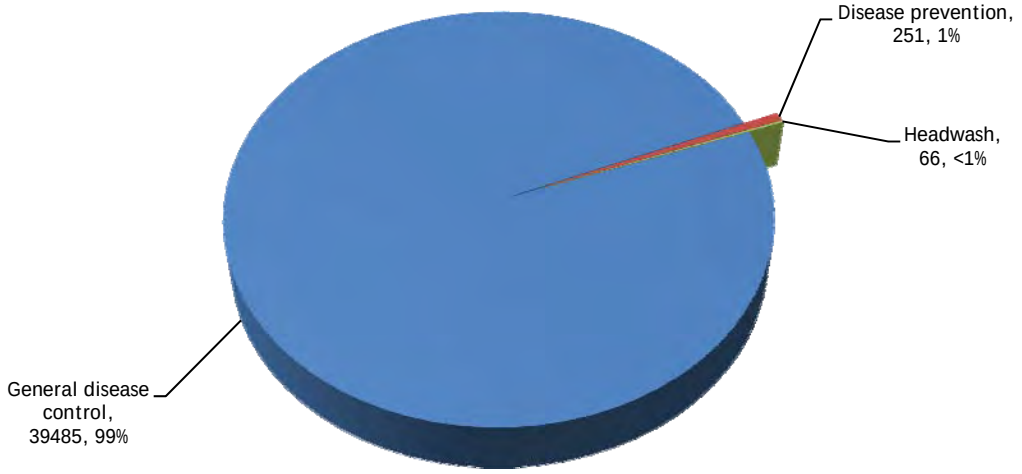
· Weight of active substances applied: 12,280 kilogrammes

· 96% 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	9177.9	5992.9	4457.3	23.1
Epoxiconazole	4805.4	3463.1	494.9	12.1
Prothioconazole	2714.8	2262.9	425.9	6.8
Azoxystrobin/chlorothalonil	2459.9	1673.5	1992.1	6.2
Prothioconazole/tebuconazole	2290.8	1924.9	436.1	5.8

Figure 66: Winter wheat: reasons for fungicide use (spha), 2010



Herbicides & desiccants – winter wheat

· Basic area treated: 9,035 hectares

· Area treated: 21,380 spray hectares

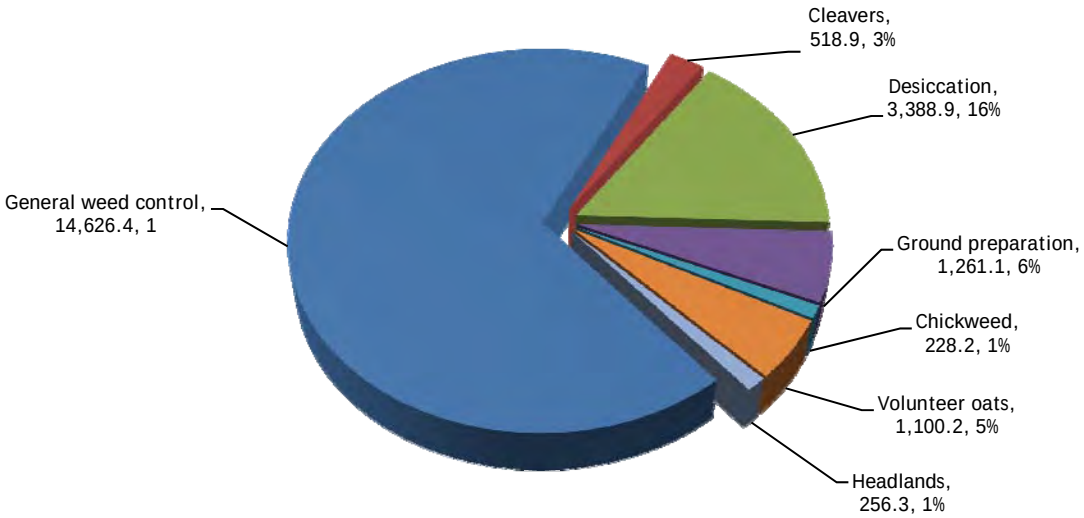
· Weight of active substances applied: 11,143 kilogrammes

· 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	5,076.0	4,647.7	3,584.5	23.7
Fluroxypyr	1,816.3	1,781.9	256.5	8.5
Diflufenican/iodosulfron-methyl-sodium/mesosulfuron-methyl	1,751.7	1,751.7	103.6	8.2
Mecoprop-P	1,568.3	1,335.5	860.0	7.3
Chlorotoluron/diflufenican	1,536.5	1,536.5	1,976.9	7.2

Figure 67: Winter wheat: reasons for herbicide & desiccant use (spha), 2010



Insecticides – winter wheat

· Basic area treated: 7,095 hectares

· Area treated: 8,723 spray hectares

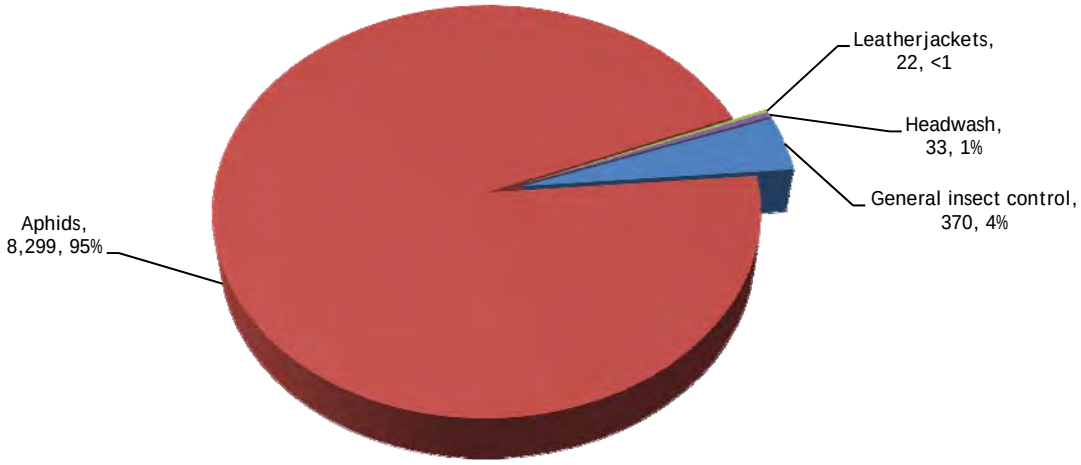
· Weight of active substances applied: 80 kilogrammes

· 78% 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	3,788.3	3,243.8	16.2	43.4
Lambda-cyhalothrin	3,457.9	2,899.4	20.3	39.6
Deltamethrin	834.4	834.4	4.3	9.6
Cypermethrin	480.9	480.9	11.3	5.5
Alpha-cypermethrin	69.7	69.7	0.9	0.8

Figure 68: Winter wheat: reasons for insecticide use (spha), 2010



Molluscicides - winter wheat

· Basic area treated: 223 hectares

· Area treated: 257 spray hectares

· Weight of active substances applied: 18 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
Methiocarb	257.4	223.3	18.3	100

Growth regulators – winter wheat

· Basic area treated: 6,918 hectares

· Area treated: 9,407 spray hectares

· Weight of active substances applied: 7,345 kilogrammes

· 76% 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	5,777.3	5,201.6	5,977.1	61.4
Trinexapac-ethyl	1,525.2	1,525.2	112.1	16.2
2-chloroethylphosphonic acid	1,200.3	1,200.3	270.7	12.8
Chlormequat with choline chloride	707.3	707.3	853.0	7.5
Chlormequat/Imazaquin	130.5	130.5	96.3	1.4

Seed treatments – winter wheat

· Area treated: 9,491 hectares

· Weight of active substances applied: 565 kilogrammes

· 93% 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	3,734	103	39.3
Clothianidin/prothioconazole	3,264	343	34.4
Silthiofam	941	41	9.9
Fludioxonil	736	6	7.8
Carboxin/thiram	228	43	2.4

Pesticide usage on spring oats:

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

· 3,926 treated hectares

· 775 kilogrammes applied

· 74% of the area of spring oat crops grown received a peaticide treatment

· Spring oats received on average 1.9 fungicide, 1.9 herbicide, 1.0 insecticide and 1.7 growth regulator applications.

Figure 69: Comparison of the areas of spring oat crops grown in Northern Ireland (ha), 1990 - 2010.

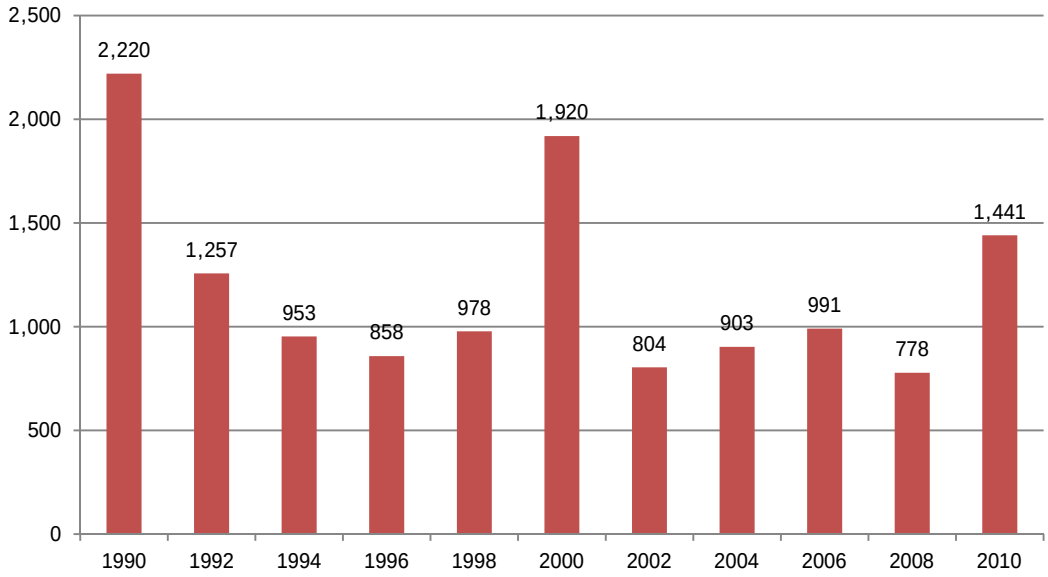


Figure 70: Regional distribution of spring oat crops grown in Northern Ireland (ha), 2010.

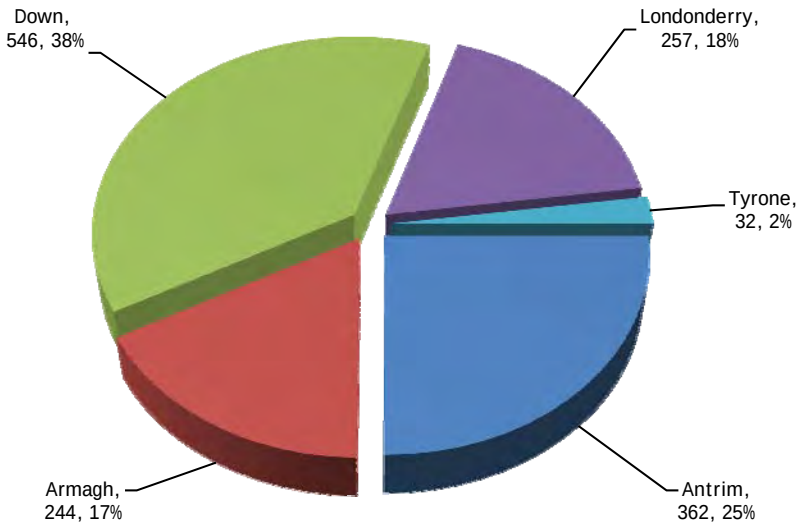


Figure 71: Pesticide usage (spha) on spring oat crops in Northern Ireland, 2010.

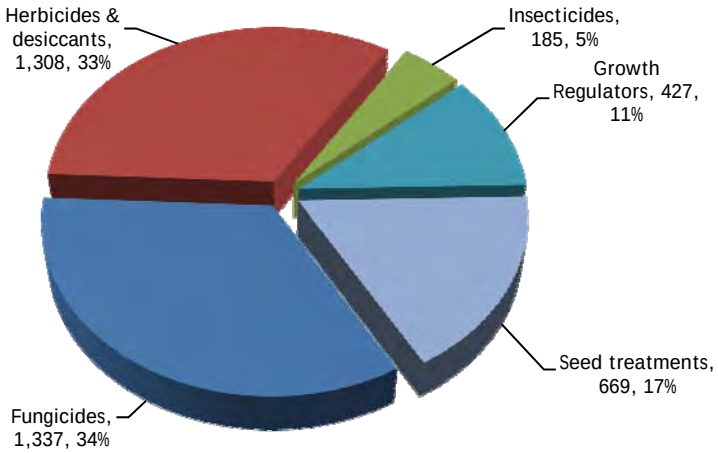


Figure 72: Weight of pesticides (kg) applied to spring oat crops in Northern Ireland, 2010.

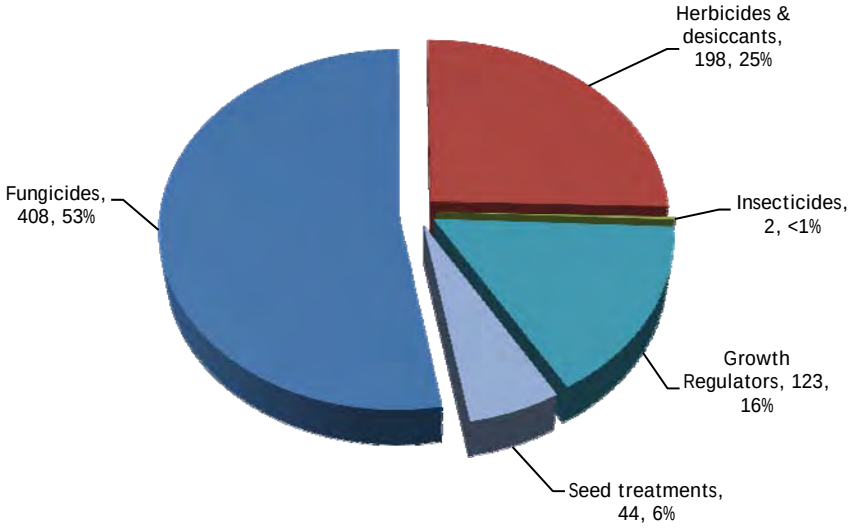
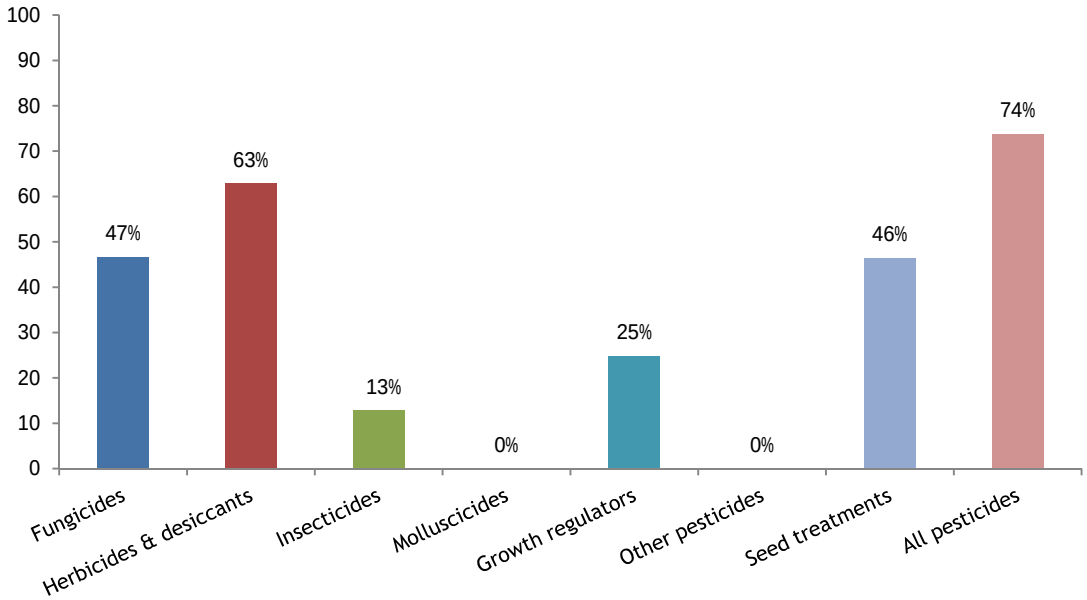


Figure 73: Proportional area (%) of spring oat crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – spring oats

· Basic area treated: 673 hectares

· Area treated: 1,337 spray hectares

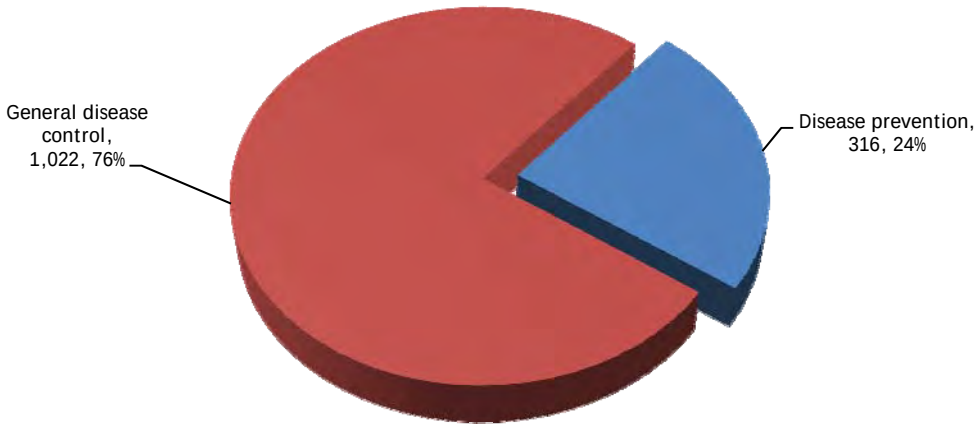
· Weight of active substances applied: 775 kilogrammes

· 74% 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	429.8	214.9	145.1	32.1
Fluoxastrobin/prothioconazole	361.6	203.6	57.5	27.0
Chlorothalonil	289.0	164.7	146.9	21.6
Fenpropimorph	60.6	60.6	23.5	4.5
Azoxystrobin/cyproconazole	49.7	49.7	8.6	3.7

Figure 74: spring oats: reasons for fungicide use (spha), 2010



Herbicides & desiccants – spring oats

· Basic area treated: 906 hectares

· Area treated: 1,308 spray hectares

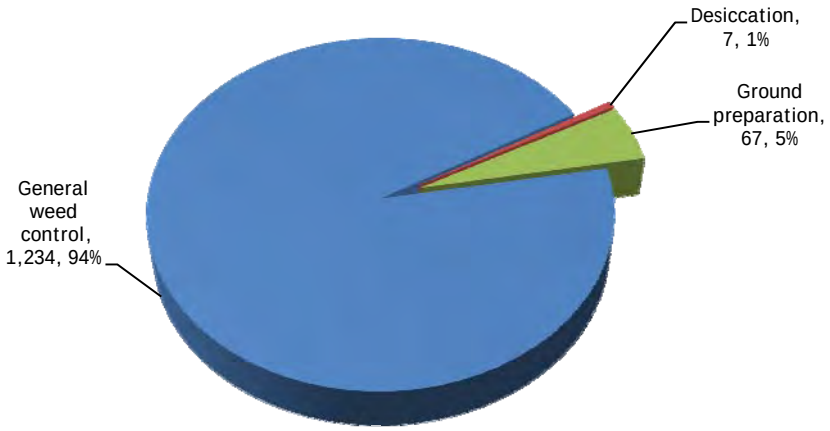
· Weight of active substances applied: 198 kilogrammes

· 63% 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
Metsulfuron-methyl/tribenuron-methyl	567.4	567.4	5.9	43.4
Amidosulfuron	260.7	260.7	7.8	19.9
Fluroxypyr	154.3	154.3	23.6	11.8
Mecoprop-P	90.5	90.5	70.7	6.9
Glyphosate	73.7	73.7	63.0	5.6

Figure 58: Spring oats: reasons for herbicide & desiccant use (spha), 2010



Insecticides – spring oats

· Basic area treated: 185 hectares

· Area treated: 185 spray hectares

· Weight of active substances applied: 2 kilogrammes

· 13% 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	52.7	52.7	0.2	28.5
Cypermethrin	49.7	49.7	1.2	26.9
Lambda-cyhalothrin	33.8	33.8	0.2	18.3
Bifenthrin	29.5	29.5	0.2	16.0
Deltamethrin	19.1	19.1	0.1	10.3

Growth regulators – spring oats

· Basic area treated: 358 hectares

· Area treated: 427 spray hectares

· Weight of active substances applied: 123 kilogrammes

· 25% 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	283.5	283.5	19.2	66.4
Chlormequat with choline chloride	74.6	74.6	36.1	17.5
Chlormequat	68.6	68.6	67.4	16.1

Seed treatments – spring oats

· Area treated: 669 hectares

· Weight of active substances applied: 44 kilogrammes

· 46% 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	276	10	41.3
Clothianidin/prothioconazole	215	24	32.1
Fludioxonil	93	1	13.9
Guazatine/imazalil	46	8	6.9
Fludioxonil/flutriafol	39	1	5.8

Pesticide usage on undersown oats:

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

· 38 treated hectares

· 1 kilogramme applied

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

· Undersown oats did not receive any spray applications

Figure 75: Comparison of the areas of undersown oat crops grown in Northern Ireland (ha), 1990 - 2010.

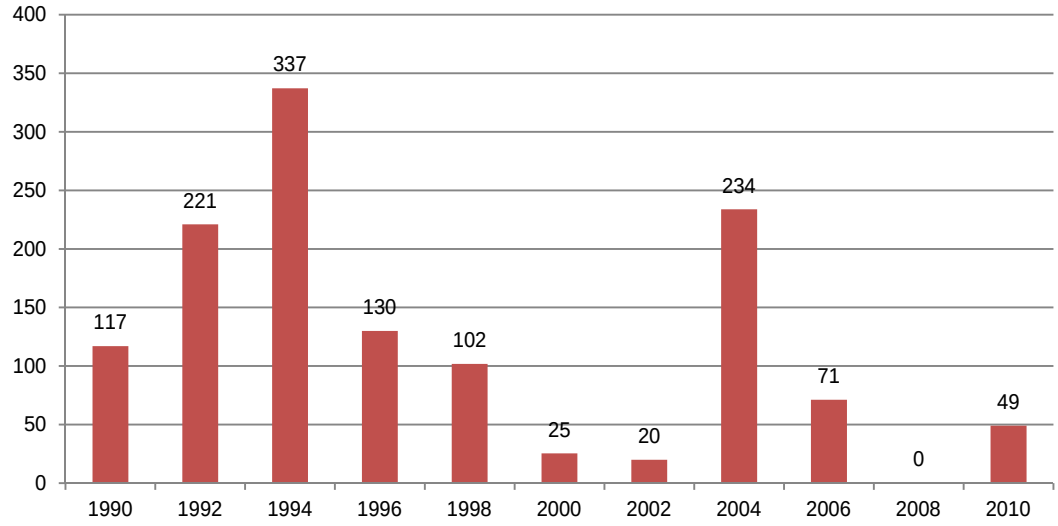
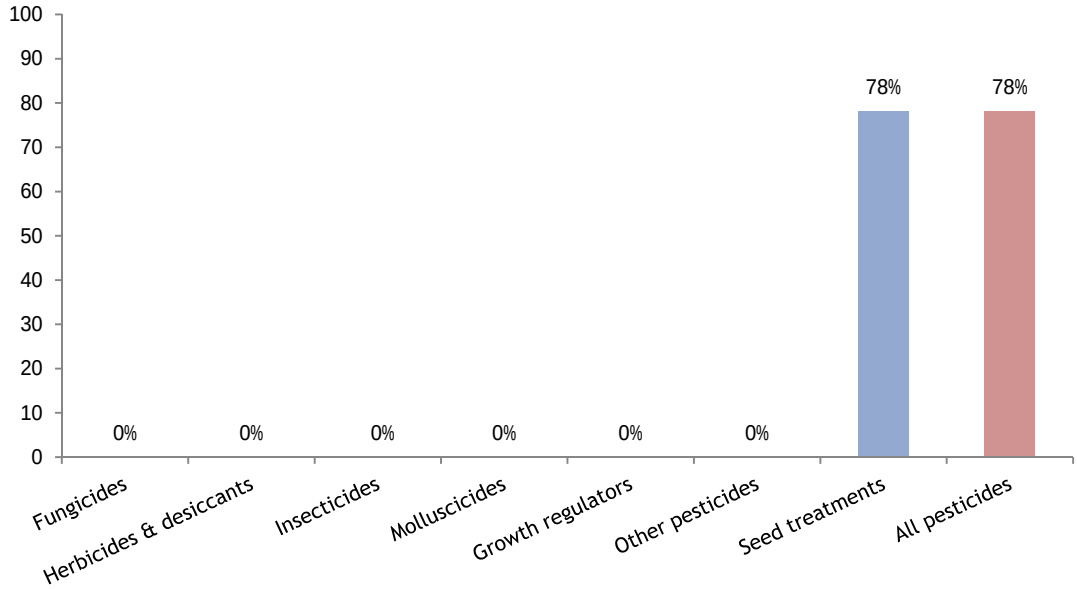


Figure 76: Proportional area (%) of undersown oat crops treated with each pesticide group in Northern Ireland, 2010.



Seed treatments – undersown oats

· Area treated: 669 hectares

· Weight of active substances applied: 44 kilogrammes

· 46% 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
Prochloraz/triticonazole	38	1	100

Pesticide usage on winter oats:

· 841 hectares of winter oats grown in Northern Ireland

· 5,241 treated hectares

· 1,416 kilogrammes applied

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

· Winter oats received on average 1.9 fungicide, 2.7 herbicide, 1.7 insecticide and 1.1 growth regulator applications.

Figure 77: Comparison of the areas of winter oat crops grown in Northern Ireland (ha), 1990 - 2010.

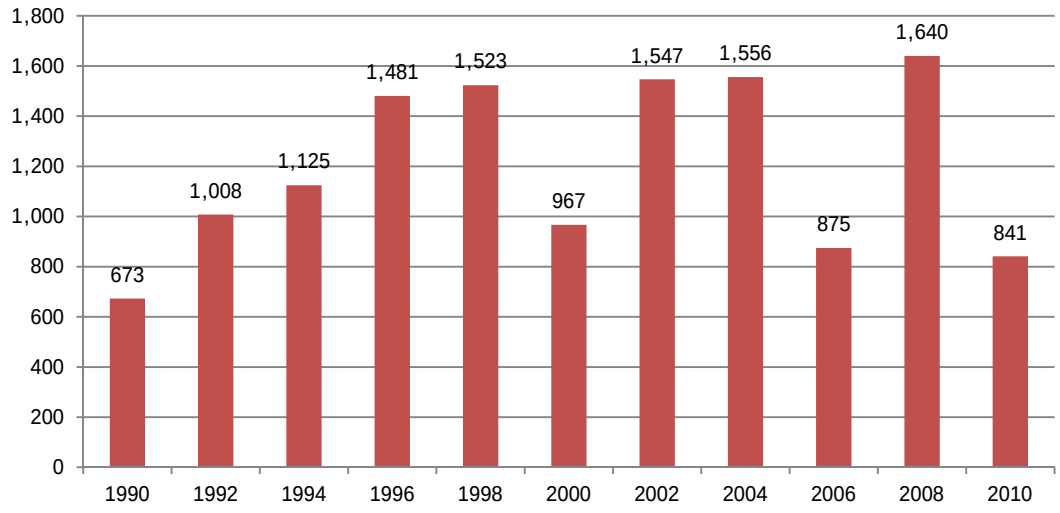


Figure 78: Regional distribution of winter oat crops grown in Northern Ireland (ha), 2010.

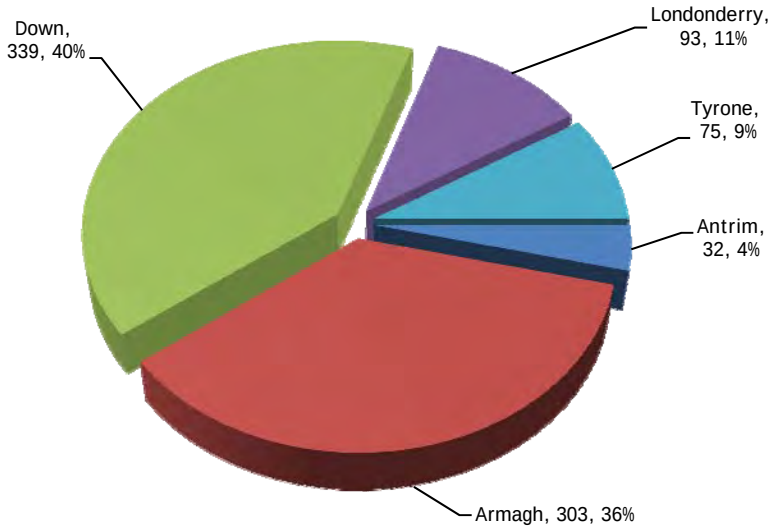


Figure 79: Pesticide usage (spha) on winter oat crops in Northern Ireland, 2010.

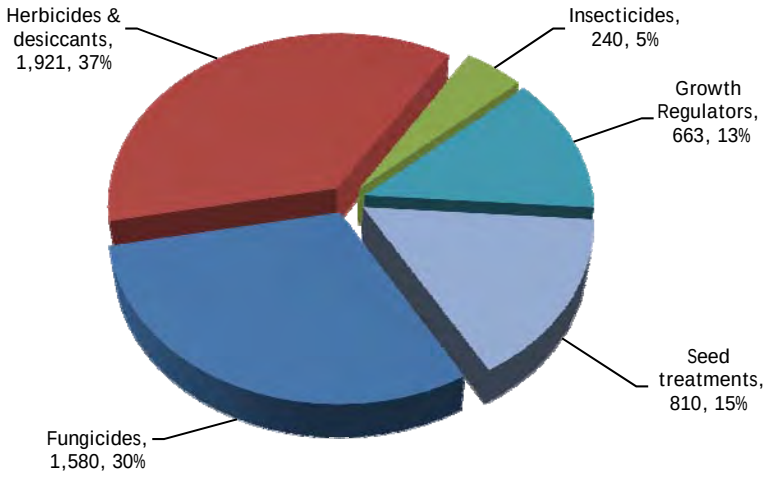


Figure 80: Weight of pesticides (kg) applied to winter oat crops in Northern Ireland, 2010.

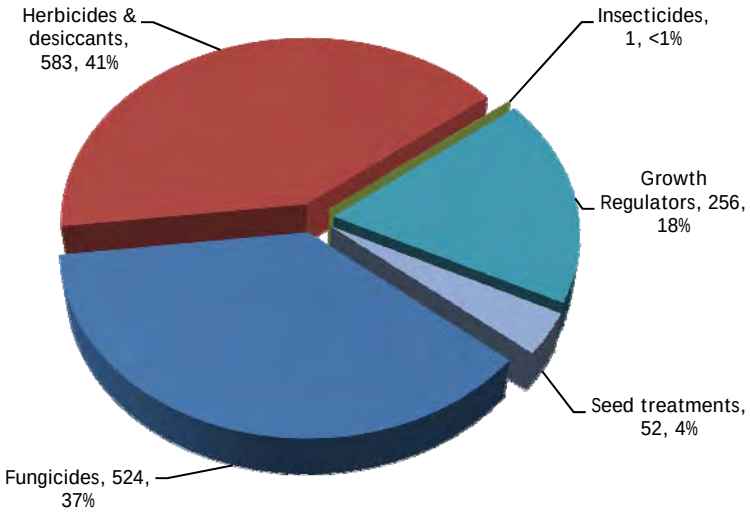
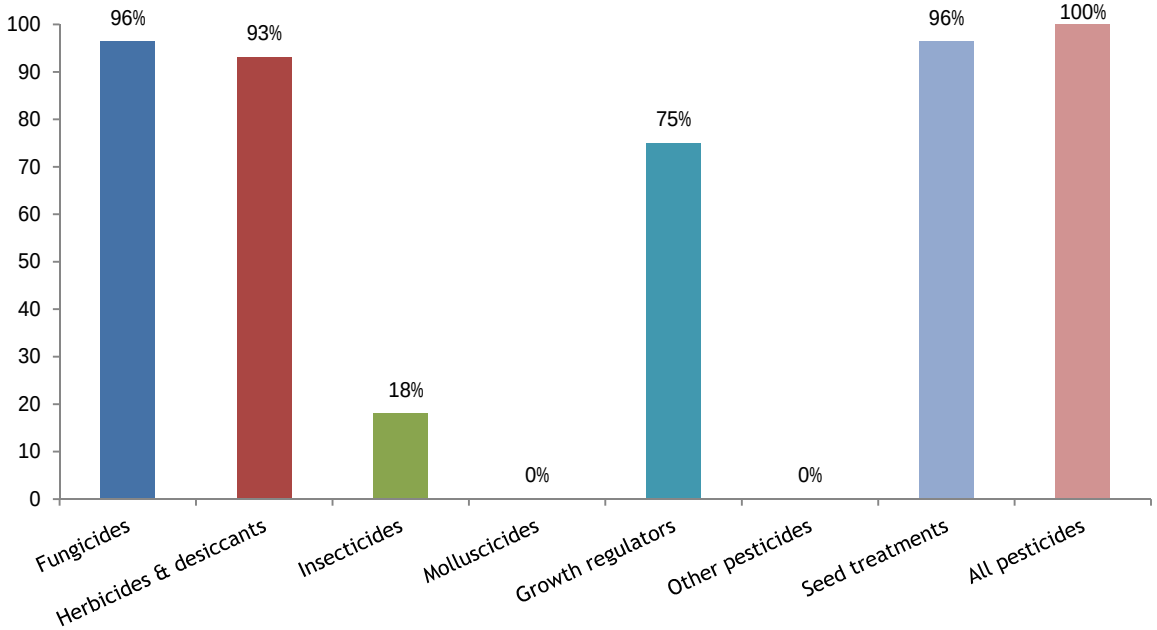


Figure 81: Proportional area (%) of winter oat crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – winter oats

· Basic area treated: 810 hectares

· Area treated: 1,580 spray hectares

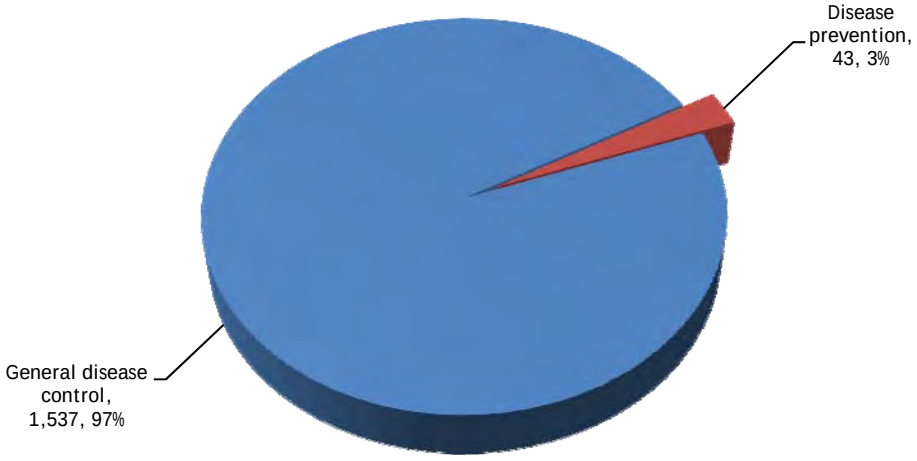
· Weight of active substances applied: 524 kilogrammes

· 96% 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	498.9	440.8	257.8	31.6
Epoxiconazole/fenpropimorph/pyraclostrobin	304.3	304.3	114.3	19.3
Fenpropimorph	213	181	60.6	13.5
Prothioconazole	140.3	70.2	15.6	8.9
Metrafenone	134.2	134.2	6.8	8.5

Figure 82: Winter oats: reasons for fungicide use (spha), 2010



Herbicides & desiccants – winter oats

· Basic area treated: 906 hectares

· Area treated: 1,308 spray hectares

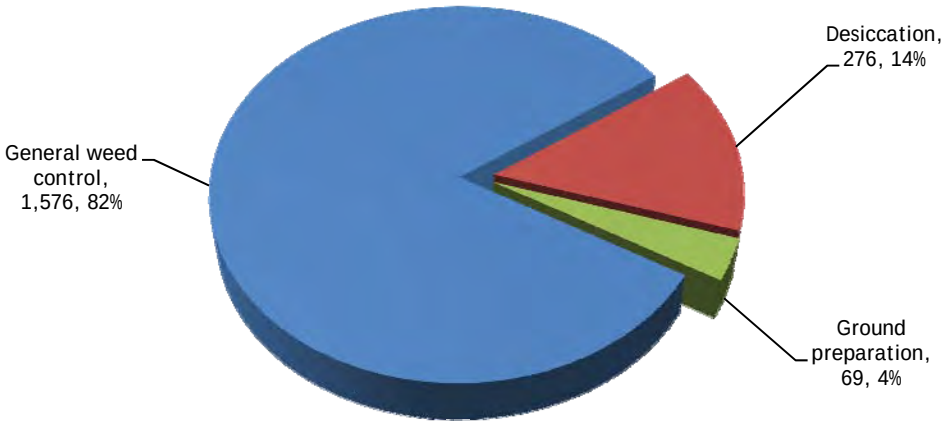
· Weight of active substances applied: 198 kilogrammes

· 63% 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	435	411.6	232.8	22.6
Carfentrazone-ethyl/flupyrsulfron-methyl	405.8	405.8	10.8	21.1
Fluroxypyr	302.2	291.6	28.7	15.7
Mecoprop-P	294.5	294.5	267	15.3
Metsulfuron-methyl/thifensulfuron-methyl	166.9	166.9	4.1	8.7

Figure 83: Winter oats: reasons for herbicide & desiccant use (spha), 2010



Insecticides – winter oats

· Basic area treated: 152 hectares

· Area treated: 240 spray hectares

· Weight of active substances applied: 1 kilogrammes

· 18% 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	189.5	118.3	0.7	79.1
Deltamethrin	33.2	16.6	0.2	13.9
Lambda-cyhalothrin	16.8	16.8	0.1	7.0

Growth regulators – winter oats

· Basic area treated: 631 hectares

· Area treated: 663 spray hectares

· Weight of active substances applied: 256 kilogrammes

· 75% 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	438.5	438.5	20.9	66.1
Chlormequat	224.4	224.4	234.9	33.9

Seed treatments – winter oats

· Area treated: 810 hectares

· Weight of active substances applied: 52 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
Clothianidin/prothioconazole	523	44	64.6
Prochloraz/triticonazole	264	8	32.6
Fludioxonil/flutriafol	23	<0.1	2.8

Pesticide usage on oilseed rape:

· 446 hectares of oilseed rape grown in Northern Ireland

· 3,360 treated hectares

· 1,108 kilogrammes applied

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

· Oilseed rape crops received on average 3.2 fungicide, 2.7 herbicide, 1.0 insecticide and 1.0 other applications.

Figure 84: Comparison of the areas of oilseed rape crops grown in Northern Ireland (ha), 1990 - 2010.

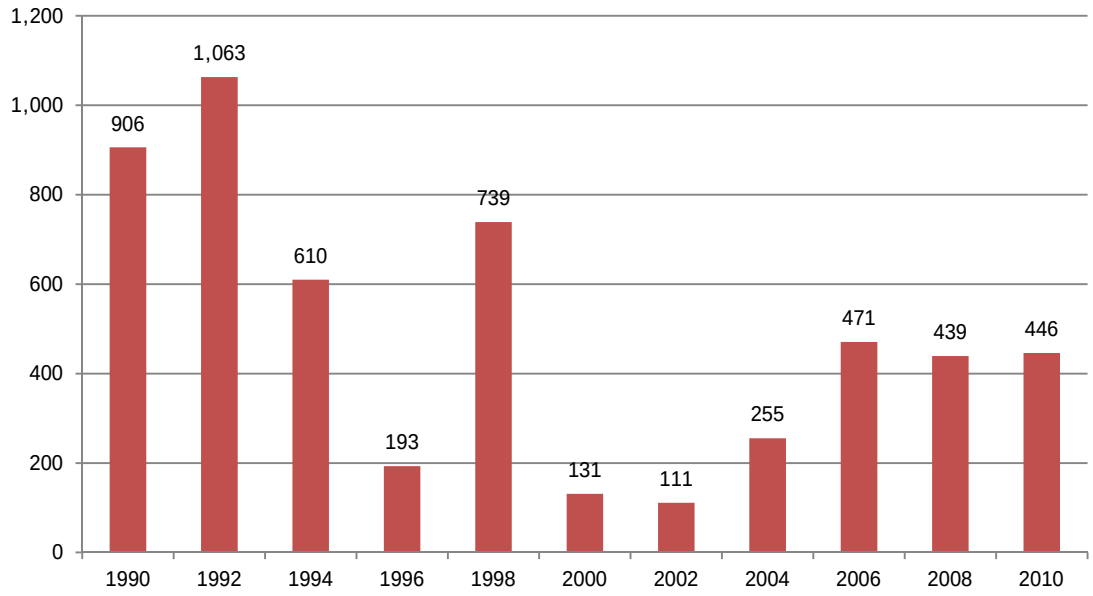


Figure 85: Regional distribution of oilseed rape crops grown in Northern Ireland (ha), 2010.

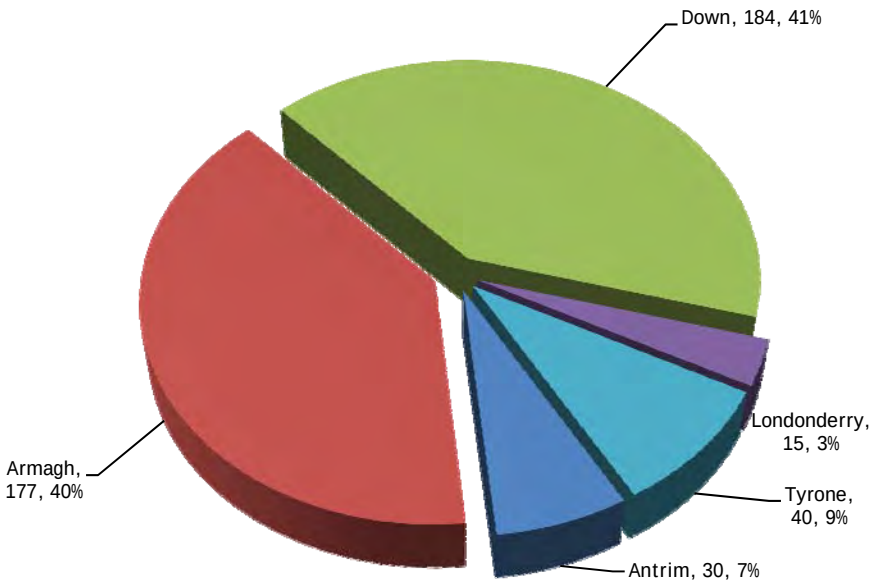


Figure 86: Pesticide usage (spha) on oilseed rape crops in Northern Ireland, 2010.

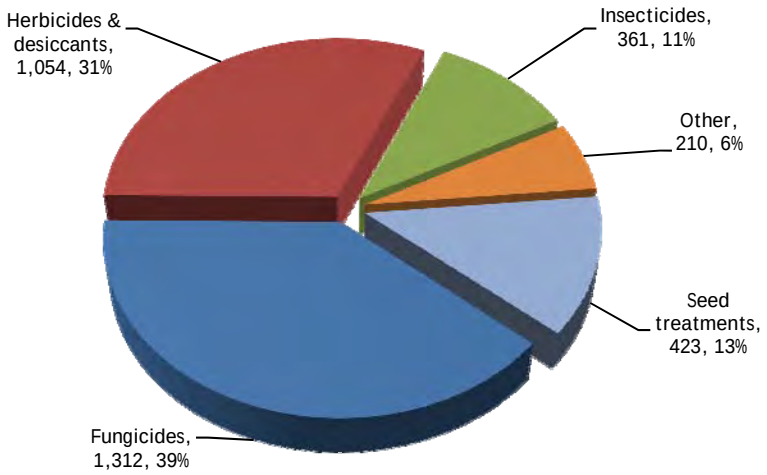


Figure 87: Weight of pesticides (kg) applied to oilseed rape crops in Northern Ireland, 2010.

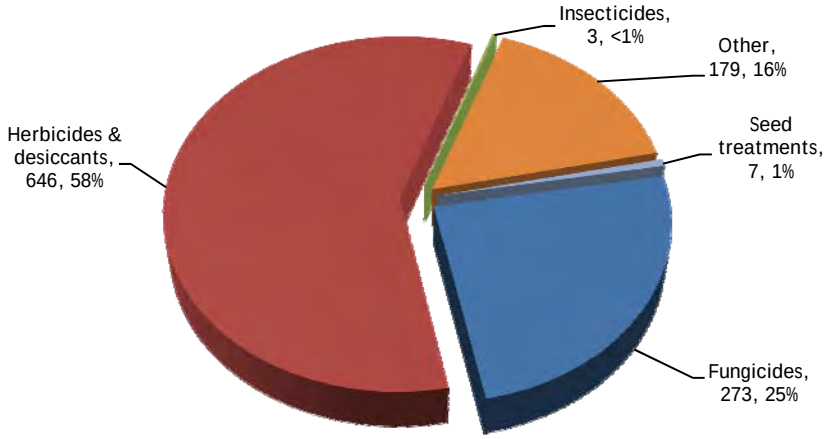
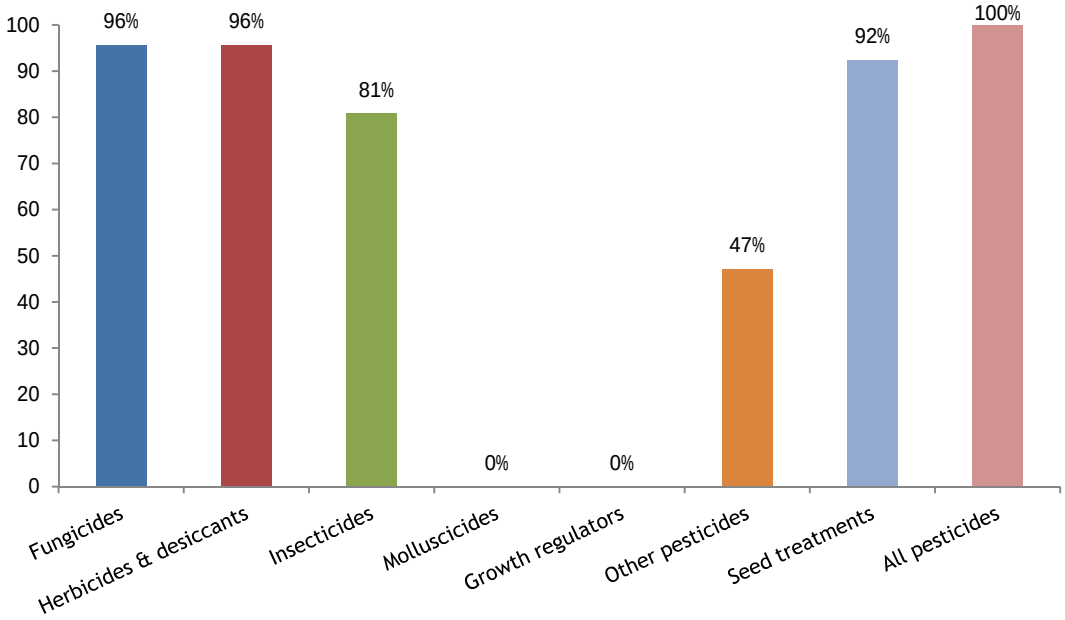


Figure 88: Proportional area (%) of oilseed rape crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – oilseed rape

· Basic area treated: 426 hectares

· Area treated: 1,312 spray hectares

· Weight of active substances applied: 273 kilogrammes

· 96% of the area grown treated with fungicides

· All fungicide applications were for general disease control

· The most commonly applied active substances were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Prothioconazole	653.6	354.5	74.9	49.8
Azoxystrobin	388.4	373.3	49.8	29.6
Tebuconazole	93.5	93.5	11.7	7.1
Carbendazim/flusilazole	53.1	53.1	14.9	4.0
Chlorothalonil	53.1	53.1	26.6	4.0

Herbicides & desiccants – oilseed rape

· Basic area treated: 426 hectares

· Area treated: 1,054 spray hectares

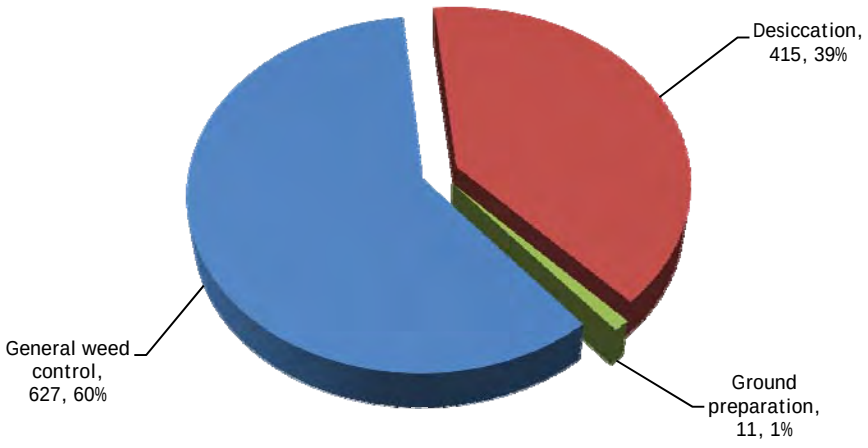
· Weight of active substances applied: 646 kilogrammes

· 96% 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	407.6	407.6	339.5	38.7
Propyzamide	362.2	362.2	245.1	34.4
Clopyralid/picloram	172.3	172.3	18.3	16.4
Bifenox	92.9	92.9	35.7	8.8
Diquat	18.8	18.8	7.5	1.8

Figure 89: Oilseed rape: reasons for herbicide & desiccant use (spha), 2010



Insecticides – oilseed rape

· Basic area treated: 361 hectares

· Area treated: 361 spray hectares

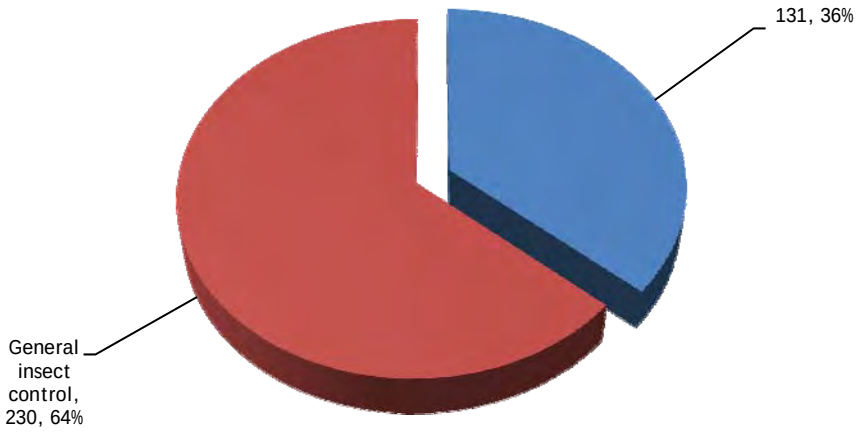
· Weight of active substances applied: 2.5 kilogrammes

· 81% of the area grown treated with insecticides

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Lambda-cyhalothrin	287.9	287.9	2.1	79.9
Esfenvalerate	53.1	53.1	0.2	14.7
Zeta-cypermethrin	19.5	19.5	0.2	5.4

Figure 90: Oilseed rape: reasons for insecticide use (spha), 2010.



Other treatment – oilseed rape

· Area treated: 210 spray hectares

· Weight of active substances applied: 179 kilogrammes

· 47% of the area grown treated with other treatments.

· The only active substance applied was:

	Treated area (spha)	Quantity applied (kgs)	% of the treated area
Synthetic latex	210	179	100

Seed treatments – oilseed rape

· Area treated: 423 hectares

· Weight of active substances applied: 7 kilogrammes

· 92% of the area grown was sown with treated seed

· The active substances applied were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Beta-cyfluthrin/imidacloprid	359	5	84.9
Fludioxonil/metalaxyl-M/thiamethoxam	53	1	12.5
Prochloraz/thiram	11	<0.1	2.6

Pesticide usage on peas & beans:

· 85 hectares of peas & bean crops grown in Northern Ireland

· 604 treated hectares

· 334 kilogrammes applied

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

· Pea & bean crops received on average 4.2 fungicide, 1.6 herbicide and 1.5 insecticide applications.

Figure 91: Comparison of the areas of pea & bean crops grown in Northern Ireland (ha), 1990 - 2010.

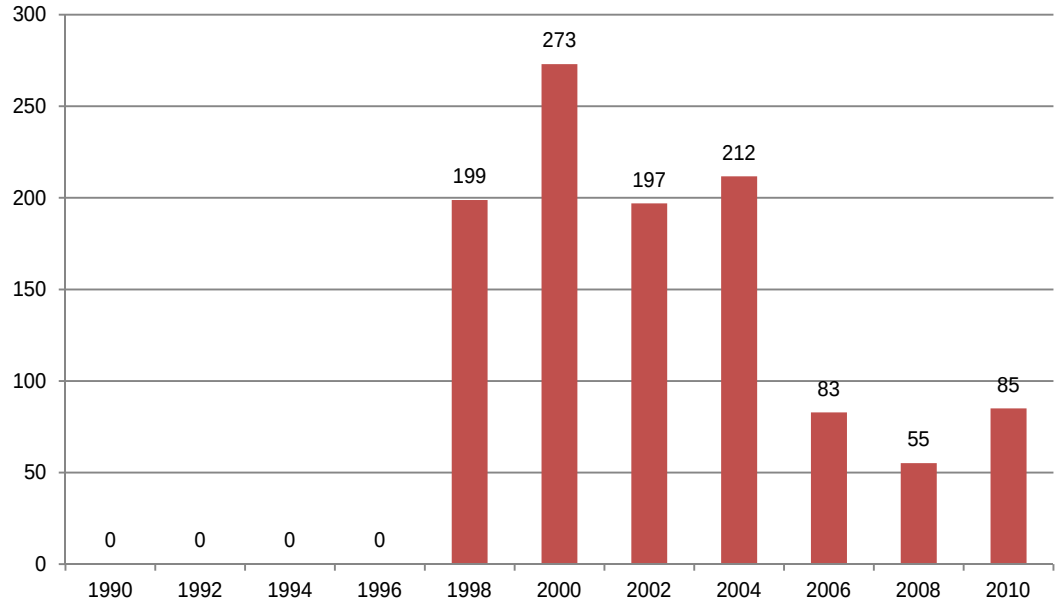


Figure 92: Regional distribution of pea & bean crops grown in Northern Ireland (ha), 2010.

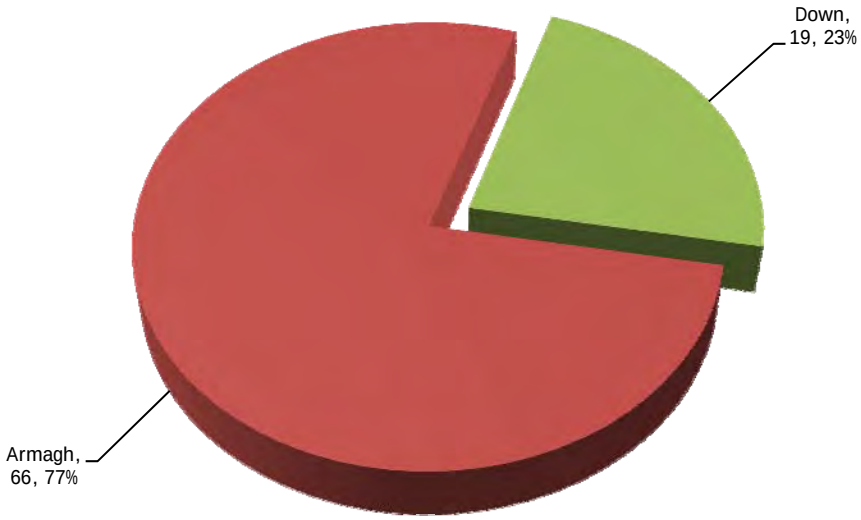


Figure 93: Pesticide usage (spha) on pea & bean crops in Northern Ireland, 2010.

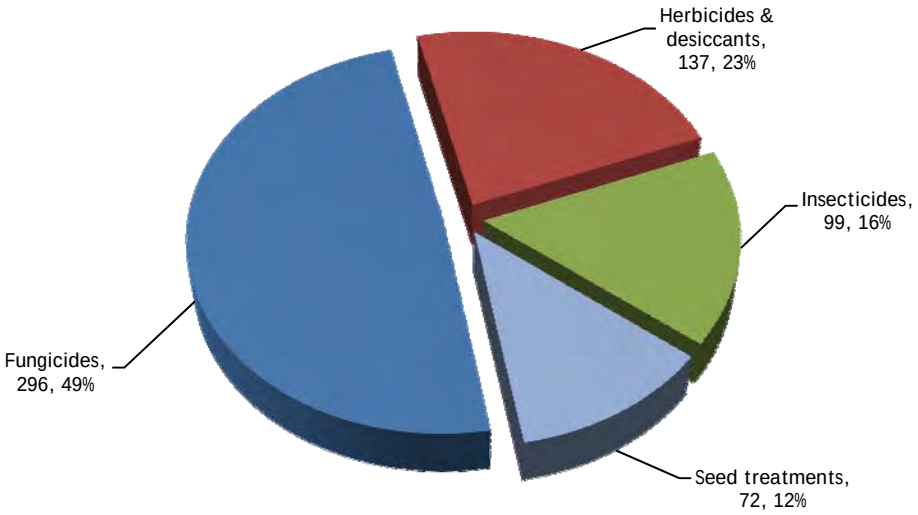


Figure 94: Weight of pesticides (kg) applied to pea & bean crops in Northern Ireland, 2010.

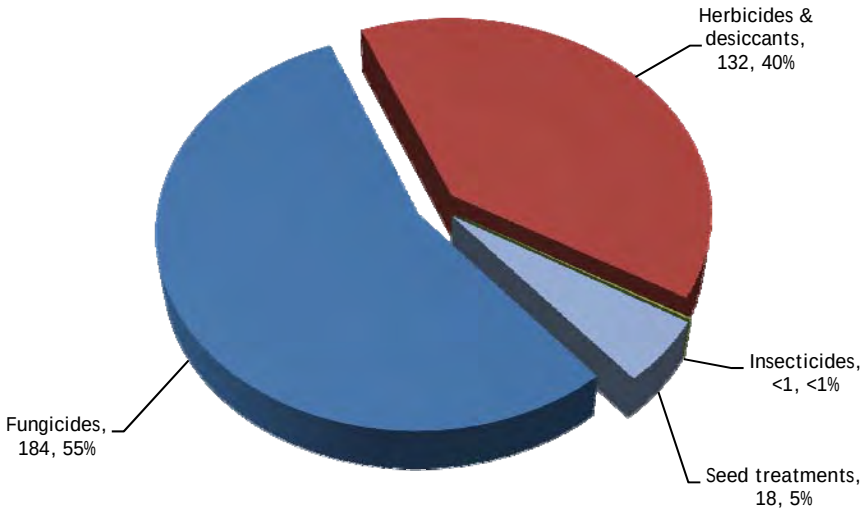
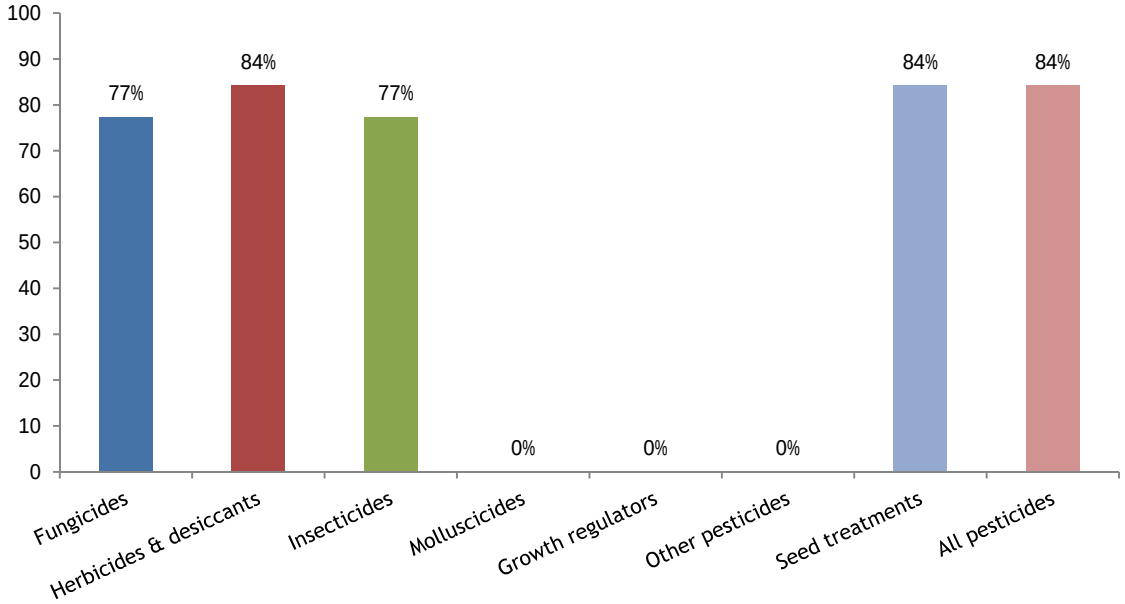


Figure 95: Proportional area (%) of pea & bean crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – peas & beans

· Basic area treated: 66 hectares

· Area treated: 296 spray hectares

· Weight of active substances applied: 184 kilogrammes

· 77% of the area grown treated with fungicides

· All fungicide applications were for general disease control

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Tebuconazole	131.6	65.8	12.7	44.4
Chlorothalonil	98.7	65.8	65.8	33.3
Mancozeb	65.8	65.8	105.3	22.2

Herbicide & desiccants – peas & beans

· Basic area treated: 72 hectares

· Area treated: 137 spray hectares

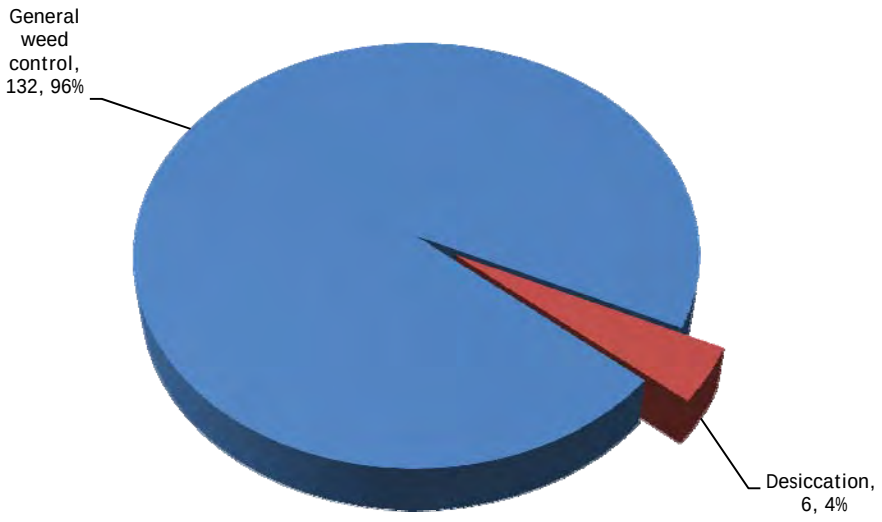
· Weight of active substances applied: 132 kilogrammes

· 84% of the area grown treated with herbicide & desiccants

· The active substances applied were:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Bentazone	65.8	65.8	40.1	47.9
Pendimethalin	65.8	65.8	86.9	47.9
Glyphosate	5.8	5.8	5.1	4.2

Figure 96: Peas & beans: reasons for herbicide & desiccant use (spha), 2010



Insecticides – peas & beans

· Basic area treated: 66 hectares

· Area treated: 99 spray hectares

· Weight of active substances applied: 0.5 kilogrammes

· 77% of the area grown treated with insecticides

· All applications were for general insect control

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Lambda-cyhalothrin	98.7	65.8	0.5	100

Seed treatments – peas & beans

· Area treated: 72 hectares

· Weight of active substances applied: 18 kilogrammes

· 84% of the area grown was sown with treated seed

· The only active substance appled was:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Thiram	72	18	100

Pesticide usage triticale:

· 5 hectares of triticale grown in Northern Ireland, all of which was grown in Londonderry.

· 10 treated hectares

· 4 kilogrammes applied

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

· Triticale crops received on average 1.0 fungicide and 1.0 insecticide applications

Figure 97: Comparison of the areas of triticale crops grown in Northern Ireland (ha), 1990 - 2010.

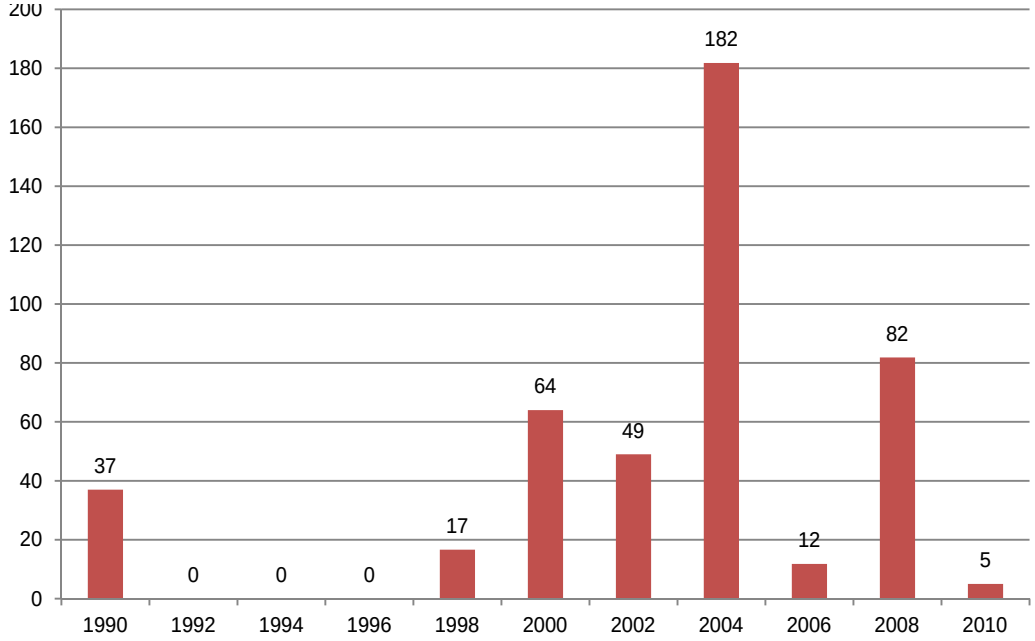


Figure 98: Pesticide usage (spha) on triticale crops in Northern Ireland, 2010.

Figure 99: Weight of pesticides (kg) applied to triticale crops in Northern Ireland, 2010.

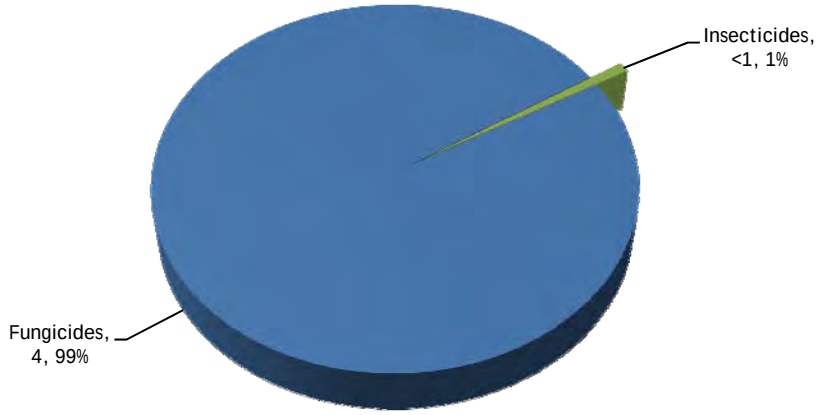
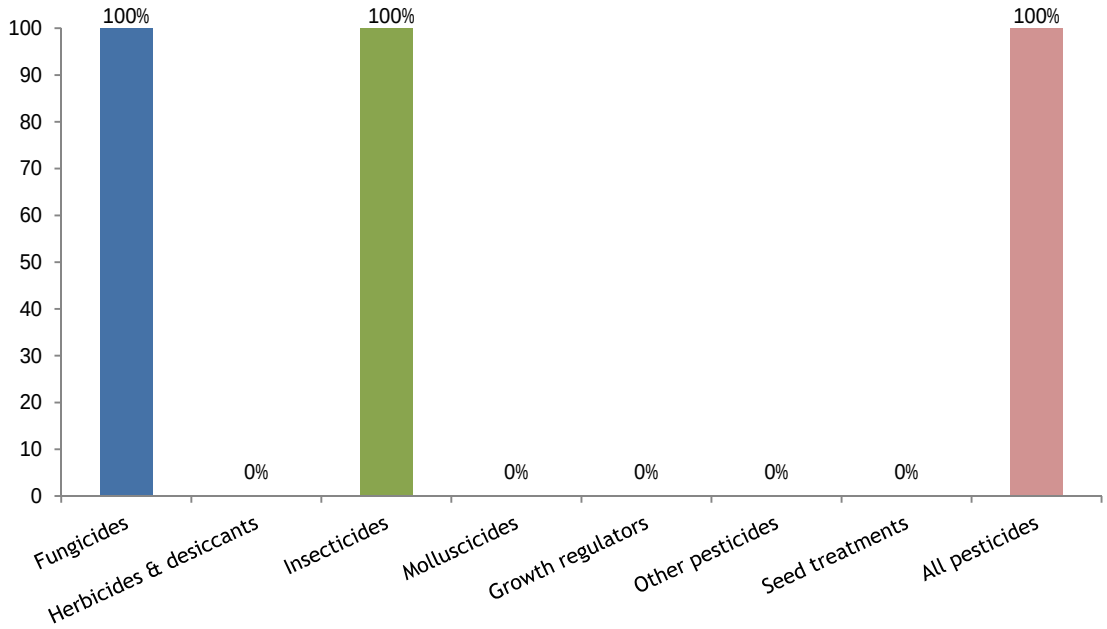


Figure 100: Proportional area (%) of triticale treated with each pesticide group in Northern Ireland, 2010.



Fungicides – triticale

· Basic area treated: 4.8 hectares

· Area treated: 4.8 spray hectares

· Weight of active substances applied: 3.6 kilogrammes

· 100% of the area grown treated with fungicides

· All fungicide applications were for general disease control

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kgs)	% of the treated area
Fenpropimorph	4.8	4.8	3.6	100

Insecticides – triticale

· Basic area treated: 4.8 hectares

· Area treated: 4.8 spray hectares

· Weight of active substances applied: 0.03 kilogrammes

· 100% of the area grown treated with insecticides

· All applications were for aphid control

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Deltamethrin	4.8	4.8	0.03	100

Pesticide usage on seed potatoes:

· 707 hectares of seed potatoes grown in Northern Ireland

· 9,507 treated hectares

· 7,523 kilogrammes applied

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

· Seed potato crops received on average 9.9 fungicide, 3.3 herbicide & desiccant, 1.0 insecticide and 1.0 molluscicide applications

Figure 101: Comparison of the areas of seed potato crops grown in Northern Ireland (ha), 1990 - 2010.

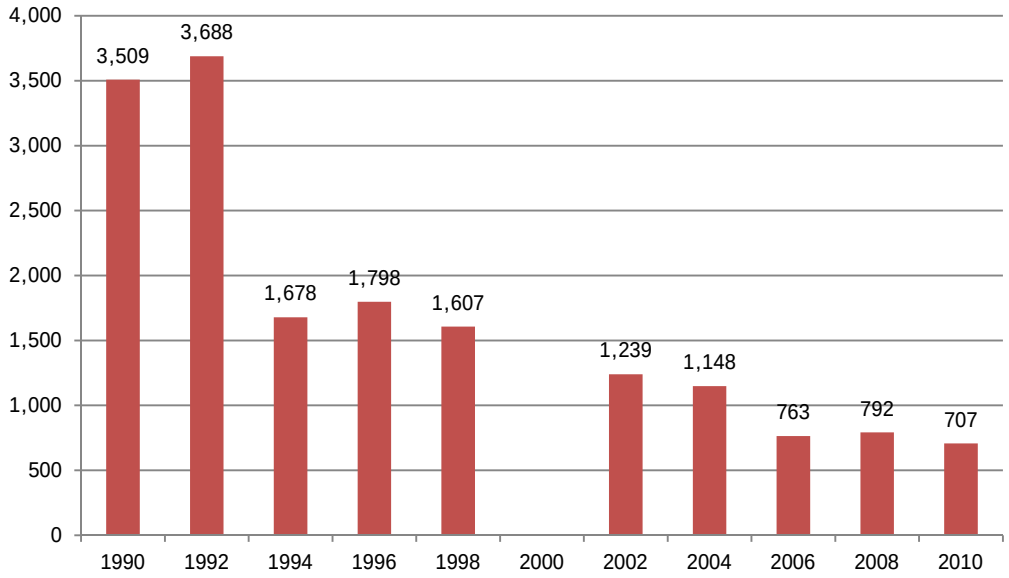


Figure 102: Regional distribution of seed potato crops grown in Northern Ireland (ha), 2010.

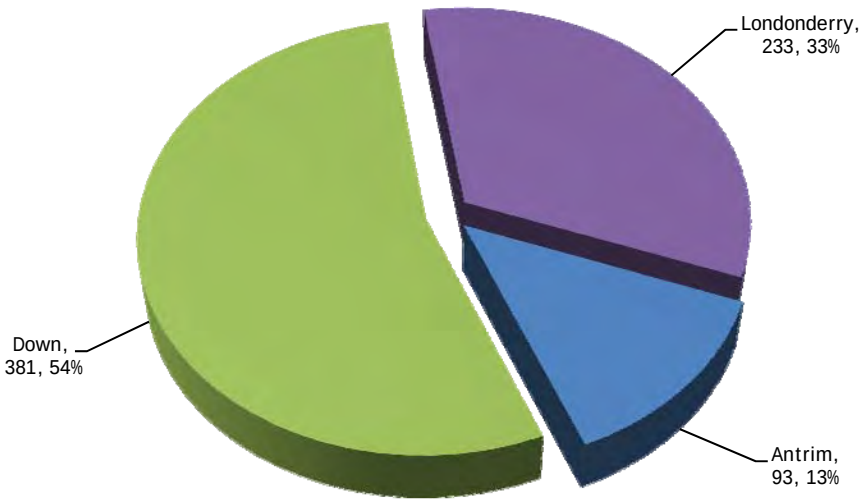


Figure 103: Pesticide usage (spha) on seed potato crops in Northern Ireland, 2010.

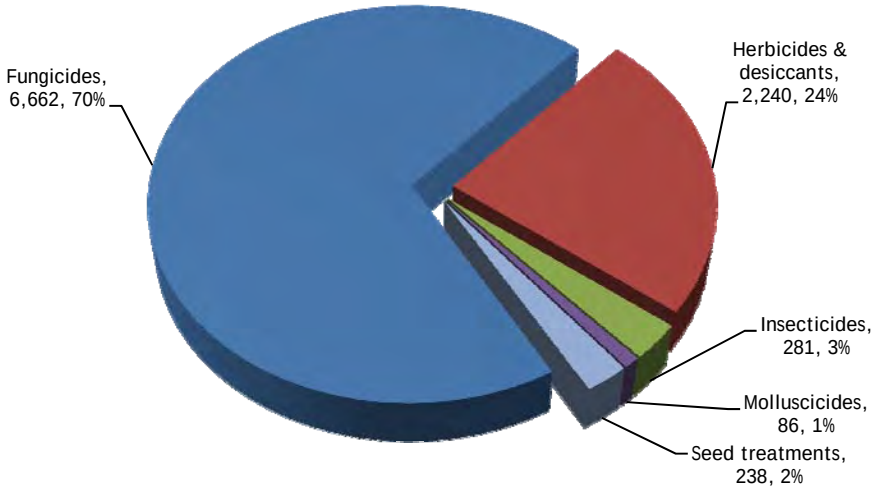


Figure 104: Weight of pesticides (kg) applied to seed potato crops in Northern Ireland, 2010.

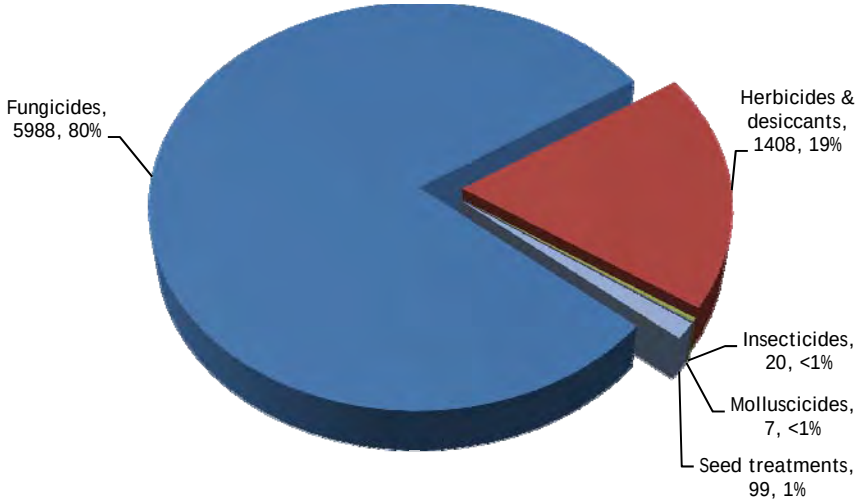
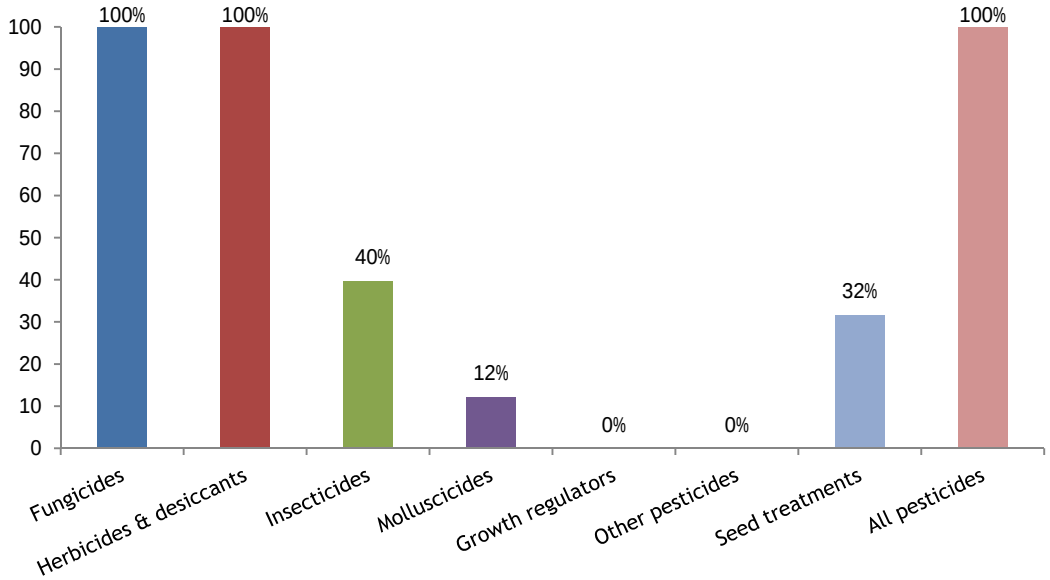


Figure 105: Proportional area (%) of seed potato crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – seed potatoes

· Basic area treated: 707 hectares

· Area treated: 6.662 spray hectares

· Weight of active substances applied: 5,988 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	1637.8	460.6	244.6	24.6
Fluopicolide/propamocarb hydrochloride	1335.3	410.5	1403.8	20.0
Dimethomorph/mancozeb	1265.4	447.5	1787.2	19.0
Cymoxanil/mancozeb	854.5	400.9	1220.4	12.8
Chlorothalonil/propamocarb hydrochloride	450	167.1	703.9	6.8

Herbicides & desiccants – seed potatoes

· Basic area treated: 707 hectares

· Area treated: 2,240 spray hectares

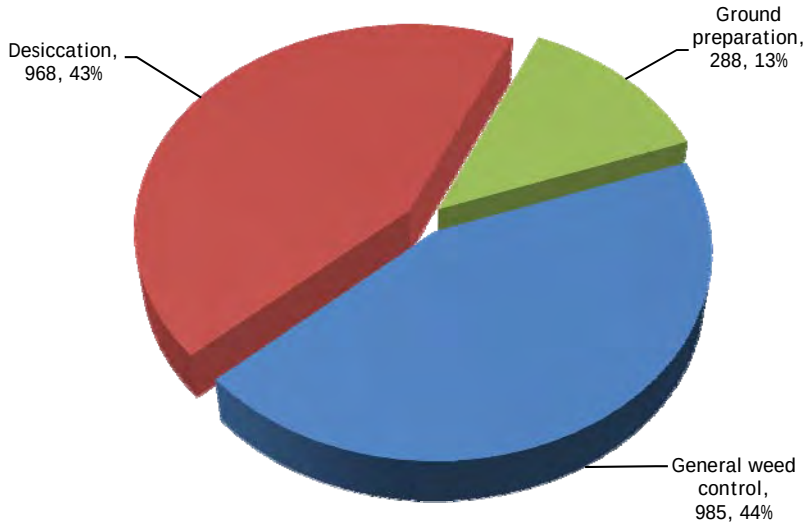
· Weight of active substances applied: 1,408 kilogrammes

· 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
Diquat	1099.8	669.1	381.7	49.1
Metribuzin	396.3	396.3	256.3	17.7
Glyphosate	371.8	371.8	290.5	16.6
Prosulfocarb	170.8	170.8	470.5	7.6
Carfentrazone-ethyl	146.2	146.2	3.4	6.5

Figure 106: Seed potatoes: reasons for herbicide & desiccant use (spha), 2010



Insecticides – seed potatoes

· Basic area treated: 281 hectares

· Area treated: 281 spray hectares

· Weight of active substances applied: 20 kilogrammes

· 40% 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
Deltamethrin/pirimicarb	120	120	13.2	42.7
Lambda-cyhalothrin	84.2	84.2	0.8	30.0
Flonicamid	76.8	76.8	6.1	27.3

Molluscicides – seed potatoes

· Basic area treated: 86 hectares

· Area treated: 86 spray hectares

· Weight of active substances applied: 7 kilogrammes

· 12% 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	86.2	86.2	7	100

Seed treatments – seed potatoes

· Area treated: 238 hectares

· Weight of active substances applied: 99 kilogrammes

· 32% 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	133	5	55.9
Imazalil/pencycuron	102	85	42.9
Flutolanil	3	9	1.3

Pesticide usage on early potatoes:

· 191 hectares of early potatoes grown in Northern Ireland

· 1,705 treated hectares

· 1,110 kilogrammes applied

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

· Early potato crops received on average 7.9 fungicide, 2.1 herbicide & desiccant, 1.6 insecticide and 1.0 molluscicide applications

Figure 107: Comparison of the areas of early potato crops grown in Northern Ireland (ha), 1990 - 2010.

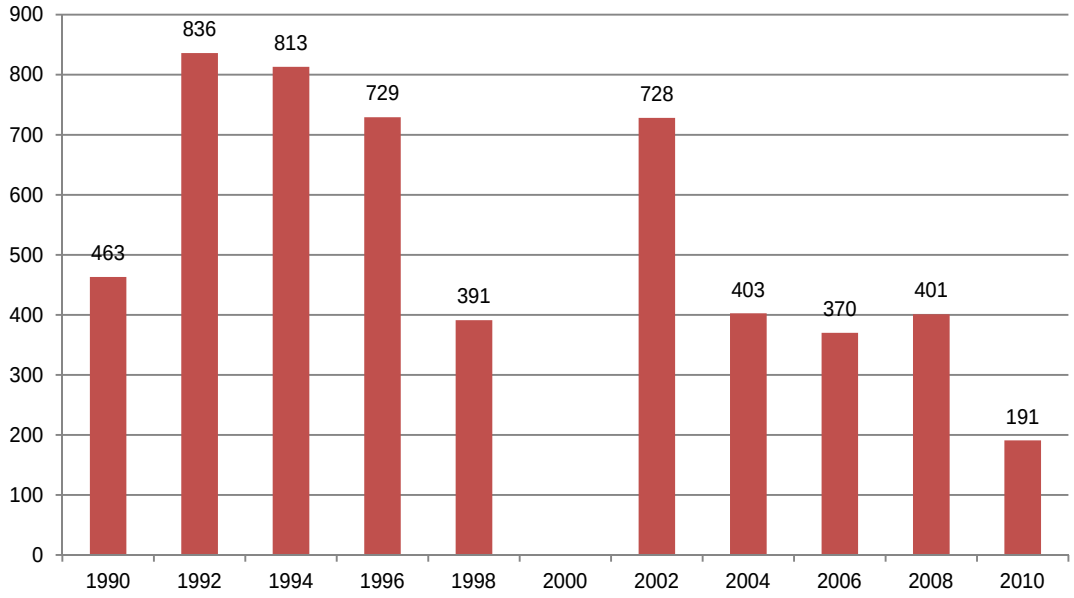


Figure 108: Regional distribution of early potato crops grown in Northern Ireland (ha), 2010.

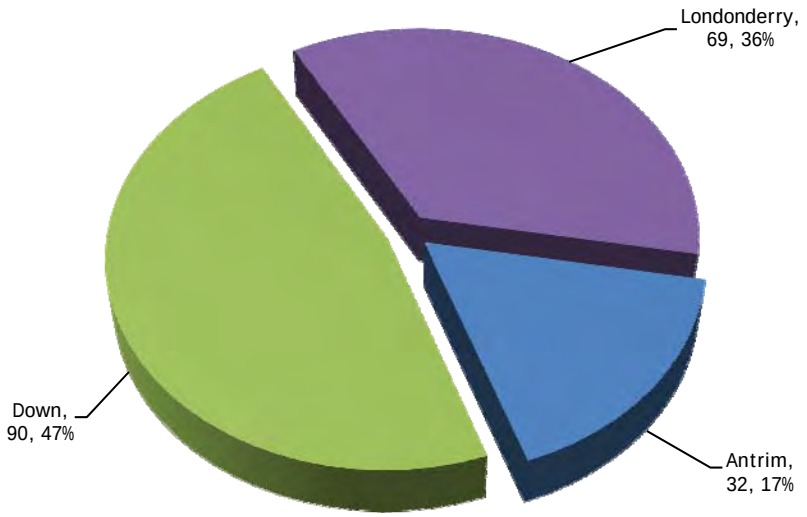


Figure 109: Pesticide usage (spha) on early potato crops in Northern Ireland, 2010.

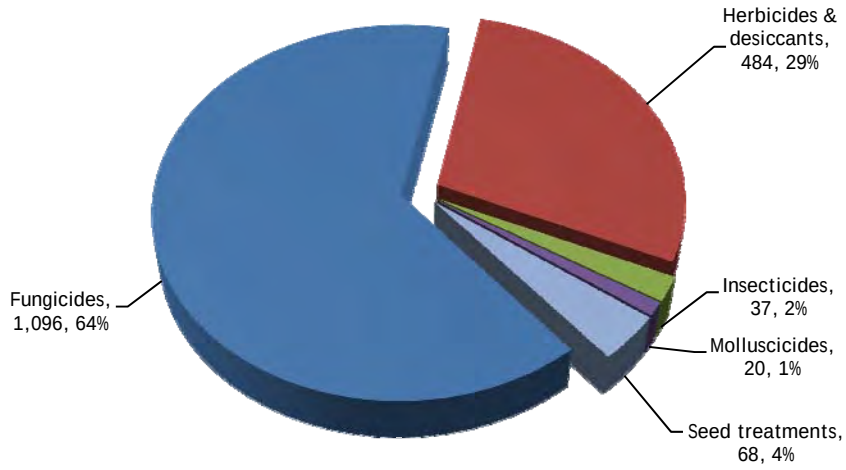


Figure 110: Weight of pesticides (kg) applied to early potato crops in Northern Ireland, 2010.

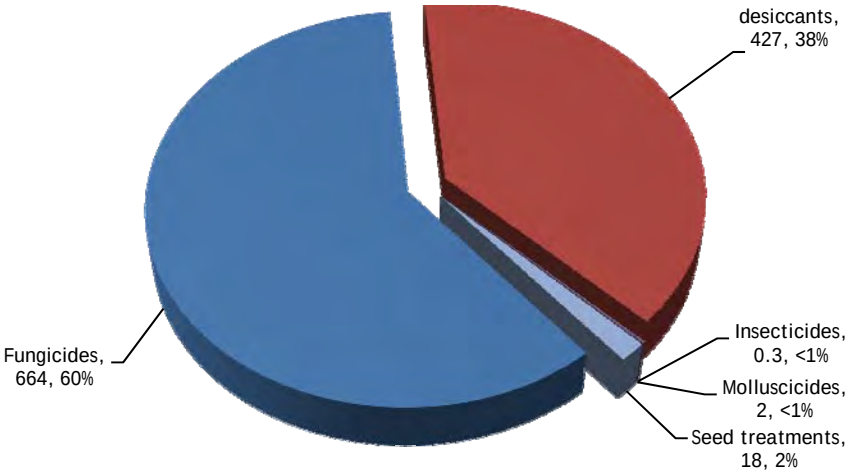
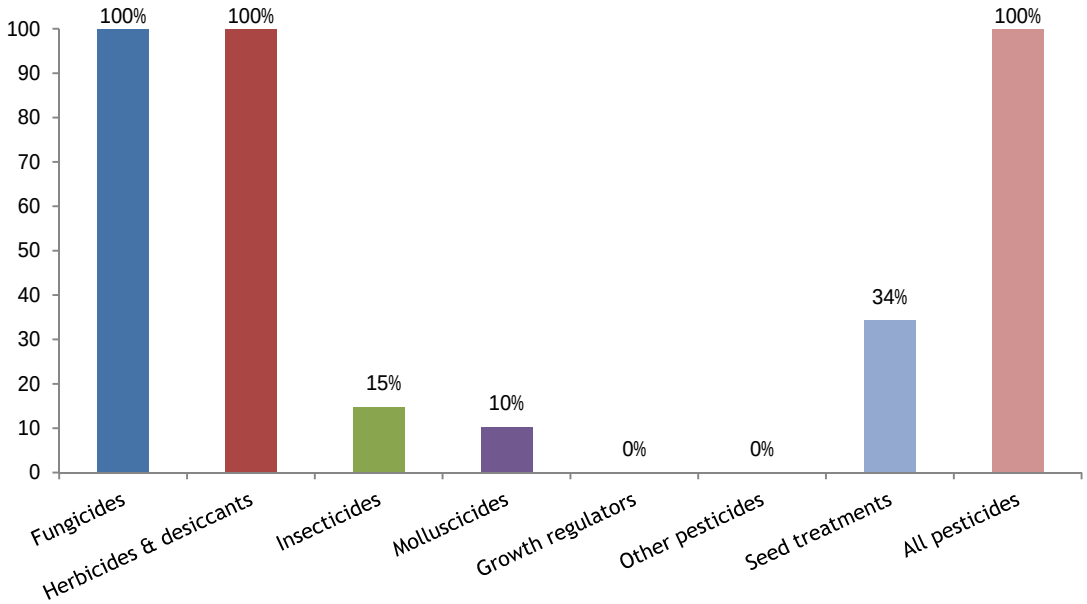


Figure 111: Proportional area (%) of early potato crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – early potatoes

· Basic area treated: 191 hectares

· Area treated: 1,096 spray hectares

· Weight of active substances applied: 664 kilogrammes

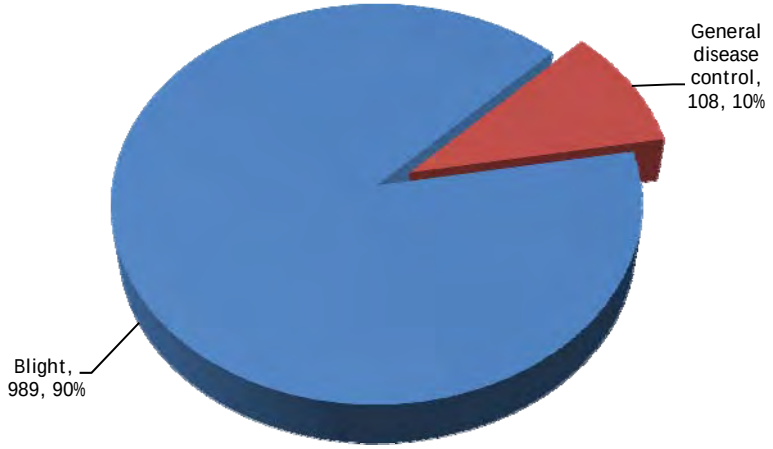
· 100% of the area grown treated with fungicides

· 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	437.2	146.6	60.3	39.9
Chlorothalonil/propamocarb hydrochloride	109.1	58.9	167.0	10.0
Mandipropamid	104.5	60.1	15.7	9.5
Fenamidone/propamocarb hydrochloride	94.5	38.0	86.9	8.6
Cymoxanil/mancozeb	94.2	38.0	107.9	8.6

Figure 112: Early potatoes: reasons for fungicide use (spha), 2010



Herbicides & desiccants – early potatoes

· Basic area treated: 191 hectares

· Area treated: 484 spray hectares

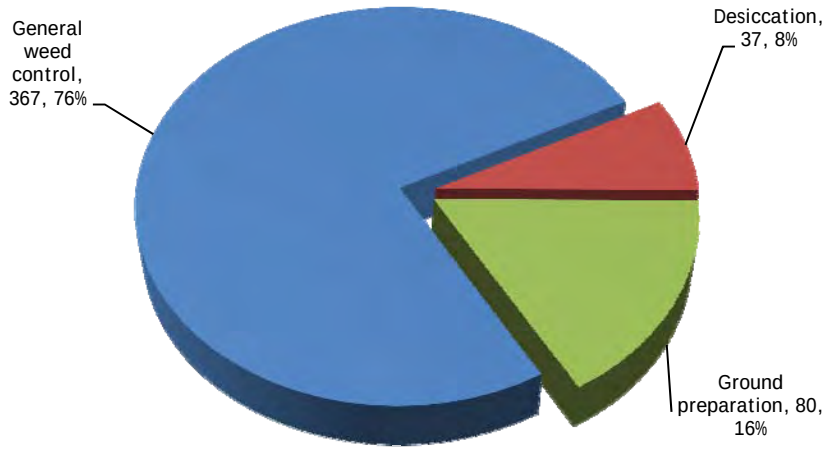
· Weight of active substances applied: 427 kilogrammes

· 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
Diquat	148.1	138.7	63.4	30.6
Metribuzin	137.1	137.1	101.9	28.3
Glyphosate	99.7	99.7	85.0	20.6
Prosulfocarb	39.5	39.5	157.8	8.2
Linuron	25.2	25.2	15.1	5.2

Figure 113: Early potatoes: reasons for herbicide & desiccant use (spha), 2010



Insecticides – early potatoes

· Basic area treated: 28 hectares

· Area treated: 37 spray hectares

· Weight of active substances applied: 0.3 kilogrammes

· 15% of the area grown treated with insecticides

· All applications were to control aphids

· The only active substance applied was:

	Treated area (spha)	Basic area treated (ha)	Quantity applied (kg)	% of the treated area
Lambda-cyhalothrin	36.8	28.2	0.3	100

Molluscicides – early potatoes

· Basic area treated: 20 hectares

· Area treated: 20 spray hectares

· Weight of active substances applied: 1.6 kilogrammes

· 10% 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	19.6	19.6	1.6	100

Seed treatments – early potatoes

· Area treated: 68 hectares

· Weight of active substances applied: 17.5 kilogrammes

· 34% 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	28	1	41.2
Flutolanil	22	5	32.4
Imazalil/pencycuron	18	12	26.5

Pesticide usage on maincrop potatoes:

· 4,041 hectares of maincrop potatoes grown in Northern Ireland

· 65,873 treated hectares

· 43,849 kilogrammes applied

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

· Maincrop potatoes received on average 10.1 fungicide, 2.9 herbicide & desiccant, 1.3 insecticide, 1.0 molluscicide and 1.0 growth regulator applications

Figure 114: Comparison of the areas of maincrop potato crops grown in Northern Ireland (ha), 1990 - 2010.

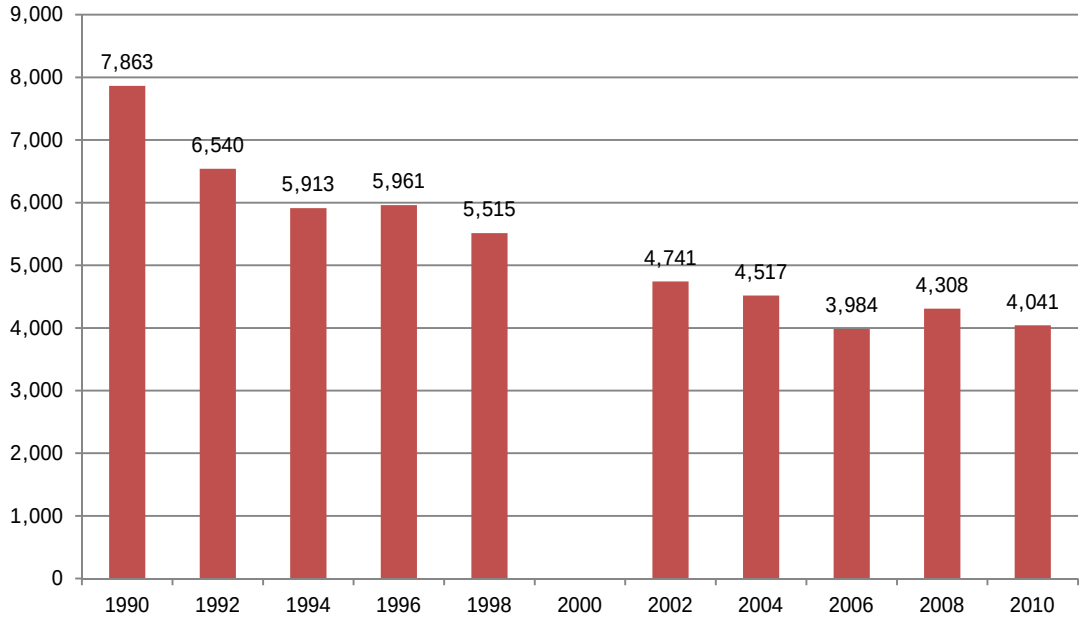


Figure 115: Regional distribution of maincrop potato crops grown in Northern Ireland (ha), 2010.

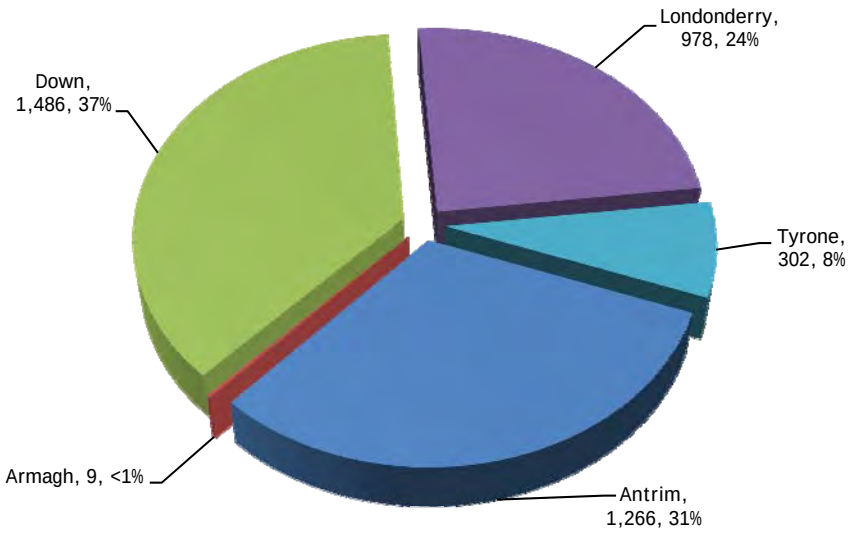


Figure 116: Pesticide usage (spha) on maincrop potato crops in Northern Ireland, 2010.

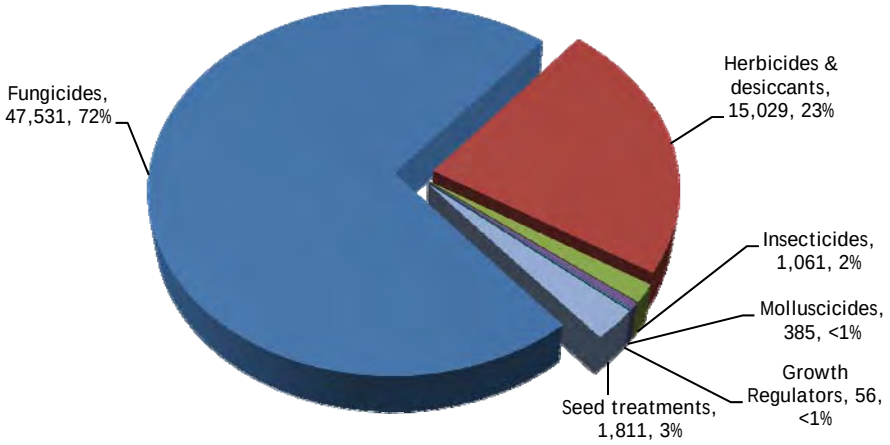


Figure 117: Weight of pesticides (kg) applied to maincrop potato crops in Northern Ireland, 2010.

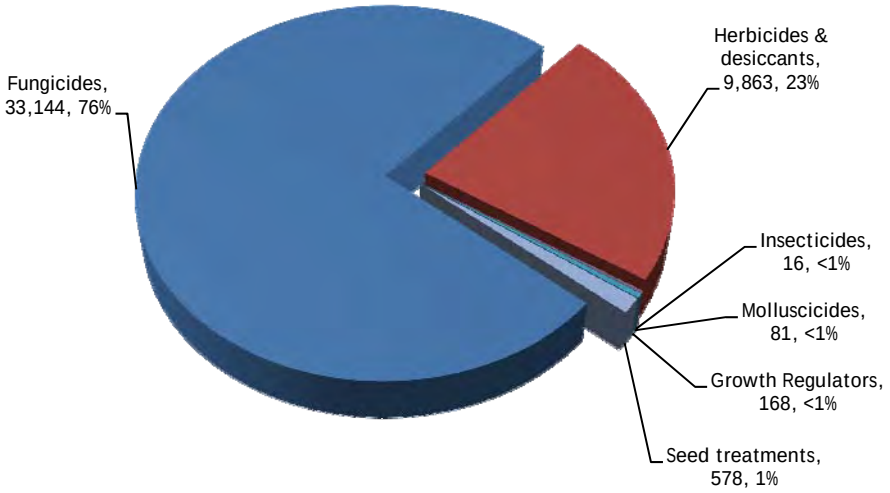
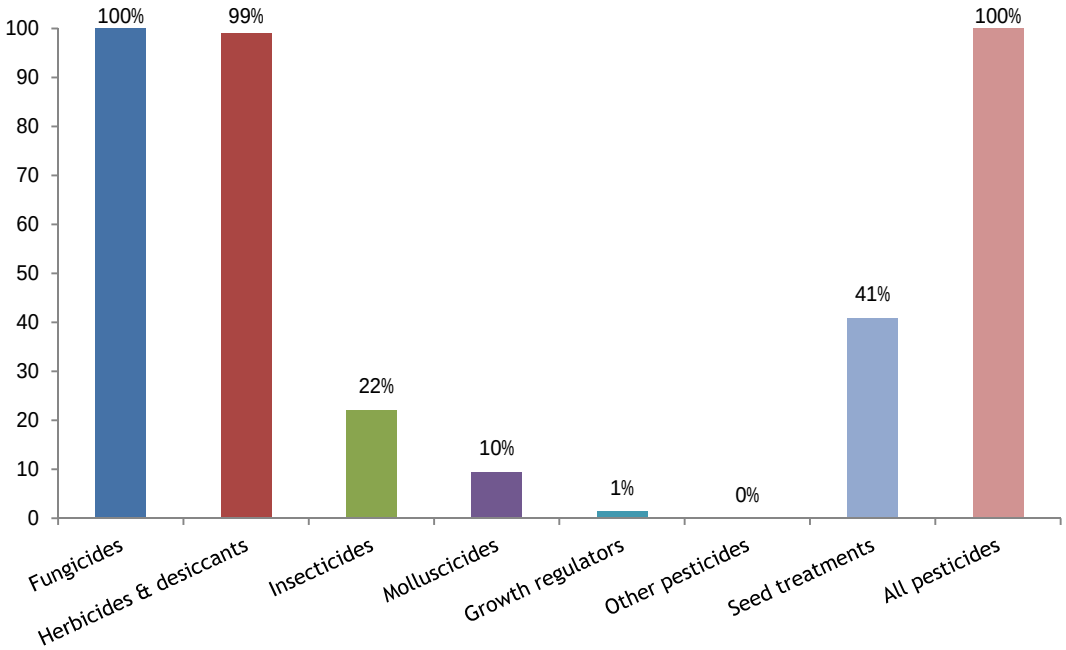


Figure 118: Proportional area (%) of maincrop potato crops treated with each pesticide group in Northern Ireland, 2010.



Fungicides – maincrop potatoes

· Basic area treated: 4,041 hectares

· Area treated: 47,531 spray hectares

· Weight of active substances applied: 33,144 kilogrammes

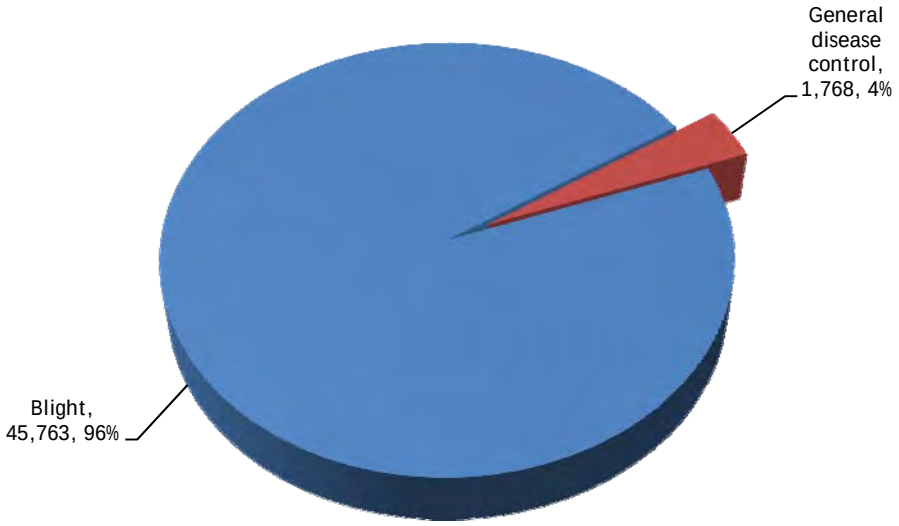
· 100% of the area grown treated with fungicides

· 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	14,928.6	3,561.7	2,489.2	31.4
Fluopicolide/propamocarb hydrochloride	7,026.1	2,821.4	7,743.7	14.8
Cymoxanil/mancozeb	5,523.4	1,883.4	7,665.4	11.6
Mandipropamid	4,769.3	1,864.0	701.8	10.0
Fenamidone/propamocarb hydrochloride	3,963.9	1,663.4	3,657.6	8.3

Figure 119: Maincrop potatoes: reasons for fungicide use (spha), 2010



Herbicides & desiccants – maincrop potatoes

· Basic area treated: 4,001 hectares

· Area treated: 15,029 spray hectares

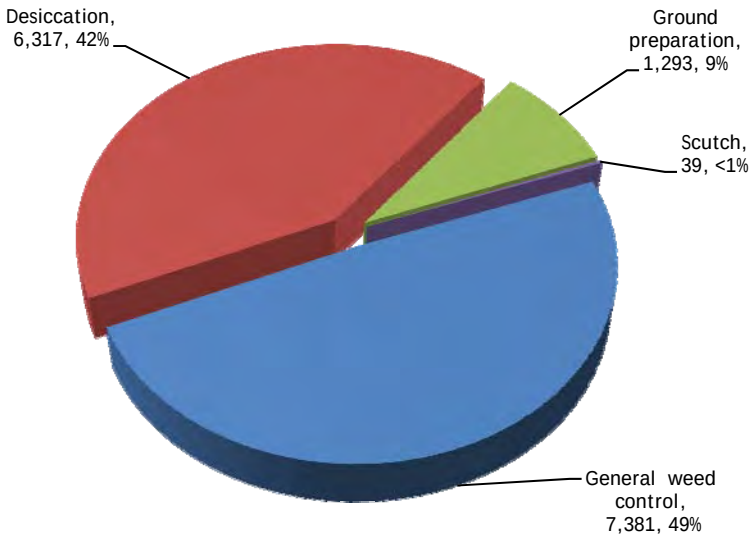
· Weight of active substances applied: 9,863 kilogrammes

· 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	8,058.5	3,696.3	2,573.8	53.6
Metribuzin	2,563.9	2,563.9	1,768.9	17.1
Glyphosate	1,638.8	1,638.8	1,463.5	10.9
Prosulfocarb	912.9	912.9	3,314.7	6.1
Linuron	722.9	722.9	463.4	4.8

Figure 120: Maincrop potatoes: reasons for herbicide & desiccant use (spha), 2010



Insecticides – maincrop potatoes

· Basic area treated: 894 hectares

· Area treated: 1,061 spray hectares

· Weight of active substances applied: 16 kilogrammes

· 22% 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	809.4	643.2	6.3	76.3
Cypermethrin	164.2	164.2	3.3	15.5
Thiacloprid	78.4	78.4	5.6	7.4
Deltamethrin/pirimicarb	8.6	8.6	0.9	0.8

Molluscicides – maincrop potatoes

· Basic area treated: 385 hectares

· Area treated: 385 spray hectares

· Weight of active substances applied: 80.5 kilogrammes

· 10% 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	270.4	270.4	40.3	70.2
Metaldehyde	114.9	114.9	40.2	29.8

Growth regulators – maincrop potatoes

· Basic area treated: 56 hectares

· Area treated: 56 spray hectares

· Weight of active substances applied: 168 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	55.9	55.9	167.7	100

Seed treatments – maincrop potatoes

· Area treated: 1,811 hectares

· Weight of active substances applied: 578 kilogrammes

· 34% of the area grown was sown with treated seed

· The active substances applied were:

	Treated area (ha)	Quantity applied (kg)	% of the treated area
Flutolanil	421	111	23.2
Imazalil	406	11	22.4
Imazalil/pencycuron	618	410	34.1
Imazalil/thiabendazole	366	46	20.2

Potato storage:

· 111,028 tonnes of potatoes stored.

· The majority are stored in Counties Down and Londonderry

· 9,644 tonnes (8.7%) treated with 202.5 kilogrammes of chloropropham

Figure 121: Comparison of the quantities (t) of potatoes stored in Northern Ireland (ha), 1990 - 2010.

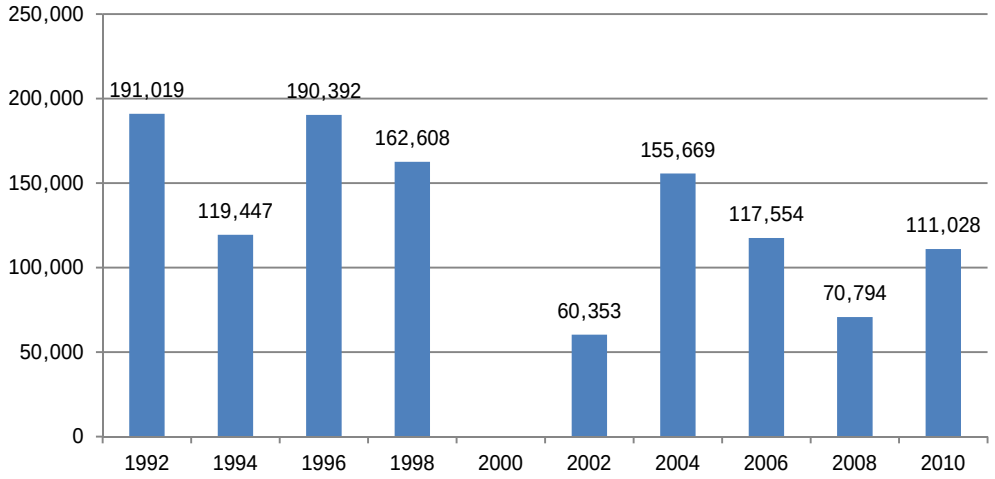


Figure 122: Comparison of the quantities (t) of treated potatoes stored in Northern Ireland (ha), 1990 - 2010.

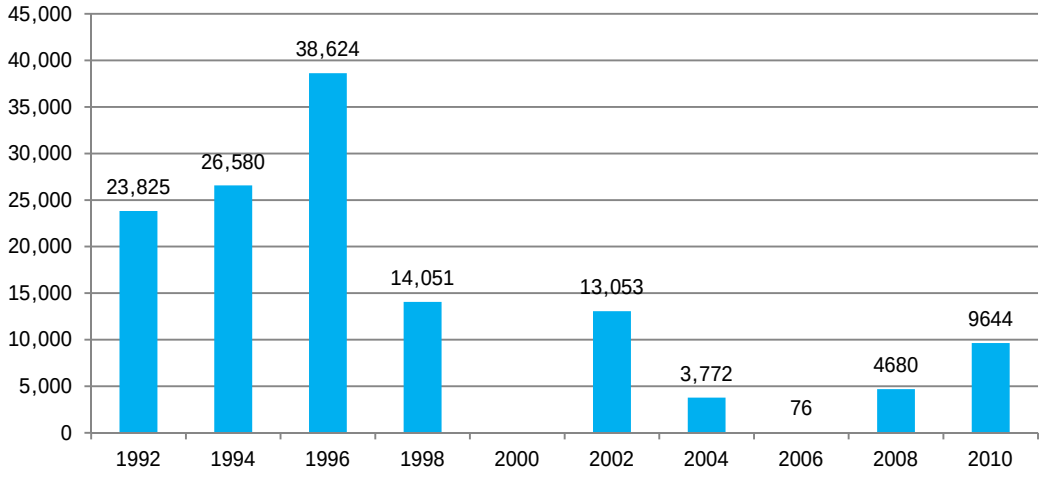


Figure 123: Comparison of the quantities (kg) of pesticide applied to potatoes stored in Northern Ireland (ha), 1990 - 2010.

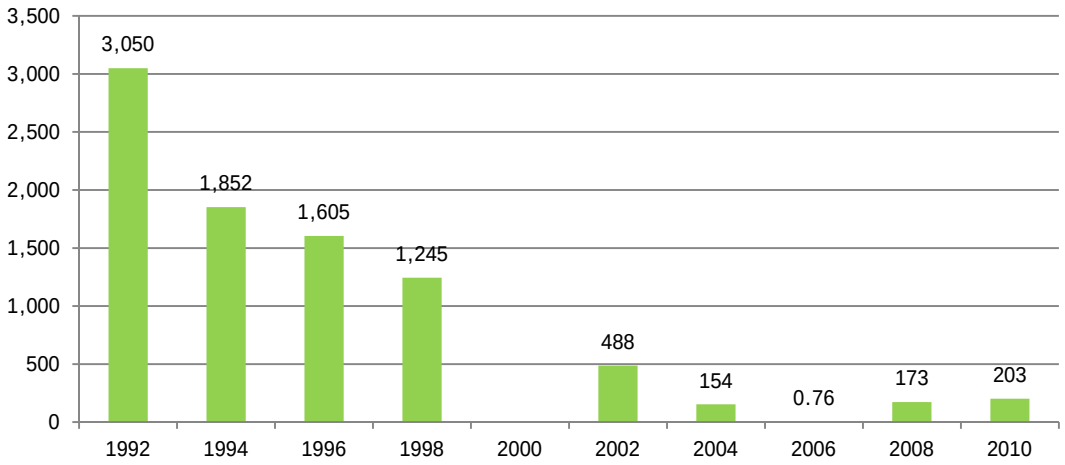


Figure 124: Potato storage: estimated quantity (t) of potatoes stored in each region in Northern Ireland, 2010

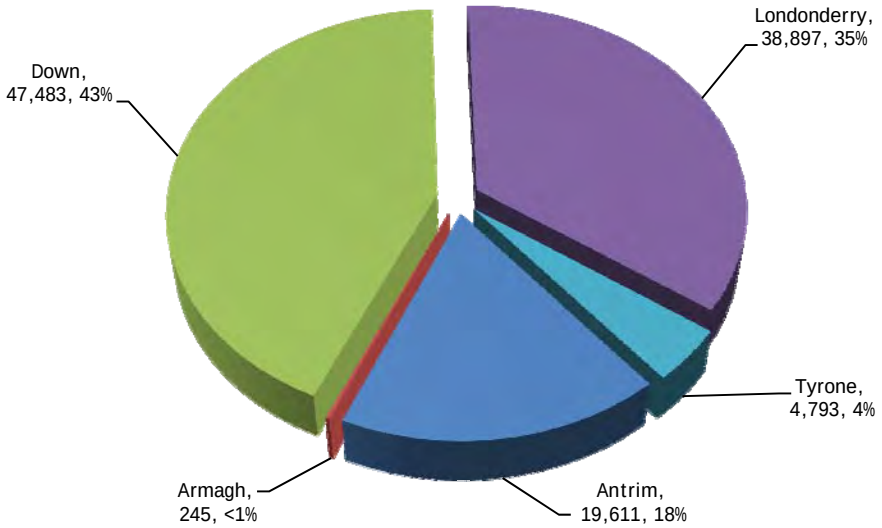


Figure 125: Potato storage: estimated quantity (t) of ware potatoes stored in each region in Northern Ireland, 2010

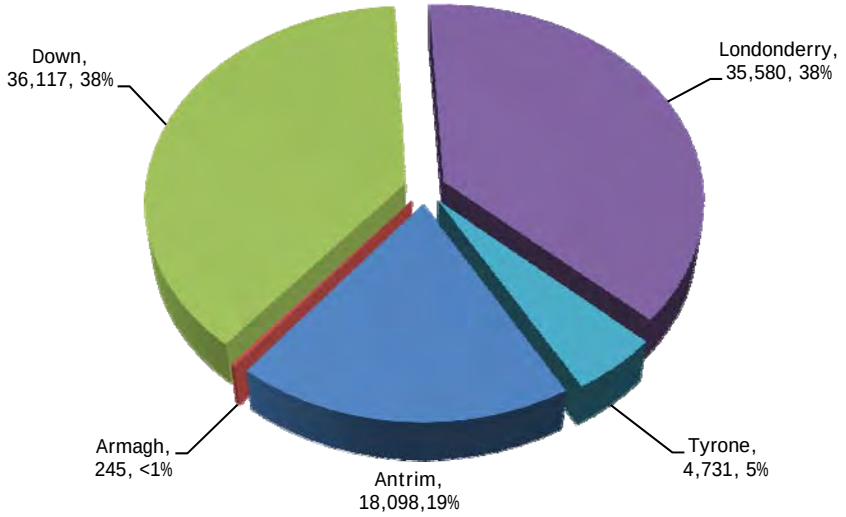


Figure 126: Potato storage: estimated quantity (t) of seed potatoes stored in each region in Northern Ireland, 2010

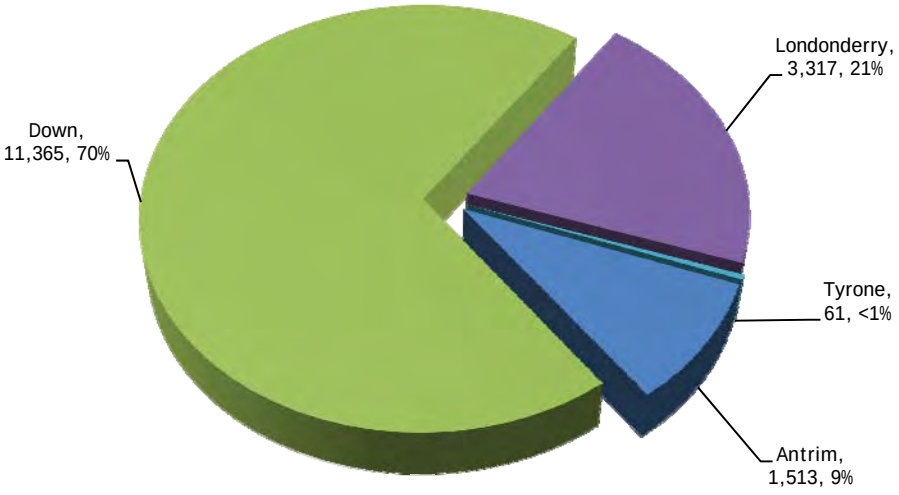


Figure 128: Potato storage: type of storage building used and quantities (t) of potatoes stored in Northern Ireland, 2010

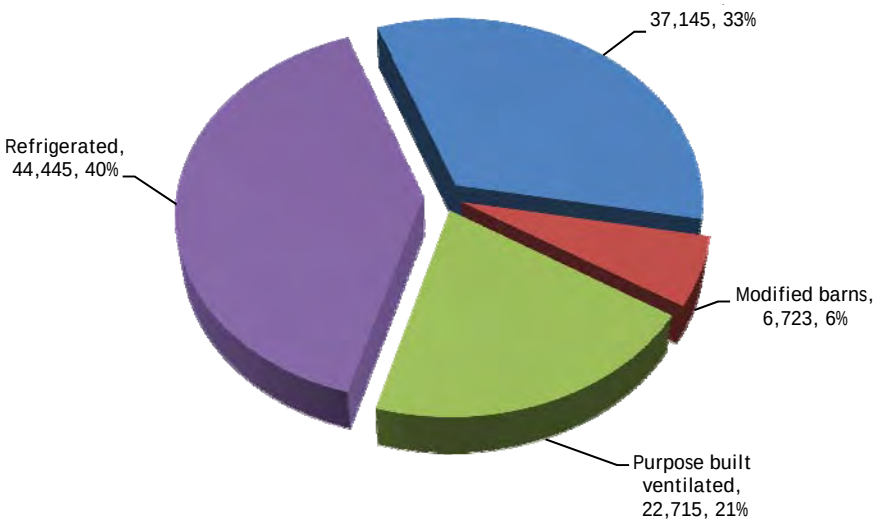


Figure 129: Potato storage: type of storage method used and quantities (t) of potatoes stored in Northern Ireland, 2010

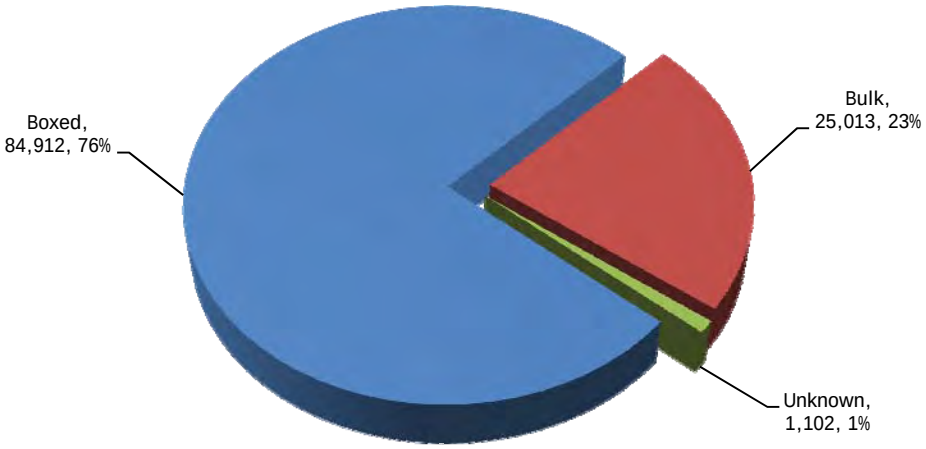


Table 1: **Number of farms in each size class with arable crops in the Northern Ireland June 2010 census and the number of samples from each class.**

	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	290	8	165	7	98	5	85	14	18	9	3	2	659	45
Armagh	108	4	58	3	49	4	23	4	3	2	7	2	248	19
Down	446	9	264	12	211	13	143	30	71	35	16	7	1151	106
Fermanagh	11	0	6	0	2	0	3	0	1	0	0	0	23	0
Londonderry	298	8	146	7	134	6	88	20	24	11	14	6	704	58
Tyrone	185	5	86	2	52	4	29	6	7	2	2	2	361	21
Northern Ireland	***1,338***	***34***	***725***	***31***	***546***	***32***	***371***	***74***	***124***	***59***	***42***	***19***	***3,146***	***249***

Table 2: **The total number and area (hectares) of crops sampled, and the proportion (%) of the total area of arable crops surveyed in Northern Ireland, 2010.**

Crop	Number of crops surveyed	Survey area (ha)	Proportion of crops surveyed (%)
Spring barley	296	3,320	20
Undersown barley	13	67	11
Winter barley	153	2,123	31
Spring wheat	35	487	29
Winter wheat	196	2,828	31
Undersown wheat	3	31	54
Spring oats	20	196	14
Undersown oats	2	6	12
Winter oats	28	229	27
Oilseed rape	12	151	34
Peas & beans	4	23	27
Triticale	1	2	46
Seed potatoes	27	166	24
Early potatoes	33	78	41
Maincrop potatoes	154	1,095	27
Total =	***977***	***10,805***	***Mean = 25***

Table 3: **Estimated area (hectares) of arable crops grown in each region of Northern Ireland, 2010.**

	County					
Crop	**Antrim**	**Armagh**	**Down**	**Londonderry**	**Tyrone**	**Northern Ireland**
Spring barley	3,032	618	6,688	5,290	1,340	16,967
Undersown barley	128	68	286	58	50	591
Winter barley	943	414	3,159	1,541	710	6,767
Spring wheat	190	108	924	449	15	1,686
Winter wheat	1,459	1,680	4,158	1,367	486	9,151
Undersown wheat	37	.	21	.	.	58
Spring oats	362	244	546	257	32	1,441
Undersown oats	.	.	.	49	.	49
Winter oats	32	303	339	93	75	841
Oilseed rape	30	177	184	15	40	446
Peas & beans	.	66	19	.	.	85
Triticale	.	.	.	5	.	5
Seed potatoes	93	.	381	233	.	707
Early potatoes	32	.	90	69	.	191
Maincrop potatoes	1,266	9	1,486	978	302	4,041
Total	***7,605***	***3,686***	***18,282***	***10,403***	***3,052***	***43,027***

Table 4a: **Estimated area (spray-hectares) of arable crops treated with each pesticide type in each region of Northern Ireland, 2010.**

	County					
Pesticide type	**Antrim**	**Armagh**	**Down**	**Londonderry**	**Tyrone**	**Northern Ireland**
Fungicides	26,555	10,021	65,873	35,619	9,889	147,957
Herbicides	17,930	8,438	44,098	24,383	7,363	102,211
Insecticides	4,193	2,456	13,114	6,434	1,776	27,974
Molluscicides	.	257	184	210	164	816
Growth Regulators	4,230	2,775	10,110	4,674	2,193	23,983
Other	.	157	53	.	.	210
Seed treatments	5,279	4,000	14,825	7,446	2,634	34,184
Total	***58,188***	***28,105***	***148,258***	***78,766***	***24,019***	***337,336***

Table 4b: **Estimated weight (kg) of each pesticide type applied to arable crops in each region of Northern Ireland, 2010.**

	County					
Pesticide type	**Antrim**	**Armagh**	**Down**	**Londonderry**	**Tyrone**	**Northern Ireland**
Fungicides	17,457	3,287	29,922	13,191	4,024	67,880
Herbicides	10,371	4,734	23,402	9,339	2,908	50,754
Insecticides	33	71	403	276	148	931
Molluscicides	.	18	51	24	25	118
Growth Regulators	3,049	1,335	6,804	2,250	892	14,330
Other	.	134	45	.	.	179
Seed treatments	285	246	1,041	363	156	2,091
Total	***31,195***	***9,825***	***61,667***	***25,444***	***8,153***	***136,283***

Table 5: **The total area (spray-hectares) and the basic area (hectares), of arable crops treated with each pesticide type, in Northern Ireland, 2010.**

	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	23,502	(13,013)	38,341	(16,127)	10,006	(7,974)	.	.	6,903	(5,967)	.	.	12,359	(12,359)	91,111	(16,526)
Undersown barley	190	(148)	759	(591)	156	(156)	.	.	.	.	.	.	501	(501)	1,605	(591)
Winter barley	21,320	(6,672)	16,225	(6,597)	6,029	(4,287)	67	(67)	5,828	(4,258)	.	.	6,227	(5,897)	55,696	(6,767)
Spring wheat	3,243	(1,249)	3,194	(1,439)	772	(723)	.	.	699	(593)	.	.	1,419	(1,419)	9,327	(1,477)
Winter wheat	39,802	(8,818)	21,380	(9,035)	8,723	(7,095)	257	(223)	9,407	(6,918)	.	.	9,491	(8,551)	89,061	(9,086)
Undersown wheat	80	(58)	140	(58)	21	(21)	.	.	.	.	.	.	58	(58)	300	(58)
Spring oats	1,337	(673)	1,308	(906)	185	(185)	.	.	427	(358)	.	.	669	(669)	3,926	(1,064)
Undersown oats	.	.	.	.	.	.	.	.	.	.	.	.	38	(38)	38	(38)
Winter oats	1,580	(810)	1,921	(783)	240	(152)	.	.	663	(631)	.	.	810	(810)	5,214	(841)
Oilseed rape	1,312	(426)	1,054	(426)	361	(361)	.	.	.	.	210	(210)	423	(412)	3,360	(446)
Peas & beans	296	(66)	137	(72)	99	(66)	.	.	.	.	.	.	72	(72)	604	(72)
Triticale	5	(5)	.	.	5	(5)	.	.	.	.	.	.	.	.	10	(5)
Seed potatoes	6,662	(707)	2,240	(707)	281	(281)	86	(86)	.	.	.	.	238	(224)	9,507	(707)
Early potatoes	1,096	(191)	484	(191)	37	(28)	20	(20)	.	.	.	.	68	(66)	1,705	(191)
Maincrop potatoes	47,531	(4,041)	15,029	(4,001)	1,061	(894)	385	(385)	56	(56)	.	.	1,811	(1,655)	65,873	(4,041)
Total	***147,957***	***(36,879)***	***102,211***	***(40,934)***	***27,974***	***(22,228)***	***816***	***(782)***	***23,983***	***(18,781)***	***210***	***(210)***	***34,184***	***(32,732)***	***337,336***	***(41,911)***

Table 6: Total quantity (kg) of each pesticide type used on arable crops in Northern Ireland, 2010.

Crop	Fungicides	Herbicides & desiccants	Insecticides	Molluscicides	Growth Regulators	Other	Seed treatments	Total
Spring barley	6817	14038	659	.	3380	.	339	25233
Undersown barley	50	691	1	.	.	.	8	750
Winter barley	6532	10275	126	10	2847	.	331	20121
Spring wheat	988	1258	23	.	212	.	30	2511
Winter wheat	12280	11143	80	18	7345	.	565	31432
Undersown wheat	24	91	0	.	.	.	1	116
Spring oats	408	198	2	.	123	.	44	775
Undersown oats	.	.	.	.	.	.	1	1
Winter oats	524	583	1	.	256	.	52	1416
Oilseed rape	273	646	3	.	.	179	7	1108
Peas & beans	184	132	0	.	.	.	18	334
Triticale	4	.	0	.	.	.	.	4
Seed potatoes	5988	1408	20	7	.	.	99	7523
Early potatoes	664	427	0	2	.	.	18	1110
Maincrop potatoes	33144	9863	16	81	168	.	578	43849
Total	***67,880***	***50,754***	***931***	***118***	***14,330***	***179***	***2,091***	***136,283***

Table 7: **The proportional area (%) of each crop treated with pesticides and the mean number of spray applications in Northern Ireland, 2010.**

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	77	(1.54)	95	(2.13)	47	(1.18)	.	.	35	(1.09)	.	.	73	97	(1.51)
Undersown barley	25	(1.31)	100	(1.27)	26	(1.00)	.	.		.	.	.	85	100	(1.16)
Winter barley	99	(2.90)	97	(2.26)	63	(1.43)	1	(1.00)	63	(1.31)	.	.	87	100	(1.89)
Spring wheat	74	(2.31)	85	(1.93)	43	(1.07)		.	35	(1.22)	.	.	84	88	(1.61)
Winter wheat	96	(3.90)	99	(2.28)	78	(1.17)	2	(1.17)	76	(1.32)	.	.	93	99	(2.04)
Undersown wheat	100	(1.34)	100	(2.66)	36	(1.00)	.	.	.	.	.	.	100	100	(1.60)
Spring oats	47	(1.87)	63	(1.90)	13	(1.00)	.	.	25	(1.66)	.	.	46	74	(1.55)
Undersown oats	.	.	.	.	.	.	.	.	.	.	.	.	78	78	(1.00)
Winter oats	96	(1.87)	93	(2.74)	18	(1.66)	.	.	75	(1.10)		.	96	100	(1.78)
Oilseed rape	96	(3.15)	96	(2.71)	81	(1.00)	.	.	.	.	47	(1.00)	92	100	(1.91)
Peas & beans	77	(4.50)	84	(1.59)	77	(1.50)	.	.	.	.	.	.	84	84	(1.93)
Triticale	100	(1.00)		.	100	(1.00)	.	.	.	.	.	.	.	100	(1.00)
Seed potatoes	100	(9.90)	100	(3.25)	40	(1.00)	12	(1.00)	.	.	.	.	32	100	(5.04)
Early potatoes	100	(7.92)	100	(2.11)	15	(1.63)	10	(1.00)	.	.	.	.	34	100	(4.61)
Maincrop potatoes	100	(10.09)	99	(2.92)	22	(1.26)	10	(1.00)	1	(1.00)	.	.	41	100	(5.88)
Total	***86***	***(4.22)***	***95***	***(2.29)***	***52***	***(1.21)***	***2***	***(1.04)***	***44***	***(1.23)***	***0.5***	***(1.00)***	***76***	***97***	***(2.28)***

Table 8: **Estimated area (spray-hectares) of arable crops treated with pesticide formulations in Northern Ireland, 2010.**

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Winter wheat	Undersown wheat	Spring oats	Undersown oats	Winter oats	Oilseed rape	Peas & beans	Triticale	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Fungicides																
Azoxystrobin	362	.	408	30	1,993	.	21	.	.	388	.	.	.	.	.	3,202
Azoxystrobin/chlorothalonil	319	.	465	.	2,460	.	.	.	.	.	.	.	.	.	.	3,244
Azoxystrobin/cyproconazole	16	.	131	.	346	.	50	.	.	.	.	.	.	.	.	542
Azoxystrobin/fenpropimorph	121	.	.	96	20	.	.	.	.	.	.	.	.	.	.	237
Benthiavalicarb-isopropyl/mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	9	.	507	516
Boscalid/epoxiconazole	273	.	222	23	2,287	.	.	.	.	.	.	.	.	.	.	2,804
Carbendazim/flusilazole	764	50	561	234	138	.	.	.	.	53	.	.	.	.	.	1,799
Chlorothalonil	2,237	42	3,648	606	9,178	21	289	.	.	53	99	.	.	.	.	16,172
Chlorothalonil/cyproconazole/propiconazole	605	.	654	.	847	.	.	.	.	.	.	.	.	.	.	2,107
Chlorothalonil/flusilazole	1,728	.	442	110	9	.	.	.	.	.	.	.	.	.	.	2,289
Chlorothalonil/picoxystrobin	405	.	846	18	111	.	.	.	.	.	.	.	.	.	.	1,380
Chlorothalonil/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	450	109	1944	2,504
Cyazofamid	.	.	.	.	.	.	.	.	.	.	.	.	249	65	3,611	3,925
Cymoxanil	.	.	.	.	.	.	.	.	.	.	.	.	26	26	635	688
Cymoxanil/mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	855	94	5,523	6,472
Cymoxanil/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	214	.	226	440
Cyproconazole/propiconazole	595	.	804	.	.	.	.	.	.	.	.	.	.	.	.	1,399
Cyproconazole/trifloxystrobin	157	.	.	.	.	.	.	.	.	.	.	.	.	.	.	157
Cyprodinil	1659	25	1104	.	548	.	.	.	.	.	.	.	.	.	.	3,335
Cyprodinil/isopyrazam	1582	.	1391	.	.	.	.	.	.	.	.	.	.	.	.	2,973
Difenoconazole	.	.	.	.	.	.	.	.	.	40	.	.	.	.	.	40
Dimethomorph/mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	1265	63	2563	3,892
Epoxiconazole	1413	.	255	363	4805	.	.	.	15	.	.	.	.	.	.	6,851
Epoxiconazole/fenpropimorph	229	.	.	.	71	.	28	.	63	.	.	.	.	.	.	391
Epoxiconazole/fenpropimorph/kresoxim-methyl	712	.	858	234	1,313	.	.	.	118	.	.	.	.	.	.	3,235
Epoxiconazole/fenpropimorph/metrafenone	364	.	.	181	100	.	430	.	499	.	.	.	.	.	.	1,574
Epoxiconazole/fenpropimorph/pyraclostrobin	63	.	.	.	.	.	.	.	304	.	.	.	.	.	.	368
Epoxiconazole/metconazole	77	.	137	88	2234	.	.	.	.	.	.	.	.	.	.	2,536
Epoxiconazole/prochloraz	712	.	148	.	816	.	.	.	20	.	.	.	.	.	.	1,695

Table 8 (cont.): Estimated area (spray-hectares) of arable crops treated with pesticide formulations in Northern Ireland, 2010.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Winter wheat	Undersown wheat	Spring oats	Undersown oats	Winter oats	Oilseed rape	Peas & beans	Triticale	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Fungicides (cont.)																
Epoxiconazole/pyraclostrobin	.	.	.	.	153	.	.	.	.	.	.	.	.	.	.	153
Fenamidone/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	334	95	3,964	4,392
Fenpropidin	.	.	347	182	301	.	.	.	.	.	.	.	.	.	.	830
Fenpropimorph	929	.	859	.	302	.	61	.	213	.	.	5	.	.	.	2,370
Fenpropimorph/flusilazole	697	31	525	.	48	.	.	.	.	.	.	.	.	.	.	1,301
Fenpropimorph/pyraclostrobin	137	.	.	.	.	.	.	.	.	.	.	.	.	.	.	137
Fluazinam	.	.	.	.	.	.	.	.	.	.	.	.	1638	437	14,929	17,004
Fluazinam/metalaxyl-M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	105	105
Fluopicolide/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	1335	81	7,026	8,442
Fluoxastrobin/prothioconazole	1,827	11	1,382	155	846	.	362	.	.	.	.	.	.	.	.	4,582
Fluoxastrobin/prothioconazole/trifloxystrobin	93	.	1078	51	94	37	.	.	.	.	.	.	.	.	.	1,352
Fluquinconazole/prochloraz	.	.	185	.	1331	.	.	.	.	.	.	.	.	.	.	1,516
Flusilazole	.	.	424	.	76	.	.	.	.	19	.	.	.	.	.	519
Flutriafol	94	.	.	.	.	.	.	.	.	.	.	.	.	.	.	94
Mancozeb	109	.	.	169	251	.	.	.	.	.	66	.	.	8	1633	2,236
Mancozeb/Metalaxyl-M	.	.	.	.	.	.	.	.	.	.	.	.	.	9	59	68
Mancozeb/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	.	5	35	40
Mandipropamid	.	.	.	.	.	.	.	.	.	.	.	.	287	105	4769	5,161
Metrafenone	.	.	.	.	.	.	.	.	134	.	.	.	.	.	.	134
Picoxystrobin	472	.	409	.	.	.	7	.	.	.	.	.	.	.	.	888
Propiconazole	203	.	.	.	.	.	.	.	.	.	.	.	.	.	.	203
Propiconazole/tebuconazole	182	.	272	.	32	.	.	.	.	.	.	.	.	.	.	485
Proquinazid	163	.	276	160	983	.	32	.	23	.	.	.	.	.	.	1,638
Prothioconazole	2,717	31	2,507	275	2,715	21	.	.	140	654	.	.	.	.	.	9,060
Prothioconazole/tebuconazole	60	.	137	171	2,291	.	.	.	.	.	.	.	.	.	.	2,658
Prothioconazole/trifloxystrobin	851	.	585	19	367	.	.	.	.	.	.	.	.	.	.	1,822
Pyraclostrobin	316	.	130	64	846	.	29	.	17	.	.	.	.	.	.	1,402
Quinoxyfen	.	.	47	.	.	.	.	.	.	.	.	.	.	.	.	47
Sulphur	33	.	.	.	12	.	.	.	.	11	.	.	.	.	.	56
Tebuconazole	58	.	85	15	1876	.	29	.	33	94	132	.	.	.	.	2,321
Unknown fungicide	172	.	.	.	.	.	.	.	.	.	.	.	.	.	.	172
	23,502	***190***	***21,320***	***3,243***	***39,802***	***80***	***1,337***	***.***	***1580***	***1312***	***296***	***5***	***6,662***	***1,096***	***47,531***	***147,957***

Table 8 (cont.): **Estimated area (spray-hectares) of arable crops treated with pesticide formulations in Northern Ireland, 2010.**

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Winter wheat	Undersown wheat	Spring oats	Undersown oats	Winter oats	Oilseed rape	Peas & beans	Triticale	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Herbicides & desiccants																
Amidosulfuron	.	.	47	.	70	.	261	.	83	.	.	.	.	.	.	460
Amidosulfuron/iodosulfron-methyl-sodium	94	.	.	.	.	.	.	.	.	.	.	.	.	.	.	94
Bentazone	.	.	.	.	.	.	.	.	.	.	66	.	.	.	.	66
Bifenox	.	.	.	.	.	.	.	.	.	93	.	.	.	.	.	93
Bromoxynil/ioxynil	993	.	69	66	21	.	.	.	70	.	.	.	.	.	.	1,219
Carfentrazone-ethyl	.	.	.	.	.	.	.	.	.	.	.	.	146	.	394	540
Carfentrazone-ethyl/flupyrsulfron-methyl	.	.	.	.	.	.	.	.	406	.	.	.	.	.	.	406
Chlorotoluron	.	.	552	.	500	.	.	.	.	.	.	.	.	.	.	1,052
Chlorotoluron/diflufenican	118	.	1117	.	1536	.	.	.	.	.	.	.	.	.	.	2,772
Clopyralid/picloram	.	.	.	.	.	.	.	.	.	172	.	.	.	.	.	172
2,4-D	.	.	.	.	22	.	.	.	.	.	.	.	.	.	.	22
2,4-D/MCPA	.	.	.	.	74	.	.	.	.	.	.	.	.	.	.	74
2,4-DB/linuron/MCPA	.	443	.	45	.	.	.	.	.	.	.	.	.	.	.	488
2,4-DB/MCPA	.	11	.	.	.	37	.	.	.	.	.	.	.	.	.	48
Dicamba/MCPA/mecoprop-P	72	71	.	.	.	21	.	.	.	.	.	.	.	.	.	165
Dicamba/mecoprop-P	492	.	.	9	.	.	32	.	.	.	.	.	.	.	.	533
Dichlorprop-P	206	.	.	112	.	.	.	.	.	.	.	.	.	.	.	318
Diclofop-methyl/fenoxaprop-P-ethyl	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	9
Diflufenican	.	.	1171	.	603	.	.	.	17	.	.	.	.	.	.	1,790
Diflufenican/flufenacet*	.	.	1227	.	964	.	.	.	.	.	.	.	.	.	.	2,190
Diflufenican/flufenacet**	.	.	598	.	381	.	.	.	.	.	.	.	.	.	.	978
Diflufenican/iodosulfron-methyl-sodium/mesosulfuron-methyl	.	.	25	.	1752	.	.	.	.	.	.	.	.	.	.	1,777
Diflufenican/isoproturon	.	.	197	.	177	.	.	.	.	.	.	.	.	.	.	374
Diquat	.	.	22	.	.	.	.	.	.	19	.	.	1100	148	8,059	9,347
Diquat/paraquat	.	.	.	.	.	.	.	.	.	.	.	.	.	2	102	104
Florasulam/fluroxypyr	394	.	275	.	86	.	19	.	.	.	.	.	.	.	.	774
Flufenacet/pendimethalin	.	.	1243	.	2447	.	.	.	.	.	.	.	.	.	.	3,690
Fluroxypyr	4413	35	1117	381	1816	7	154	.	302	.	.	.	.	.	.	8,227

Table 8 (cont.): Estimated area (spray-hectares) of arable crops treated with pesticide formulations in Northern Ireland, 2010.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Winter wheat	Undersown wheat	Spring oats	Undersown oats	Winter oats	Oilseed rape	Peas & beans	Triticale	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Herbicides & desiccants (cont.)																
Glyphosate	7,975	152	4758	429	5,076	37	74	.	435	408	6	.	372	100	1,639	21,459
Iodosulfron-methyl-sodium	2,646	.	107	41	886	.	.	.	.	.	.	.	.	.	.	3,680
Isoproturon	.	.	368	.	163	.	.	.	.	.	.	.	.	.	.	531
Isoproturon/pendimethalin	.	.	.	.	34	.	.	.	.	.	.	.	.	.	.	34
Linuron	.	.	.	.	.	.	.	.	.	.	.	.	9	25	723	757
MCPA	922	.	.	107	.	.	.	.	.	.	.	.	.	.	.	1,029
Mecoprop-P	5562	.	445	613	1568	.	90	.	295	.	.	.	.	.	.	8,573
Metribuzin	.	.	.	.	.	.	.	.	.	.	.	.	396	137	2564	3,097
Metsulfuron-methyl	1222	35	195	182	197	.	61	.	43	.	.	.	.	.	.	1,933
Metsulfuron-methyl/thifensulfuron-methyl	2032	.	544	370	762	.	.	.	167	.	.	.	.	.	.	3,875
Metsulfuron-methyl/tribenuron-methyl	8,730	.	661	723	438	.	567	.	104	.	.	.	.	.	.	11,224
Paraquat	.	.	.	.	.	.	.	.	.	.	.	.	.	8	124	132
Pendimethalin	137	.	765	.	325	.	.	.	.	.	66	.	.	.	132	1,424
Pendimethalin/picolinafen	.	.	235	.	.	.	.	.	.	.	.	.	.	.	.	235
Pinoxaden	1,345	.	100	84	1100	.	.	.	.	.	.	.	.	.	.	2,629
Propaquizafop	.	.	.	.	.	.	.	.	.	.	.	.	.	5	39	44
Propyzamide	.	.	.	.	.	.	.	.	.	362	.	.	.	.	.	362
Prosulfocarb	131	.	373	.	155	.	.	.	.	.	.	.	171	39	913	1,782
Rimsulfuron	.	.	.	.	.	.	.	.	.	.	.	.	47	19	342	408
Thifensulfuron-methyl	152	.	.	.	.	.	.	.	.	.	.	.	.	.	.	152
Thifensulfuron-methyl/tribenuron-methyl	405	.	.	32	228	.	50	.	.	.	.	.	.	.	.	715
Tralkoxydim	.	.	13	.	.	.	.	.	.	.	.	.	.	.	.	13
Tribenuron-methyl	118	11	.	.	.	37	.	.	.	.	.	.	.	.	.	166
Unknown herbicide	173	.	.	.	.	.	.	.	.	.	.	.	.	.	.	173
All herbicides & desiccants	***38341***	***759***	***16225***	***3194***	***21380***	***140***	***1308***	***.***	***1921***	***1054***	***137***	***.***	***2240***	***484***	***15029***	***102,211***

**** 20%/40% **10%/40%***

Table 8 (cont.): Estimated area (spray-hectares) of arable crops treated with pesticide formulations in Northern Ireland, 2010.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Winter wheat	Undersown wheat	Spring oats	Undersown oats	Winter oats	Oilseed rape	Peas & beans	Triticale	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Insecticides																
Alpha-cypermethrin	.	.	.	.	70	.	.	.	.	.	.	.	.	.	.	70
Bifenthrin	65	.	53	13	49	.	29	.	.	.	.	.	.	.	.	209
Chlorpyrifos	957	.	137	26	44	.	.	.	.	.	.	.	.	.	.	1,163
Cypermethrin	1,236	.	279	45	481	.	50	.	.	.	.	.	.	.	164	2,254
Deltamethrin	491	.	513	132	834	21	19	.	33	.	.	5	.	.	.	2,049
Deltamethrin/pirimicarb	.	.	.	.	.	.	.	.	.	.	.	.	120	.	9	129
Esfenvalerate	5,142	122	3,190	425	3,788	.	53	.	190	53	.	.	.	.	.	12,962
Flonicamid	.	.	.	.	.	.	.	.	.	.	.	.	77	.	.	77
Lambda-cyhalothrin	2,116	34	1,797	130	3,458	.	34	.	17	288	99	.	84	37	809	8,903
Pirimicarb	.	.	59	.	.	.	.	.	.	.	.	.	.	.	.	59
Thiacloprid	.	.	.	.	.	.	.	.	.	.	.	.	.	.	78	78
Zeta-cypermethrin	.	.	.	.	.	.	.	.	.	20	.	.	.	.	.	20
All insecticides	***10,006***	***156***	***6,029***	***772***	***8,723***	***21***	***185***	***.***	***240***	***361***	***99***	***5***	***281***	***37***	***1,061***	***27,974***
Molluscicides																
Metaldehyde	.	.	.	.	.	.	.	.	.	.	.	.	.	.	115	115
Methiocarb	.	.	67	.	257	.	.	.	.	.	.	.	86	20	270	701
All molluscicides	***.***	***.***	***67***	***.***	***257***	***.***	***.***	***.***	***.***	***.***	***.***	***.***	***86***	***20***	***385***	***816***
Growth regulators																
Chlormequat	3,538	.	2,289	242	5,777	.	69	.	224	.	.	.	.	.	.	12,139
Chlormequat with choline chloride	40	.	330	.	707	.	75	.	.	.	.	.	.	.	.	1,152
Chlormequat/2-chloroethylphosphonic acid	64	.	.	.	66	.	.	.	.	.	.	.	.	.	.	131
Chlormequat/Imazaquin	.	.	.	.	131	.	.	.	.	.	.	.	.	.	.	131
2-chloroethylphosphonic acid	709	.	1,155	289	1,200	.	.	.	.	.	.	.	.	.	.	3,354
2-chloroethylphosphonic acid/mepiquat chloride	105	.	32	9	.	.	.	.	.	.	.	.	.	.	.	146
Maleic hydrazide	.	.	.	.	.	.	.	.	.	.	.	.	.	.	56	56
Trinexapac-ethyl	2,447	.	2,021	160	1,525	.	284	.	439	.	.	.	.	.	.	6,875
All growth regulators	***6,903***	***.***	***5,828***	***699***	***9,407***	***.***	***427***	***.***	***663***	***.***	***.***	***.***	***.***	***.***	***56***	***23,983***

Table 8 (cont.): Estimated area (spray-hectares) of arable crops treated with pesticide formulations in Northern Ireland, 2010.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Winter wheat	Undersown wheat	Spring oats	Undersown oats	Winter oats	Oilseed rape	Peas & beans	Triticale	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Synthetic latex	.	.	.	.	.	.	.	.	.	210	.	.	.	.	.	210
All other	.	.	.	.	.	.	.	.	.	***210***	.	.	.	.	.	***210***
Seed treatments																
Beta-cyfluthrin/imidacloprid	.	.	.	.	.	.	.	.	.	359	.	.	.	.	.	359
Carboxin/thiram	290	.	86	.	228	.	.	.	.	.	.	.	.	.	.	604
Clothianidin/prothioconazole	38	.	2,212	.	3,264	.	215	.	523	.	.	.	.	.	.	6,252
Fludioxonil	2,660	308	272	550	736	58	93	.	.	.	.	.	.	.	.	4,677
Fludioxonil/flutriafol	1,090	.	214	.	228	.	39	.	23	.	.	.	.	.	.	1,594
Fludioxonil/metalaxyl-M/thiamethoxam	.	.	.	.	.	.	.	.	.	53	.	.	.	.	.	53
Fluquinconazole/prochloraz	.	.	.	.	85	.	.	.	.	.	.	.	.	.	.	85
Flutolanil	.	.	.	.	.	.	.	.	.	.	.	.	3	22	421	446
Guazatine/imazalil	.	.	.	.	86	.	46	.	.	.	.	.	.	.	.	132
Imazalil	.	.	.	.	.	.	.	.	.	.	.	.	133	28	406	568
Imazalil/pencycuron	.	.	.	.	.	.	.	.	.	.	.	.	102	18	618	738
Imazalil/thiabendazole	.	.	.	.	.	.	.	.	.	.	.	.	.	.	366	366
Imazalil/triticonazole	224	.	.	.	.	.	.	.	.	.	.	.	.	.	.	224
Imidacloprid/tebuconazole/triazoxide	60	.	85	.	125	.	.	.	.	.	.	.	.	.	.	270
3-Indolebutyric acid/cytokinin	.	.	165	.	.	.	.	.	.	.	.	.	.	.	.	165
Ipconazole	.	.	.	8	12	.	.	.	.	.	.	.	.	.	.	20
Prochloraz/thiram	.	.	.	.	.	.	.	.	.	11	.	.	.	.	.	11
Prochloraz/triticonazole	7,998	193	2,821	860	3,734	.	276	38	264	.	.	.	.	.	.	16,185
Prothioconazole	.	.	207	.	54	.	.	.	.	.	.	.	.	.	.	261
Silthiofam	.	.	165	.	941	.	.	.	.	.	.	.	.	.	.	1,105
Thiram	.	.	.	.	.	.	.	.	.	.	72	.	.	.	.	72
All seed treatments	***12,359***	***501***	***6,227***	***1,419***	***9,491***	***58***	***669***	***38***	***810***	***423***	***72***	***.***	***238***	***68***	***1,811***	***34,184***
All pesticides	***91,111***	***1,606***	***55,696***	***9,327***	***89,060***	***299***	***3,926***	***38***	***5214***	***3360***	***604***	***10***	***9,507***	***1,705***	***65,873***	***337,336***

Table 9: Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland, 2010.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Winter wheat	Undersown wheat	Spring oats	Undersown oats	Winter oats	Oilseed rape	Peas & beans	Triticale	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Fungicides																
Azoxystrobin	75	.	69	4	324	.	5	.	.	50	.	.	.	.	.	527
Azoxystrobin/chlorothalonil	197	.	266	.	1,992	.	.	.	.	.	.	.	.	.	.	2,455
Azoxystrobin/cyproconazole	4	.	37	.	80	.	9	.	.	.	.	.	.	.	.	130
Azoxystrobin/fenpropimorph	46	.	.	73	2	.	.	.	.	.	.	.	.	.	.	121
Benthiavalicarb-isopropyl/mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	10	.	582	592
Boscalid/epoxiconazole	108	.	85	7	791	.	.	.	.	.	.	.	.	.	.	990
Carbendazim/flusilazole	136	8	133	55	31	.	.	.	.	15	.	.	.	.	.	377
Chlorothalonil	1,169	21	1,659	277	4,457	11	147	.	.	27	66	.	.	.	.	7,833
Chlorothalonil/cyproconazole/propiconazole	367	.	396	.	410	.	.	.	.	.	.	.	.	.	.	1,173
Chlorothalonil/flusilazole	721	.	192	53	5	.	.	.	.	.	.	.	.	.	.	971
Chlorothalonil/picoxystrobin	377	.	618	7	67	.	.	.	.	.	.	.	.	.	.	1,069
Chlorothalonil/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	704	167	3,352	4,223
Cyazofamid	.	.	.	.	.	.	.	.	.	.	.	.	20	6	361	387
Cymoxanil	.	.	.	.	.	.	.	.	.	.	.	.	2	2	51	55
Cymoxanil/mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	1,220	108	7,665	8,994
Cymoxanil/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	192	.	204	396
Cyproconazole/propiconazole	95	.	103	.	.	.	.	.	.	.	.	.	.	.	.	198
Cyproconazole/trifloxystrobin	21	.	.	.	.	.	.	.	.	.	.	.	.	.	.	21
Cyprodinil	417	4	238	.	110	.	.	.	.	.	.	.	.	.	.	768
Cyprodinil/isopyrazam	482	.	542	.	.	.	.	.	.	.	.	.	.	.	.	1,024
Difenoconazole	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.	4
Dimethomorph/mancozeb	.	.	.	.	.	.	.	.	.	.	.	.	1,787	94	3,522	5,403
Epoxiconazole	111	.	22	23	495	.	.	.	1	.	.	.	.	.	.	652
Epoxiconazole/fenpropimorph	85	.	.	.	30	.	12	.	16	.	.	.	.	.	.	142
Epoxiconazole/fenpropimorph/kresoxim-methyl	203	.	288	93	324	.	.	.	37	.	.	.	.	.	.	947
Epoxiconazole/fenpropimorph/metrafenone	97	.	.	48	34	.	145	.	258	.	.	.	.	.	.	582
Epoxiconazole/fenpropimorph/pyraclostrobin	25	.	.	.	.	.	.	.	114	.	.	.	.	.	.	139
Epoxiconazole/metconazole	9	.	18	10	265	.	.	.	.	.	.	.	.	.	.	301
Epoxiconazole/prochloraz	205	.	26	.	361	.	.	.	6	.	.	.	.	.	.	597

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland, 2010.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Winter wheat	Undersown wheat	Spring oats	Undersown oats	Winter oats	Oilseed rape	Peas & beans	Triticale	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Fungicides (cont)																
Epoxiconazole/pyraclostrobin	.	.	.	.	30	.	.	.	.	.	.	.	.	.	.	30
Fenamidone/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	364	87	3,658	4,108
Fenpropidin	.	.	70	38	45	.	.	.	.	.	.	.	.	.	.	154
Fenpropimorph	336	.	293	.	38	.	24	.	61	.	.	4	.	.	.	755
Fenpropimorph/flusilazole	337	12	236	.	19	.	.	.	.	.	.	.	.	.	.	605
Fenpropimorph/pyraclostrobin	32	.	.	.	.	.	.	.	.	.	.	.	.	.	.	32
Fluazinam	.	.	.	.	.	.	.	.	.	.	.	.	245	60	2,489	2,794
Fluazinam/metalaxyl-M	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	3
Fluopicolide/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	1,404	89	7,744	9,236
Fluoxastrobin/prothioconazole	313	1	252	27	204	.	57	.	.	.	.	.	.	.	.	854
Fluoxastrobin/prothioconazole/trifloxystrobin	18	.	261	13	23	11	.	.	.	.	.	.	.	.	.	326
Fluquinconazole/prochloraz	.	.	74	.	431	.	.	.	.	.	.	.	.	.	.	506
Flusilazole	.	.	37	.	8	.	.	.	.	2	.	.	.	.	.	46
Flutriafol	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	7
Mancozeb	87	.	.	122	325	.	.	.	.	.	105	.	.	13	2,696	3,349
Mancozeb/Metalaxyl-M	.	.	.	.	.	.	.	.	.	.	.	.	.	11	77	88
Mancozeb/propamocarb hydrochloride	.	.	.	.	.	.	.	.	.	.	.	.	.	11	39	50
Mandipropamid	.	.	.	.	.	.	.	.	.	.	.	.	40	16	702	758
Metrafenone	.	.	.	.	.	.	.	.	7	.	.	.	.	.	.	7
Picoxystrobin	60	.	47	.	.	.	1	.	.	.	.	.	.	.	.	108
Propiconazole	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	13
Propiconazole/tebuconazole	45	.	59	.	5	.	.	.	.	.	.	.	.	.	.	109
Proquinazid	7	.	12	6	34	.	1	.	1	.	.	.	.	.	.	63
Prothioconazole	341	4	332	65	426	3	.	.	16	75	.	.	.	.	.	1,261
Prothioconazole/tebuconazole	7	.	27	49	436	.	.	.	.	.	.	.	.	.	.	519
Prothioconazole/trifloxystrobin	154	.	103	2	64	.	.	.	.	.	.	.	.	.	.	323
Pyraclostrobin	37	.	13	13	99	.	4	.	2	.	.	.	.	.	.	167
Quinoxyfen	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	3
Sulphur	66	.	.	.	23	.	.	.	.	89	.	.	.	.	.	179
Tebuconazole	7	.	19	3	294	.	4	.	6	12	13	.	.	.	.	357
All fungicides	***6,817***	***50***	***6,532***	***988***	***12,280***	***24***	***408***	***.***	***524***	***273***	***184***	***4***	***5,988***	***664***	***33,144***	***67,880***

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland, 2010.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Winter wheat	Undersown wheat	Spring oats	Undersown oats	Winter oats	Oilseed rape	Peas & beans	Triticale	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Herbicides & desiccants																
Amidosulfuron	.	.	1	.	1	.	8	.	2	.	.	.	.	.	.	12
Amidosulfuron/iodosulfron-methyl-sodium	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2
Bentazone	.	.	.	.	.	.	.	.	.	.	40	.	.	.	.	40
Bifenox	.	.	.	.	.	.	.	.	.	36	.	.	.	.	.	36
Bromoxynil/ioxynil	343	.	31	27	8	.	.	.	34	.	.	.	.	.	.	443
Carfentrazone-ethyl	.	.	.	.	.	.	.	.	.	.	.	.	3	.	27	30
Carfentrazone-ethyl/flupyrsulfron-methyl	.	.	.	.	.	.	.	.	11	.	.	.	.	.	.	11
Chlorotoluron	.	.	936	.	780	.	.	.	.	.	.	.	.	.	.	1,716
Chlorotoluron/diflufenican	74	.	1,585	.	1,977	.	.	.	.	.	.	.	.	.	.	3,636
Clopyralid/picloram	.	.	.	.	.	.	.	.	.	18	.	.	.	.	.	18
2,4-D	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	7
2,4-D/MCPA	.	.	.	.	206	.	.	.	.	.	.	.	.	.	.	206
2,4-DB/linuron/MCPA	.	407	.	44	.	.	.	.	.	.	.	.	.	.	.	451
2,4-DB/MCPA	.	8	.	.	.	10	.	.	.	.	.	.	.	.	.	18
Dicamba/MCPA/mecoprop-P	66	98	.	.	.	39	.	.	.	.	.	.	.	.	.	203
Dicamba/mecoprop-P	322	.	.	5	.	.	23	.	.	.	.	.	.	.	.	349
Dichlorprop-P	153	.	.	125	.	.	.	.	.	.	.	.	.	.	.	277
Diclofop-methyl/fenoxaprop-P-ethyl	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4
Diflufenican	.	.	173	.	60	.	.	.	2	.	.	.	.	.	.	234
Diflufenican/flufenacet*	.	.	221	.	173	.	.	.	.	.	.	.	.	.	.	394
Diflufenican/flufenacet**	.	.	123	.	63	.	.	.	.	.	.	.	.	.	.	186
Diflufenican/iodosulfron-methyl-sodium/mesosulfuron-methyl	.	.	2	.	104	.	.	.	.	.	.	.	.	.	.	105
Diflufenican/isoproturon	.	.	231	.	177	.	.	.	.	.	.	.	.	.	.	407
Diquat	.	.	1	.	.	.	.	.	.	8	.	.	382	63	2,574	3,027
Diquat/paraquat	.	.	.	.	.	.	.	.	.	.	.	.	.	2	82	83
Florasulam/fluroxypyr	50	.	25	.	9	.	3	.	.	.	.	.	.	.	.	88
Flufenacet/pendimethalin	.	.	1147	.	2071	.	.	.	.	.	.	.	.	.	.	3,218
Fluroxypyr	543	5	216	40	257	0	24	.	29	.	.	.	.	.	.	1,113

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland, 2010.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Winter wheat	Undersown wheat	Spring oats	Undersown oats	Winter oats	Oilseed rape	Peas & beans	Triticale	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Herbicides & desiccants (cont.)																
Glyphosate	6,184	174	3,195	254	3,585	41	63	.	233	340	5	.	291	85	1,464	15,911
Iodosulfron-methyl-sodium	19	.	1	0	8	.	.	.	.	.	.	.	.	.	.	28
Isoproturon	.	.	383	.	181	.	.	.	.	.	.	.	.	.	.	564
Isoproturon/pendimethalin	.	.	.	.	48	.	.	.	.	.	.	.	.	.	.	48
Linuron	.	.	.	.	.	.	.	.	.	.	.	.	5	15	463	484
MCPA	1,110	.	.	54	.	.	.	.	.	.	.	.	.	.	.	1,164
Mecoprop-P	4,671	.	427	685	860	.	71	.	267	.	.	.	.	.	.	6,981
Metribuzin	.	.	.	.	.	.	.	.	.	.	.	.	256	102	1,769	2,127
Metsulfuron-methyl	7	0	1	1	1	.	0	.	0	.	.	.	.	.	.	10
Metsulfuron-methyl/thifensulfuron-methyl	56	.	18	12	24	.	.	.	4	.	.	.	.	.	.	113
Metsulfuron-methyl/tribenuron-methyl	94	.	7	8	5	.	6	.	1	.	.	.	.	.	.	120
Paraquat	.	.	.	.	.	.	.	.	.	.	.	.	.	1	52	53
Pendimethalin	55	.	704	.	249	.	.	.	.	.	87	.	.	.	109	1,203
Pendimethalin/picolinafen	.	.	189	.	.	.	.	.	.	.	.	.	.	.	.	189
Pinoxaden	61	.	3	3	39	.	.	.	.	.	.	.	.	.	.	107
Propaquizafop	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6	7
Propyzamide	.	.	.	.	.	.	.	.	.	245	.	.	.	.	.	245
Prosulfocarb	210	.	653	.	247	.	.	.	.	.	.	.	471	158	3,315	5,054
Rimsulfuron	.	.	.	.	.	.	.	.	.	.	.	.	1	0	4	5
Thifensulfuron-methyl	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2
Thifensulfuron-methyl/tribenuron-methyl	13	.	.	2	3	.	1	.	.	.	.	.	.	.	.	18
Tralkoxydim	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	3
Tribenuron-methyl	1	0	.	.	.	0	.	.	.	.	.	.	.	.	.	1
All herbicides & desiccants	***14,038***	***691***	***10,275***	***1,258***	***11,143***	***91***	***198***	***.***	***583***	***646***	***132***	***.***	***1,408***	***427***	***9,863***	***50,754***

**** 20%/40% **10%/40%***

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland, 2010.

Pesticide type & formulation	Spring barley	Undersown barley	Winter barley	Spring wheat	Winter wheat	Undersown wheat	Spring oats	Undersown oats	Winter oats	Oilseed rape	Peas & beans	Triticale	Seed potatoes	Early potatoes	Maincrop potatoes	All crops
Insecticides																
Alpha-cypermethrin	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	1
Bifenthrin	0	.	0	0	0	.	0	.	.	.	.	.	.	.	.	1
Chlorpyrifos	599	.	89	18	27	.	.	.	.	.	.	.	.	.	.	733
Cypermethrin	28	.	7	1	11	.	1	.	.	.	.	.	.	.	3	51
Deltamethrin	2	.	3	1	4	0	0	.	0	.	.	0	.	.	.	10
Deltamethrin/pirimicarb	.	.	.	.	.	.	.	.	.	.	.	.	13	.	1	14
Esfenvalerate	20	0	12	2	16	.	0	.	1	0	.	.	.	.	.	51
Flonicamid	.	.	.	.	.	.	.	.	.	.	.	.	6	.	.	6
Lambda-cyhalothrin	9	0	8	1	20	.	0	.	0	2	0	.	1	0	6	49
Pirimicarb	.	.	8	.	.	.	.	.	.	.	.	.	.	.	.	8
Thiacloprid	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	6
Zeta-cypermethrin	.	.	.	.	.	.	.	.	.	0	.	.	.	.	.	0
All insecticides	***659***	***1***	***126***	***23***	***80***	***0***	***2***	***.***	***1***	***3***	***0***	***0***	***20***	***0***	***16***	***931***
Molluscicides																
Metaldehyde	.	.	.	.	.	.	.	.	.	.	.	.	.	.	40	40
Methiocarb	.	.	10	.	18	.	.	.	.	.	.	.	7	2	40	77
All molluscicides	***.***	***.***	***10***	***.***	***18***	***.***	***.***	***.***	***.***	***.***	***.***	***.***	***7***	***2***	***81***	***118***
Growth Regulators																
Chlormequat	3,022	.	2,046	143	5,977	.	67	.	235	.	.	.	.	.	.	11,491
Chlormequat with choline chloride	19	.	362	.	853	.	36	.	.	.	.	.	.	.	.	1,270
Chlormequat/2-chloroethylphosphonic acid	17	.	.	.	36	.	.	.	.	.	.	.	.	.	.	53
Chlormequat/Imazaquin	.	.	.	.	96	.	.	.	.	.	.	.	.	.	.	96
2-chloroethylphosphonic acid	123	.	293	53	271	.	.	.	.	.	.	.	.	.	.	740
2-chloroethylphosphonic acid/mepiquat chloride	39	.	15	6	.	.	.	.	.	.	.	.	.	.	.	60
Maleic hydrazide	.	.	.	.	.	.	.	.	.	.	.	.	.	.	168	168
Trinexapac-ethyl	160	.	131	9	112	.	19	.	21	.	.	.	.	.	.	452
All growth regulators	***3,380***	***.***	***2,847***	***212***	***7,345***	***.***	***123***	***.***	***256***	***.***	***.***	***.***	***.***	***.***	***168***	***14,330***

Table 9 (cont.): Estimated quantities (kg) of pesticide formulations used on arable crops in Northern Ireland, 2010.

Other																
Synthetic latex	.	.	.	.	.	.	.	.	.	179	.	.	.	.	.	179
All other	.	.	.	.	.	.	.	.	.	179	.	.	.	.	.	179
Seed treatments																
Beta-cyfluthrin/imidacloprid	.	.	.	.	.	.	.	.	.	5	.	.	.	.	.	5
Carboxin/thiram	52	.	14	.	43	.	.	.	.	.	.	.	.	.	.	110
Clothianidin/prothioconazole	4	.	218	.	343	.	24	.	44	.	.	.	.	.	.	633
Fludioxonil	24	3	2	5	6	1	1	.	.	.	.	.	.	.	.	41
Fludioxonil/flutriafol	20	.	4	.	4	.	1	.	0	.	.	.	.	.	.	29
Fludioxonil/metalaxyl-M/thiamethoxam	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1
Fluquinconazole/prochloraz	.	.	.	.	9	.	.	.	.	.	.	.	.	.	.	9
Flutolanil	.	.	.	.	.	.	.	.	.	.	.	.	9	5	111	126
Guazatine/imazalil	.	.	.	.	10	.	8	.	.	.	.	.	.	.	.	18
Imazalil	.	.	.	.	.	.	.	.	.	.	.	.	5	1	11	17
Imazalil/pencycuron	.	.	.	.	.	.	.	.	.	.	.	.	85	12	410	507
Imazalil/thiabendazole	.	.	.	.	.	.	.	.	.	.	.	.	.	.	46	46
Imazalil/triticonazole	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4
Imidacloprid/tebuconazole/triazoxide	4	.	5	.	6	.	.	.	.	.	.	.	.	.	.	16
3-Indolebutyric acid/cytokinin	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	1
Ipconazole	.	.	.	0	0	.	.	.	.	.	.	.	.	.	.	0
Prochloraz/thiram	.	.	.	.	.	.	.	.	.	0	.	.	.	.	.	0
Prochloraz/triticonazole	230	6	77	25	103	.	10	1	8	.	.	.	.	.	.	458
Prothioconazole	.	.	4	.	1	.	.	.	.	.	.	.	.	.	.	5
Silthiofam	.	.	6	.	41	.	.	.	.	.	.	.	.	.	.	47
Thiram	.	.	.	.	.	.	.	.	.	.	18	.	.	.	.	18
All seed treatments	339	8	331	30	565	1	44	1	52	7	18	.	99	18	578	2,091
All pesticides	25,233	750	20,121	2,511	31,431	116	775	1	1,416	1,108	334	4	7,522	1,111	43,850	136,283

Table 10: The fifty active ingredients most extensively used on arable crops in Northern Ireland in 2010, ranked by area treated (spray-hectares).

	Active ingredient	Treated area (sp ha)
1	Chlorothalonil	27,696.1
2	Glyphosate	21,459.2
3	Epoxiconazole	19,607.4
4	Prothioconazole	19,474.6
5	Fluazinam	17,109.0
6	Metsulfuron-methyl	17,032.9
7	Propamocarb hydrochloride	15,818.5
8	Mancozeb	13,224.9
9	Esfenvalerate	12,962.5
10	Chlormequat	12,400.7
11	Tribenuron-methyl	12,105.2
12	Diflufenican	9,882.2
13	Fenpropimorph	9,611.5
14	Diquat	9,451.4
15	Mecoprop-P	9,270.6
16	Fluroxypyr	9,000.5
17	Lambda-cyhalothrin	8,903.1
18	Fluopicolide	8,442.0
19	Cymoxanil	7,599.8
20	Azoxystrobin	7,226.2
21	Trinexapac-ethyl	6,874.6
22	Flufenacet	6,858.0
23	Cyprodinil	6,308.4
24	Fluoxastrobin	5,933.9
25	Flusilazole	5,908.2
26	Iodosulfron-methyl-Sodium	5,551.6
27	Tebuconazole	5,464.8
28	Pendimethalin	5,382.6
29	Mandipropamid	5,160.6
30	Thifensulfuron-methyl	4,742.2
31	Fenamidone	4,392.3
32	Cyproconazole	4,204.5
33	Propiconazole	4,193.0
34	Cyazofamid	3,924.9
35	Dimethomorph	3,892.1
36	Chlorotoluron	3,824.4
37	2-chloroethylphosphonic acid	3,630.6
38	Trifloxystrobin	3,331.2
39	Kresoxim-methyl	3,234.8
40	Prochloraz	3,211.8
41	Metribuzin	3,097.3
42	Isopyrazam	2,973.4
43	Boscalid	2,803.9
44	Pinoxaden	2,629.1
45	Metconazole	2,536.1
46	Methylated rapeseed oil	2,513.4
47	Picoxystrobin	2,268.1
48	Cypermethrin	2,254.3
49	Deltamethrin	2,178.1
50	Pyraclostrobin	2,058.9

Table 11: The fifty active ingredients most extensively used on arable crops in Northern Ireland in 2010, ranked by weight (kg).

	Active ingredient	Quantity (kg)
1	Mancozeb	17,324.7
2	Glyphosate	15,911.4
3	Chlorothalonil	14,477.8
4	Propamocarb hydrochloride	14,306.3
5	Chlormequat	11,622.1
6	Mecoprop-P	7,318.2
7	Chlorotoluron	5,207.3
8	Prosulfocarb	5,054.1
9	Pendimethalin	4,096.9
10	Diquat	3,060.7
11	Fluazinam	2,795.9
12	Prothioconazole	2,300.6
13	Fenpropimorph	2,180.0
14	Metribuzin	2,127.1
15	Epoxiconazole	1,643.1
16	Cyprodinil	1,536.2
17	MCPA	1,478.7
18	Chlormequat with choline chloride	1,270.2
19	Fluroxypyr	1,199.0
20	Azoxystrobin	1,061.0
21	Methylated rapeseed oil	1,027.5
22	Flufenacet	947.6
23	Isoproturon	943.9
24	Prochloraz	853.5
25	Fluopicolide	839.6
26	2-chloroethylphosphonic acid	778.3
27	Boscalid	769.2
28	Mandipropamid	757.5
29	Flusilazole	756.1
30	Chlorpyrifos	732.8
31	Fenamidone	684.7
32	Diflufenican	679.3
33	Tebuconazole	670.1
34	Cymoxanil	661.7
35	Dimethomorph	546.1
36	Linuron	532.2
37	Fluoxastrobin	508.0
38	Trinexapac-ethyl	452.0
39	Cyazofamid	386.5
40	2,4-DB	369.4
41	Propiconazole	338.2
42	Kresoxim-methyl	295.8
43	3,6-Dioxaoctadecylsulphate sodium salt	288.1
44	Picoxystrobin	285.8
45	Dichlorprop-P	277.5
46	Isopyrazam	256.1
47	Propyzamide	245.1
48	Cyproconazole	240.8
49	Pyraclostrobin	235.2
50	Alcohol ethoxylates	231.9

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

Pesticide type & formulation	General disease control	Disease prevention	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides					
Azoxystrobin	361.6	.	361.6	361.6	74.8
Azoxystrobin/chlorothalonil	319.1	.	319.1	319.1	197.4
Azoxystrobin/cyproconazole	15.8	.	15.8	15.8	4.4
Azoxystrobin/fenpropimorph	121.1	.	121.1	121.1	46.0
Boscalid/epoxiconazole	272.6	.	272.6	272.6	107.9
Carbendazim/flusilazole	498.5	265.3	763.8	763.8	136.3
Chlorothalonil	2,191.0	45.6	2,236.6	1,949.8	1,168.8
Chlorothalonil/cyproconazole/propiconazole	604.9	.	605.0	558.9	367.1
Chlorothalonil/flusilazole	1,727.7	.	1,727.7	1,688.4	721.0
Chlorothalonil/picoxystrobin	405.3	.	405.3	389.8	377.0
Cyproconazole/propiconazole	594.8	.	594.9	594.9	94.7
Cyproconazole/trifloxystrobin	156.9	.	156.9	156.9	21.0
Cyprodinil	1,483.6	175.0	1,658.5	1,658.5	416.8
Cyprodinil/isopyrazam	1,582.3	.	1,582.3	1,429.6	482.0
Epoxiconazole	1,119.1	293.5	1,412.6	1,157.3	111.4
Epoxiconazole/fenpropimorph	228.7	.	228.7	228.7	85.0
Epoxiconazole/fenpropimorph/kresoxim-methyl	521.9	190.1	712.0	712.0	203.1
Epoxiconazole/fenpropimorph/metrafenone	363.5	.	363.5	213.4	96.6
Epoxiconazole/fenpropimorph/pyraclostrobin	63.3	.	63.3	63.3	25.1
Epoxiconazole/metconazole	77.1	.	77.2	77.2	8.5
Epoxiconazole/prochloraz	566.1	145.8	711.9	619.1	204.7
Fenpropimorph	929.4	.	929.4	887.7	336.3
Fenpropimorph/flusilazole	697.0	.	697.0	651.0	336.9
Fenpropimorph/pyraclostrobin	136.6	.	136.6	136.6	32.4
Fluoxastrobin/prothioconazole	1,826.6	.	1,826.6	1,362.5	313.2
Fluoxastrobin/prothioconazole/trifloxystrobin	92.6	.	92.6	92.6	17.9
Flutriafol	94.1	.	94.1	94.1	7.1
Mancozeb	109.3	.	109.3	109.3	87.5
Picoxystrobin	471.6	.	471.6	471.6	59.7
Propiconazole	202.7	.	202.7	101.3	12.7
Propiconazole/tebuconazole	181.7	.	181.7	149.5	45.2
Proquinazid	163.0	.	163.0	163.0	7.4
Prothioconazole	2,624.0	93.0	2,717.0	2,056.7	340.7

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

Pesticide type & formulation	General disease control	Disease prevention	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides (cont.)					
Prothioconazole/tebuconazole	59.5	.	59.5	59.5	6.7
Prothioconazole/trifloxystrobin	851.3	.	851.3	779.6	154.1
Pyraclostrobin	315.7	.	315.7	315.7	37.2
Sulphur	.	32.9	32.9	32.9	65.9
Tebuconazole	58.2	.	58.2	58.2	6.8
Unknown fungicide	172.4	.	172.4	172.4	.
All fungicides	***22,260.7***	***1,241.3***	***23,502.0***	***13,013.0***	***6,817.2***

Pesticide type & formulation	General weed control	Cleavers	Desiccation	Ground preparation	Chickweed	Couch	Corn marigold	Volunteer oats	Meadow grass	Headlands	Chickweed and cleavers	All reasons	Basic area (ha) of treatment	Quantity (kg)
Herbicides & desiccants														
Amidosulfuron/iodosulfron-methyl-sodium	94.1	.	.	.	.	.	.	.	.	.	.	94.1	94.1	1.6
Bromoxynil/ioxynil	975.6	.	.	.	.	.	17.4	.	.	.	.	993.0	993.0	342.6
Chlorotoluron/diflufenican	118.4	.	.	.	.	.	.	.	.	.	.	118.4	118.4	74.0
Dicamba/MCPA/mecoprop-P	72.0	.	.	.	.	.	.	.	.	.	.	72.0	72.0	66.5
Dicamba/mecoprop-P	445.5	.	.	.	46.1	.	.	.	.	.	.	491.6	491.6	321.5
Dichlorprop-P	206.1	.	.	.	.	.	.	.	.	.	.	206.1	206.1	152.6
Diclofop-methyl/fenoxaprop-P-ethyl	.	.	.	.	.	.	.	9.4	.	.	.	9.4	9.4	4.2
Florasulam/fluroxypyr	169.4	.	.	.	224.5	.	.	.	.	.	.	393.9	393.9	50.3
Fluroxypyr	4,176.7	134.7	.	.	.	.	.	.	.	.	102.1	4,413.5	4,350.2	542.7
Glyphosate	233.3	.	3,425.3	4,229.8	.	59.8	.	.	.	26.5	.	7,974.7	7,353.9	6,184.2
Iodosulfron-methyl-sodium	2,645.6	.	.	.	.	.	.	.	.	.	.	2,645.6	2,645.6	19.1
MCPA	819.6	.	.	.	102.1	.	.	.	.	.	.	921.7	921.7	1,109.9
Mecoprop-P	5,437.3	75.7	.	.	39.3	.	.	.	9.4	.	.	5,561.6	5,561.6	4,670.8
Metsulfuron-methyl	1,221.6	.	.	.	.	.	.	.	.	.	.	1,221.6	1,221.6	6.8
Metsulfuron-methyl/thifensulfuron-methyl	2,032.4	.	.	.	.	.	.	.	.	.	.	2,032.4	2,032.4	55.5
Metsulfuron-methyl/tribenuron-methyl	8,609.7	.	.	.	.	.	120.6	.	.	.	.	8,730.3	8,730.3	93.9
Pendimethalin	136.6	.	.	.	.	.	.	.	.	.	.	136.6	136.6	54.6
Pinoxaden	.	.	.	.	.	.	.	1,344.6	.	.	.	1,344.6	1,344.6	61.1
Prosulfocarb	131.4	.	.	.	.	.	.	.	.	.	.	131.4	131.4	210.3
Thifensulfuron-methyl	151.9	.	.	.	.	.	.	.	.	.	.	151.9	151.9	1.6

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

Pesticide type & formulation	General weed control	Cleavers	Desiccation	Ground preparation	Chickweed	Couch	Corn marigold	Volunteer oats	Meadow grass	Headlands	Chickweed and cleavers	All reasons	Basic area (ha) of treatment	Quantity (kg)
Herbicides & desiccants (cont.)														
Thifensulfuron-methyl/tribenuron-methyl	405.4	.	.	.	.	.	.	.	.	.	.	405.4	405.4	12.8
Tribenuron-methyl	117.6	.	.	.	.	.	.	.	.	.	.	117.6	117.6	1.2
Unknown herbicide	173.1	.	.	.	.	.	.	.	.	.	.	173.1	173.1	.
All Herbicides & desiccants	***28,373.4***	***210.4***	***3,425.3***	***4,229.8***	***411.9***	***59.8***	***138.0***	***1,354.0***	***9.4***	***26.5***	***102.1***	***38,340.5***	***16,127.0***	***14,038.1***

Pesticide type & formulation	Aphids	Leatherjackets	General insect control	All reasons	Basic area (ha) of treatment	Quantity (kg)
Insecticides						
Bifenthrin	65.0	.	.	65.0	65.0	0.4
Chlorpyrifos	164.8	551.5	240.3	956.5	956.5	599.1
Cypermethrin	1,235.6	.	.	1,235.6	1,177.6	28.0
Deltamethrin	491.1	.	.	491.1	491.1	2.4
Esfenvalerate	5,047.7	.	94.3	5,142.0	4,595.9	19.8
Lambda-cyhalothrin	2,115.9	.	.	2,115.9	1,657.3	9.3
All insecticides	***9,120.0***	***551.5***	***334.6***	***10,006.1***	***7,974.0***	***659.1***

Pesticide type & formulation	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Growth regulators				
Chlormequat	3,538.4	3,538.4	3,498.5	3,021.6
Chlormequat with choline chloride	39.9	39.9	39.9	19.3
Chlormequat/2-chloroethylphosphonic acid	64.4	64.4	64.4	17.4
2-chloroethylphosphonic acid	708.9	708.9	708.9	123.2
2-chloroethylphosphonic acid/mepiquat chloride	104.7	104.7	104.7	38.5
Trinexapac-ethyl	2,446.7	2,446.7	2,446.7	159.7
All growth regulators	***6,903.0***	***6,903.0***	***5,967.0***	***3,379.8***

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

Pesticide type & formulation	General weed control	Aphids	Ground preparation	Couch	Disease prevention	General disease control	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides									
Carbendazim/flusilazole	.	.	.	.	50.3	.	50.3	50.3	7.5
Chlorothalonil	.	.	.	.	.	42.2	42.2	42.2	21.0
Cyprodinil	.	.	.	.	.	24.9	24.9	24.9	3.7
Fenpropimorph/flusilazole	.	.	.	.	.	30.9	30.9	30.9	12.4
Fluoxastrobin/prothioconazole	.	.	.	.	.	11.1	11.1	11.1	1.3
Prothioconazole	.	.	.	.	.	31.1	31.1	31.1	3.9
All fungicides	***.***	***.***	***.***	***.***	***50.3***	***140.1***	***190.3***	***148.0***	***49.8***
Herbicides & desiccants									
2,4-DB/linuron/MCPA	443.0	.	.	.	.	.	443.0	443.0	406.6
2,4-DB/MCPA	11.1	.	.	.	.	.	11.1	11.1	7.6
Dicamba/MCPA/mecoprop-P	71.4	.	.	.	.	.	71.4	71.4	97.7
Fluroxypyr	34.8	.	.	.	.	.	34.8	34.8	5.2
Glyphosate	.	.	115.1	37.4	.	.	152.5	152.5	173.6
Metsulfuron-methyl	34.8	.	.	.	.	.	34.8	34.8	0.2
Tribenuron-methyl	11.1	.	.	.	.	.	11.1	11.1	<0.1
All herbicides & desiccants	***606.1***	***.***	***115.1***	***37.4***	***.***	***.***	***758.5***	***591.0***	***691.1***
Insecticides									
Esfenvalerate	.	121.6	.	.	.	.	121.6	121.6	0.5
Lambda-cyhalothrin	.	34.0	.	.	.	.	34.0	34.0	0.2
All insecticides	***.***	***155.7***	***.***	***.***	***.***	***.***	***155.7***	***155.7***	***0.6***

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

Pesticide type & formulation	General disease control	Disease prevention	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides					
Azoxystrobin	408.3	.	408.3	352.8	69.3
Azoxystrobin/chlorothalonil	465.2	.	465.2	325.0	265.8
Azoxystrobin/cyproconazole	131.0	.	131.0	131.0	36.7
Boscalid/epoxiconazole	221.6	.	221.6	206.9	84.5
Carbendazim/flusilazole	560.7	.	560.7	560.7	133.3
Chlorothalonil	3,533.0	114.8	3,647.8	3,058.0	1,659.3
Chlorothalonil/cyproconazole/propiconazole	654.2	.	654.2	514.0	395.7
Chlorothalonil/flusilazole	442.1	.	442.1	390.1	191.7
Chlorothalonil/picoxystrobin	846.3	.	846.3	482.3	618.4
Cyproconazole/propiconazole	803.8	.	803.8	803.8	103.0
Cyprodinil	988.8	114.8	1,103.6	1,039.3	238.0
Cyprodinil/isopyrazam	1,391.0	.	1,391.0	913.2	542.3
Epoxiconazole	255.3	.	255.3	255.3	21.6
Epoxiconazole/fenpropimorph/kresoxim-methyl	857.7	.	857.7	721.2	288.4
Epoxiconazole/metconazole	137.0	.	137.0	137.0	17.8
Epoxiconazole/prochloraz	148.2	.	148.2	148.2	26.0
Fenpropidin	347.1	.	347.1	347.1	70.4
Fenpropimorph	859.4	.	859.4	808.7	293.3
Fenpropimorph/flusilazole	524.7	.	524.7	358.3	236.2
Fluoxastrobin/prothioconazole	1,382.2	.	1,382.1	1,050.1	251.5
Fluoxastrobin/prothioconazole/trifloxystrobin	1,003.1	74.8	1,078.0	1,051.7	261.4
Fluquinconazole/prochloraz	184.9	.	184.9	184.9	74.2
Flusilazole	423.9	.	423.9	347.9	37.1
Picoxystrobin	409.0	.	409.0	270.4	46.9
Propiconazole/tebuconazole	271.5	.	271.5	271.5	59.3
Proquinazid	276.1	.	276.1	222.3	12.4
Prothioconazole	2,276.8	229.7	2,506.5	1,737.9	332.4
Prothioconazole/tebuconazole	136.7	.	136.7	136.7	27.4
Prothioconazole/trifloxystrobin	584.6	.	584.6	584.6	102.6
Pyraclostrobin	130.4	.	130.4	130.4	13.0
Quinoxyfen	47.1	.	47.1	47.1	3.5
Tebuconazole	84.6	.	84.6	84.6	18.9
All fungicides	***20,786.3***	***534.1***	***21,320.4***	***6,672.0***	***6,532.4***

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

Pesticide type & formulation	General weed control	Cleavers	Desiccation	Ground preparation	Volunteer oats	Groundsel	Headlands	Chickweed and cleavers	All reasons	Basic area (ha) of treatment	Quantity (kg)
Herbicides & desiccants											
Amidosulfuron	47.1	.	.	.	.	.	.	.	47.1	47.1	0.5
Bromoxynil/ioxynil	69.2	.	.	.	.	.	.	.	69.2	69.2	30.8
Chlorotoluron	551.6	.	.	.	.	.	.	.	551.6	551.6	936.0
Chlorotoluron/diflufenican	1,117.4	.	.	.	.	.	.	.	1,117.4	1,117.4	1,585.5
Diflufenican	1,170.6	.	.	.	.	.	.	.	1,170.6	1,170.6	172.8
Diflufenican/flufenacet*	1,226.6	.	.	.	.	.	.	.	1,226.6	1,226.6	220.6
Diflufenican/flufenacet**	597.6	.	.	.	.	.	.	.	597.6	597.6	123.2
Diflufenican/iodosulfron-methyl-sodium/mesosulfuron-methyl	25.4	.	.	.	.	.	.	.	25.4	25.4	1.5
Diflufenican/isoproturon	197.5	.	.	.	.	.	.	.	197.5	197.5	230.7
Diquat	.	.	.	.	.	.	22.0	.	22.0	22.0	0.9
Florasulam/fluroxypyr	83.5	148.2	.	.	.	.	.	43.1	274.9	274.9	25.4
Flufenacet/pendimethalin	1,242.5	.	.	.	.	.	.	.	1,242.5	1,242.5	1,146.8
Fluroxypyr	1,004.7	191.6	.	.	.	4.0	.	.	1,116.9	1,116.9	215.6
Glyphosate	139.4	.	2,986.5	1,518.4	.	.	113.7	.	4,757.9	4,221.8	3,194.7
Iodosulfron-methyl-sodium	107.1	.	.	.	.	.	.	.	107.1	107.1	0.8
Isoproturon	368.0	.	.	.	.	.	.	.	368.0	368.0	383.0
Mecoprop-P	336.7	108.7	.	.	.	.	.	.	445.4	445.4	427.4
Metsulfuron-methyl	194.8	.	.	.	.	.	.	.	194.8	194.8	1.1
Metsulfuron-methyl/thifensulfuron-methyl	544.2	.	.	.	.	.	.	.	544.2	544.2	17.7
Metsulfuron-methyl/tribenuron-methyl	661.3	.	.	.	.	.	.	.	661.3	661.3	6.7
Pendimethalin	765.1	.	.	.	.	.	.	.	765.1	765.1	703.7
Pendimethalin/picolinafen	235.3	.	.	.	.	.	.	.	235.3	235.3	189.5
Pinoxaden	.	.	.	.	100.1	.	.	.	100.1	100.1	3.0
Prosulfocarb	373.3	.	.	.	.	.	.	.	373.3	373.3	653.4
Tralkoxydim	12.9	.	.	.	.	.	.	.	12.9	12.9	3.2
All herbicides & desiccants	***11,071.7***	***448.5***	***2,986.5***	***1,518.4***	***100.1***	***4.0***	***135.7***	***43.1***	***16,224.7***	***6,597.0***	***10,274.5***

**** 20%/40% **10%/40%***

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

Pesticide type & formulation	Aphids	All reasons	Basic area (ha) of treatment	Quantity (kg)
Insecticides				
Bifenthrin	52.7	52.7	52.7	0.3
Chlorpyrifos	137.1	137.1	137.1	88.6
Cypermethrin	278.7	278.7	278.7	6.7
Deltamethrin	513.2	513.2	513.2	2.7
Esfenvalerate	3,190.3	3,190.3	2,309.3	11.8
Lambda-cyhalothrin	1,797.4	1,797.4	1,496.4	8.2
Pirimicarb	59.1	59.1	59.1	7.8
	6,028.5	6,028.5		126.2
All insecticides	***6,028.5***	***6,028.5***	***4,287.0***	***126.2***

Molluscicides	Slugs	All reasons	Basic area (ha) of treatment	Quantity (kg)
Methiocarb	67.2	67.2	67.2	10.1
All molluscicides	***67.2***	***67.2***	***67.2***	***10.1***

Growth regulators	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Chlormequat	2,289.1	2,289.1	1,877.0	2,046.2
Chlormequat with choline chloride	330.1	330.1	330.1	361.9
2-chloroethylphosphonic acid	1,155.4	1,155.4	1,155.4	293.1
2-chloroethylphosphonic acid/mepiquat chloride	32.3	32.3	32.3	14.8
Trinexapac-ethyl	2,021.0	2,021.0	1,842.9	131.1
All growth regulators	***5,828.0***	***5,828.0***	***4,258.0***	***2,847.1***

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

Pesticide type & formulation	General disease control	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides				
Azoxystrobin	29.9	29.9	29.9	4.5
Azoxystrobin/fenpropimorph	96.4	96.4	96.4	73.3
Boscalid/epoxiconazole	22.5	22.5	22.5	6.8
Carbendazim/flusilazole	233.5	233.5	233.5	54.7
Chlorothalonil	605.7	605.7	430.4	277.1
Chlorothalonil/flusilazole	110.2	110.2	110.2	52.8
Chlorothalonil/picoxystrobin	17.6	17.6	17.6	7.4
Epoxiconazole	362.9	362.9	330.1	22.7
Epoxiconazole/fenpropimorph/kresoxim-methyl	233.5	233.5	233.5	93.4
Epoxiconazole/fenpropimorph/metrafenone	181.5	181.5	181.5	48.2
Epoxiconazole/metconazole	88.4	88.4	62.1	9.5
Fenpropidin	181.9	181.9	181.9	38.2
Fluoxastrobin/prothioconazole	154.6	154.6	154.6	26.7
Fluoxastrobin/prothioconazole/trifloxystrobin	51.0	51.0	51.0	13.2
Mancozeb	169.3	169.3	169.3	121.8
Proquinazid	160.0	160.0	133.7	6.4
Prothioconazole	275.4	275.4	275.4	65.3
Prothioconazole/tebuconazole	171.2	171.2	171.2	48.7
Prothioconazole/trifloxystrobin	19.1	19.1	19.1	1.5
Pyraclostrobin	63.9	63.9	63.9	12.7
Tebuconazole	14.7	14.7	14.7	2.6
All fungicides	***3,243.0***	***3,243.1***	***1,249.0***	***987.6***

Herbicides & desiccants	General weed control	Desiccation	Ground preparation	Volunteer oats	All reasons	Basic area (ha) of treatment	Quantity (kg)
Bromoxynil/ioxynil	66.3	.	.	.	66.3	66.3	26.5
2,4-DB/linuron/MCPA	44.8	.	.	.	44.8	44.8	43.9
Dicamba/mecoprop-P	9.0	.	.	.	9.0	9.0	4.9
Dichlorprop-P	111.7	.	.	.	111.7	111.7	124.9
Fluroxypyr	381.2	.	.	.	381.2	381.2	40.3
Glyphosate	.	355.7	72.9	.	428.5	419.5	253.6
Iodosulfron-methyl-sodium	41.3	.	.	.	41.3	41.3	0.3
MCPA	107.4	.	.	.	107.4	107.4	53.7
Mecoprop-P	613.0	.	.	.	613.0	613.0	684.7
Metsulfuron-methyl	181.6	.	.	.	181.6	181.6	0.7
Metsulfuron-methyl/thifensulfuron-methyl	370.3	.	.	.	370.3	370.3	12.1
Metsulfuron-methyl/tribenuron-methyl	723.1	.	.	.	723.1	723.1	7.9
Pinoxaden	22.5	.	.	61.6	84.2	84.2	3.4
Thifensulfuron-methyl/tribenuron-methyl	31.7	.	.	.	31.7	31.7	1.5
All herbicides & desiccants	***2,703.9***	***355.7***	***72.9***	***61.6***	***3,194.1***	***1,439.0***	***1,258.3***

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

Pesticide type & formulation	Aphids	Leatherjackets	All reasons	Basic area (ha) of treatment	Quantity (kg)
Insecticides					
Bifenthrin	13.2	.	13.2	13.2	0.1
Chlorpyrifos	.	26.0	26.0	26.0	18.4
Cypermethrin	45.1	.	45.1	22.5	0.9
Deltamethrin	132.3	.	132.3	132.3	0.7
Esfenvalerate	425.0	.	425.0	425.0	1.9
Lambda-cyhalothrin	130.4	.	130.4	104.1	0.7
All insecticides	***746.0***	***26.0***	***772.0***	***723.0***	***22.6***

	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Growth regulators				
Chlormequat	241.6	241.6	241.6	143.3
2-chloroethylphosphonic acid	289.1	289.1	289.1	53.5
2-chloroethylphosphonic acid/mepiquat chloride	9.0	9.0	9.0	6.2
Trinexapac-ethyl	159.7	159.7	159.7	9.0
All growth regulators	***699.4***	***699.4***	***593.0***	***212.0***

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

Pesticide type & formulation	General disease control	Disease prevention	Headwash	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides						
Chlorothalonil	9128.3	49.6	.	9177.9	5992.9	4457.3
Epoxiconazole	4735.6	69.9	.	4805.4	3463.1	494.9
Prothioconazole	2681.9	.	33	2714.8	2262.9	425.9
Azoxystrobin/chlorothalonil	2459.8	.	.	2459.9	1673.5	1992.1
Prothioconazole/tebuconazole	2266.1	24.8	.	2290.8	1924.9	436.1
Boscalid/epoxiconazole	2217.3	69.9	.	2287.1	2221.8	791.2
Epoxiconazole/metconazole	2233.5	.	.	2233.5	2004.6	264.7
Azoxystrobin	1993.5	.	.	1993.5	1563	323.6
Tebuconazole	1843.1	.	33	1876.1	1794	293.7
Fluquinconazole/prochloraz	1331.4	.	.	1331.4	1246.7	431.4
Epoxiconazole/fenpropimorph/kresoxim-methyl	1313.3	.	.	1313.3	1313.3	324.3
Proquinazid	983.5	.	.	983.4	406.9	34.2
Chlorothalonil/cyproconazole/propiconazole	847.4	.	.	847.4	592	410
Fluoxastrobin/prothioconazole	845.8	.	.	845.8	673.1	203.5
Pyraclostrobin	845.6	.	.	845.6	691.2	99.2
Epoxiconazole/prochloraz	815.5	.	.	815.5	815.5	361
Cyprodinil	548	.	.	548	320.5	109.5
Prothioconazole/trifloxystrobin	367.3	.	.	367.3	350.8	64.3
Azoxystrobin/cyproconazole	345.9	.	.	345.9	345.9	80.2
Fenpropimorph	302.4	.	.	302.4	302.4	37.9
Fenpropidin	301.2	.	.	301.2	150.6	45.2
Mancozeb	250.9	.	.	250.9	250.9	324.5
Epoxiconazole/pyraclostrobin	153.2	.	.	153.2	126.8	29.9
Carbendazim/flusilazole	138	.	.	138	138	30.7
Chlorothalonil/picoxystrobin	111.1	.	.	111.1	111.1	66.6
Epoxiconazole/fenpropimorph/metrafenone	100.5	.	.	100.5	100.5	33.9
Fluoxastrobin/prothioconazole/trifloxystrobin	93.5	.	.	93.5	93.5	22.5
Flusilazole	76.2	.	.	76.2	76.2	7.6
Epoxiconazole/fenpropimorph	46.6	24.8	.	71.4	71.4	29.8
Fenpropimorph/flusilazole	48	.	.	48	48	19
Propiconazole/tebuconazole	31.9	.	.	31.9	31.9	4.8
Azoxystrobin/fenpropimorph	19.7	.	.	19.7	19.7	1.6
Sulphur	.	11.7	.	11.7	11.7	23.4
Chlorothalonil/flusilazole	9.1	.	.	9.1	9.1	5.1
All fungicides	***39485.1***	***250.6***	***65.9***	***39801.6***	***8818***	***12280***

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

Pesticide type & formulation	General weed control	Cleavers	Desiccation	Ground preparation	Chickweed	Volunteer oats	Headlands	All reasons	Basic area (ha) of treatment	Quantity (kg)
Herbicides & desiccants										
Amidosulfuron	69.7	.	.	.	.	.	.	69.7	69.7	0.8
Bromoxynil/ioxynil	20.6	.	.	.	.	.	.	20.6	20.6	8.2
Chlorotoluron	500.5	.	.	.	.	.	.	500.5	500.5	780.5
Chlorotoluron/diflufenican	1,536.5	.	.	.	.	.	.	1,536.5	1,536.5	1,976.9
2,4-D	21.8	.	.	.	.	.	.	21.8	21.8	7.5
2,4-D/MCPA	74.5	.	.	.	.	.	.	74.5	74.5	205.6
Diflufenican	602.7	.	.	.	.	.	.	602.7	602.7	59.5
Diflufenican/flufenacet*	963.8	.	.	.	.	.	.	963.8	963.8	173.0
Diflufenican/flufenacet**	380.6	.	.	.	.	.	.	380.6	380.6	63.1
Diflufenican/iodosulfron-methyl-sodium/mesosulfuron-methyl	1,751.7	.	.	.	.	.	.	1,751.7	1,751.7	103.6
Diflufenican/isoproturon	176.9	.	.	.	.	.	.	176.9	176.9	176.7
Florasulam/fluroxypyr	24.8	61.2	.	.	.	.	.	86.0	86.0	9.4
Flufenacet/pendimethalin	2,447	.	.	.	.	.	.	2,447	2,363.2	2,070.8
Fluroxypyr	1,358.6	457.7	.	.	.	.	.	1,816.3	1,781.9	256.5
Glyphosate	169.7	.	3,388.9	1,261.1	.	.	256.3	5,076.0	4,647.7	3,584.5
Iodosulfron-methyl-sodium	886.3	.	.	.	.	.	.	886.3	886.3	8.1
Isoproturon	162.6	.	.	.	.	.	.	162.6	162.6	181.5
Isoproturon/pendimethalin	33.6	.	.	.	.	.	.	33.6	33.6	47.8
Mecoprop-P	1,568.3	.	.	.	.	.	.	1,568.3	1,335.5	860.0
Metsulfuron-methyl	196.8	.	.	.	.	.	.	196.8	196.8	1.1
Metsulfuron-methyl/thifensulfuron-methyl	761.5	.	.	.	.	.	.	761.5	761.5	23.8
Metsulfuron-methyl/tribenuron-methyl	438.2	.	.	.	.	.	.	438.2	438.2	4.6
Pendimethalin	325.1	.	.	.	.	.	.	325.1	325.1	249.4
Pinoxaden	.	.	.	.	.	1,100.2	.	1,100.2	1,100.2	39.3
Prosulfocarb	154.6	.	.	.	.	.	.	154.6	154.6	247.4
Thifensulfuron-methyl/tribenuron-methyl	.	.	.	.	228.2	.	.	228.2	228.2	3.4
All herbicides & desiccants	***14,626.4***	***518.9***	***3,388.9***	***1,261.1***	***228.2***	***1,100.2***	***256.3***	***21,379.9***	***9,035.0***	***11,142.9***

**** 20%/40% **10%/40%***

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

Pesticide type & formulation	General insect control	Aphids	Leatherjackets	Headwash	All reasons	Basic area (ha) of treatment	Quantity (kg)
Insecticides							
Alpha-cypermethrin	.	69.7	.	.	69.7	69.7	0.9
Bifenthrin	.	48.7	.	.	48.7	48.7	0.3
Chlorpyrifos	.	21.6	21.9	.	43.5	43.5	26.7
Cypermethrin	.	480.9	.	.	480.9	480.9	11.3
Deltamethrin	.	801.4	.	33.0	834.4	834.4	4.3
Esfenvalerate	142.5	3,645.7	.	.	3,788.3	3,243.8	16.2
Lambda-cyhalothrin	227.5	3,230.4	.	.	3,457.9	2,899.4	20.3
All insecticides	***370.0***	***8,298.5***	***21.9***	***33.0***	***8,723.4***	***7,095.0***	***80.0***

	Slugs	All reasons	Basic area (ha) of treatment	Quantity (kg)
Molluscicides				
Methiocarb	257.4	257.4	223.3	18.3
All molluscicides	***257.4***	***257.4***	***223.0***	***18.3***

	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Growth regulators				
Chlormequat	5,777.2	5,777.3	5,201.6	5,977.1
Chlormequat with choline chloride	707.3	707.3	707.3	853.0
Chlormequat/2-chloroethylphosphonic acid	66.3	66.3	66.3	35.8
Chlormequat/Imazaquin	130.5	130.5	130.5	96.3
2-chloroethylphosphonic acid	1,200.3	1,200.3	1,200.3	270.7
Trinexapac-ethyl	1,525.2	1,525.2	1,525.2	112.1
All growth regulators	***9,406.9***	***9,406.9***	***6,918.0***	***7,345.0***

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

Pesticide type & formulation	General weed control	General disease control	Aphids	Ground preparation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides							
Chlorothalonil	.	21.3	.	.	21.3	21.3	10.7
Fluoxastrobin/prothioconazole/trifloxystrobin	.	37.1	.	.	37.1	37.1	11.1
Prothioconazole	.	21.3	.	.	21.3	21.3	2.7
All fungicides	***.***	***79.7***	***.***	***.***	***79.8***	***58.0***	***24.5***
Herbicides & desiccants							
2,4-DB/MCPA	37.1	.	.	.	37.1	37.1	10.4
Dicamba/MCPA/mecoprop-P	21.3	.	.	.	21.3	21.3	39.1
Fluroxypyr	7.4	.	.	.	7.4	7.4	0.4
Glyphosate	.	.	.	37.1	37.1	37.1	41.3
Tribenuron-methyl	37.1	.	.	.	37.1	37.1	0.1
All herbicides & desiccants	***103.1***	***.***	***.***	***37.1***	***140.2***	***58.0***	***91.3***
Insecticides							
Deltamethrin	.	.	21.3	.	21.3	21.3	0.1
All insecticides	***.***	***.***	***21.3***	***.***	***21.3***	***21.3***	***0.1***

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

Pesticide type & formulation	Disease prevention	General disease control	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides					
Azoxystrobin	.	20.8	20.8	20.8	5.2
Azoxystrobin/cyproconazole	.	49.7	49.7	49.7	8.6
Chlorothalonil	.	289.0	289.0	164.7	146.9
Epoxiconazole/fenpropimorph	.	28.0	28.0	28.0	11.6
Epoxiconazole/fenpropimorph/metrafenone	.	429.8	429.8	214.9	145.1
Fenpropimorph	.	60.6	60.6	60.6	23.5
Fluoxastrobin/prothioconazole	315.9	45.7	361.6	203.6	57.5
Picoxystrobin	.	7.2	7.2	7.2	0.9
Proquinazid	.	31.9	31.9	31.9	1.3
Pyraclostrobin	.	29.5	29.5	29.5	3.6
Tebuconazole	.	29.5	29.5	29.5	4.4
All fungicides	***315.9***	***1,021.6***	***1,337.5***	***673.0***	***408.4***

Pesticide type & formulation	General weed control	Desiccation	Ground preparation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Herbicides & desiccants						
Amidosulfuron	260.7	.	.	260.7	260.7	7.8
Dicamba/mecoprop-P	31.9	.	.	31.9	31.9	23.1
Florasulam/fluroxypyr	19.1	.	.	19.1	19.1	2.9
Fluroxypyr	154.3	.	.	154.3	154.3	23.6
Glyphosate	.	7.2	66.5	73.7	73.7	63.0
Mecoprop-P	90.5	.	.	90.5	90.5	70.7
Metsulfuron-methyl	60.6	.	.	60.6	60.6	0.4
Metsulfuron-methyl/tribenuron-methyl	567.4	.	.	567.4	567.4	5.9
Thifensulfuron-methyl/tribenuron-methyl	49.7	.	.	49.7	49.7	0.7
All herbicides & desiccants	***1,234.1***	***7.2***	***66.5***	***1,307.8***	***906.0***	***198.0***

Pesticide type & formulation	Aphids	All reasons	Basic area (ha) of treatment	Quantity (kg)
Insecticides				
Bifenthrin	29.5	29.5	29.5	0.2
Cypermethrin	49.7	49.7	49.7	1.2
Deltamethrin	19.1	19.1	19.1	0.1
Esfenvalerate	52.7	52.7	52.7	0.2
Lambda-cyhalothrin	33.8	33.8	33.8	0.2
All insecticides	***184.8***	***184.8***	***184.8***	***1.9***

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

Pesticide type & formulation	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Growth regulators				
Chlormequat	68.6	68.6	68.6	67.4
Chlormequat with choline chloride	74.6	74.6	74.6	36.1
Trinexapac-ethyl	283.5	283.5	283.5	19.2
All growth regulators	***426.7***	***426.7***	***358.0***	***122.6***

Table 18: Winter oats: pesticide-treated area (spray-hectares), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation	General disease control	Disease prevention	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides					
Epoxiconazole	15.3	.	15.3	15.3	1
Epoxiconazole/fenpropimorph	62.8	.	62.8	62.8	15.7
Epoxiconazole/fenpropimorph/kresoxim-methyl	118.3	.	118.3	118.3	37.5
Epoxiconazole/fenpropimorph/metrafenone	456	42.9	498.9	440.8	257.8
Epoxiconazole/fenpropimorph/pyraclostrobin	304.3	.	304.3	304.3	114.3
Epoxiconazole/prochloraz	19.9	.	19.9	19.9	5.7
Fenpropimorph	213	.	213	181	60.6
Metrafenone	134.2	.	134.2	134.2	6.8
Proquinazid	23.3	.	23.3	23.3	0.9
Prothioconazole	140.3	.	140.3	70.2	15.6
Pyraclostrobin	16.6	.	16.6	16.6	1.7
Tebuconazole	33.2	.	33.2	16.6	6.2
All fungicides	***1,537.20***	***42.9***	***1580.2***	***810***	***523.8***

Pesticide type & formulation	General weed control	Desiccation	Ground preparation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Herbicides & desiccants						
Amidosulfuron	82.9	.	.	82.9	82.9	2.4
Bromoxynil/ioxynil	70.2	.	.	70.2	70.2	34.5
Carfentrazone-ethyl/flupyrsulfron-methyl	405.8	.	.	405.8	405.8	10.8
Diflufenican	16.6	.	.	16.6	16.6	1.7
Fluroxypyr	302.2	.	.	302.2	291.6	28.7
Glyphosate	89.4	276.4	69.1	435	411.6	232.8
Mecoprop-P	294.5	.	.	294.5	294.5	267
Metsulfuron-methyl	42.9	.	.	42.9	42.9	0.2
Metsulfuron-methyl/thifensulfuron-methyl	166.9	.	.	166.9	166.9	4.1
Metsulfuron-methyl/tribenuron-methyl	104.2	.	.	104.2	104.2	1.1
All herbicides & desiccants	***1,575.60***	***276.4***	***69.1***	***1,921.10***	***783.00***	***583.20***

Pesticide type & formulation	Aphids	All reasons	Basic area (ha) of treatment	Quantity (kg)
Insecticides				
Deltamethrin	33.2	33.2	16.6	0.2
Esfenvalerate	189.5	189.5	118.3	0.7
Lambda-cyhalothrin	16.8	16.8	16.8	0.1
All insecticides	***239.50***	***239.5***	***152***	***0.9***

Pesticide type & formulation	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Growth regulators				
Chlormequat	224.4	224.4	224.4	234.9
Trinexapac-ethyl	438.5	438.5	438.5	20.9
All growth regulators	***662.9***	***662.9***	***631***	***255.8***

Table 19: **Seed potatoes: pesticide-treated area (spray-hectares), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation	Blight	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides				
Benthiavalicarb-isopropyl/mancozeb	8.8	8.8	8.8	10.1
Chlorothalonil/propamocarb hydrochloride	450	450	167.1	703.9
Cyazofamid	249	249	68.8	19.9
Cymoxanil	26.4	26.4	8.8	2
Cymoxanil/mancozeb	854.5	854.5	400.9	1220.4
Cymoxanil/propamocarb hydrochloride	213.7	213.7	136.9	192.3
Dimethomorph/mancozeb	1265.4	1265.4	447.5	1787.2
Fenamidone/propamocarb hydrochloride	333.8	333.8	171.3	363.9
Fluazinam	1637.8	1637.8	460.6	244.6
Fluopicolide/propamocarb hydrochloride	1335.3	1335.3	410.5	1403.8
Mandipropamid	286.8	286.8	218	40
All fungicides	***6661.7***	***6661.7***	***707***	***5988.2***

Pesticide type & formulation	General weed control	Desiccation	Ground preparation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Herbicides & desiccants						
Carfentrazone-ethyl	120	26	.	146.2	146.2	3.4
Diquat	158	942	.	1099.8	669.1	381.7
Glyphosate	84	.	287.6	371.8	371.8	290.5
Linuron	9	.	.	8.8	8.8	5.3
Metribuzin	396	.	.	396.3	396.3	256.3
Prosulfocarb	171	.	.	170.8	170.8	470.5
Rimsulfuron	47	.	.	46.6	46.6	0.5
All herbicides & desiccants	***984.6***	***968***	***287.6***	***2240.3***	***707***	***1408.3***

Pesticide type & formulation	Aphids	All reasons	Basic area (ha) of treatment	Quantity (kg)
Insecticides				
Deltamethrin/pirimicarb	120	120	120	13.2
Flonicamid	76.8	76.8	76.8	6.1
Lambda-cyhalothrin	84.2	84.2	84.2	0.8
All insecticides	***281***	***281***	***281***	***20.2***

	Slugs	All reasons	Basic area (ha) of treatment	Quantity (kg)
Molluscicides				
Methiocarb	86.2	86.2	86.2	7
All molluscicides	***86.2***	***86.2***	***86.2***	***7***

Table 20: **Early potatoes: pesticide-treated area (spray-hectares), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation	Blight	General disease control	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides					
Chlorothalonil/propamocarb hydrochloride	100.5	8.6	109.1	58.9	167.0
Cyazofamid	49.8	15.1	64.9	43.5	5.7
Cymoxanil	25.9	.	25.9	12.9	2.3
Cymoxanil/mancozeb	94.2	.	94.2	38.0	107.9
Dimethomorph/mancozeb	63.5	.	63.5	29.6	94.2
Fenamidone/propamocarb hydrochloride	85.9	8.6	94.5	38.0	86.9
Fluazinam	411.3	25.9	437.2	146.6	60.3
Fluopicolide/propamocarb hydrochloride	71.9	8.6	80.5	57.6	88.6
Mancozeb	8.3	.	8.3	4.2	13.3
Mancozeb/Metalaxyl-M	.	8.6	8.6	8.6	11.1
Mancozeb/propamocarb hydrochloride	5.1	.	5.1	5.1	11.2
Mandipropamid	72.2	32.3	104.5	60.1	15.7
All fungicides	***988.6***	***107.7***	***1,096.4***	***191.0***	***664.0***

Pesticide type & formulation	General weed control	Desiccation	Ground preparation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Herbicides & desiccants						
Diquat	111.2	37.0	.	148.1	138.7	63.4
Diquat/paraquat	2.0	.	.	2.0	2.0	1.6
Glyphosate	19.6	.	80.1	99.7	99.7	85.0
Linuron	25.2	.	.	25.2	25.2	15.1
Metribuzin	137.1	.	.	137.1	137.1	101.9
Paraquat	7.9	.	.	7.9	7.9	1.1
Propaquizafop	5.2	.	.	5.2	5.2	0.8
Prosulfocarb	39.5	.	.	39.5	39.5	157.8
Rimsulfuron	19.4	.	.	19.4	19.4	0.2
All herbicides & desiccants	***367.1***	***37.0***	***80.1***	***484.1***	***191.0***	***427.0***

Pesticide type & formulation	Aphids	All reasons	Basic area (ha) of treatment	Quantity (kg)
Insecticides				
Lambda-cyhalothrin	36.8	36.8	28.2	0.3
All insecticides	***36.8***	***36.8***	***28.0***	***0.3***

Pesticide type & formulation	Slugs	All reasons	Basic area (ha) of treatment	Quantity (kg)
Molluscicides				
Methiocarb	19.6	19.6	19.6	1.6
All molluscicides	***19.6***	***19.6***	***19.6***	***1.6***

Table 21: Maincrop potatoes: pesticide-treated area (spray-hectares), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation	Blight	General disease control	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides					
Benthiavalicarb-isopropyl/mancozeb	489.8	17.2	507.1	350.9	582.1
Chlorothalonil/propamocarb hydrochloride	1,615.0	329.4	1,944.5	955.5	3,352.3
Cyazofamid	3,526.9	84.0	3,611.0	1,852.8	360.9
Cymoxanil	607.2	28.0	635.3	280.2	51.0
Cymoxanil/mancozeb	5,467.4	56.0	5,523.4	1,883.4	7,665.4
Cymoxanil/propamocarb hydrochloride	226.4	.	226.4	226.4	203.8
Dimethomorph/mancozeb	2,563.2	.	2,563.2	1,011.6	3,521.6
Fenamidone/propamocarb hydrochloride	3,918.7	45.2	3,963.9	1,663.4	3,657.6
Fluazinam	14,636.1	292.5	14,928.6	3,561.7	2,489.2
Fluazinam/metalaxyl-M	105.3	.	105.3	105.3	2.8
Fluopicolide/propamocarb hydrochloride	6,500.8	525.3	7,026.1	2,821.4	7,743.7
Mancozeb	1,409.6	223.1	1,632.6	719.6	2,696.1
Mancozeb/Metalaxyl-M	.	59.5	59.5	59.5	76.7
Mancozeb/propamocarb hydrochloride	35.3	.	35.3	35.3	38.8
Mandipropamid	4,661.6	107.7	4,769.3	1,864.0	701.8
All fungicides	***45,763.4***	***1,768.0***	***47,531.4***	***4,041.0***	***33,143.8***

Pesticide type & formulation	General weed control	Desiccation	Ground preparation	Scutch	All reasons	Basic area (ha) of treatment	Quantity (kg)
Herbicides & desiccants							
Carfentrazone-ethyl	8.6	385.2	.	.	393.9	316.7	26.7
Diquat	2,127.1	5,931.4	.	.	8,058.5	3,696.3	2,573.8
Diquat/paraquat	102.1	.	.	.	102.1	102.1	81.7
Glyphosate	346.1	.	1,292.7	.	1,638.8	1,638.8	1,463.5
Linuron	722.9	.	.	.	722.9	722.9	463.4
Metribuzin	2,563.9	.	.	.	2,563.9	2,563.9	1,768.9
Paraquat	123.8	.	.	.	123.8	123.8	52.1
Pendimethalin	131.6	.	.	.	131.6	131.6	108.6
Propaquizafop	.	.	.	38.7	38.7	38.7	5.8
Prosulfocarb	912.9	.	.	.	912.9	912.9	3,314.7
Rimsulfuron	341.8	.	.	.	341.8	341.8	4.2
All herbicides & desiccants	***7,380.7***	***6,316.7***	***1,292.7***	***38.7***	***15,028.8***	***4,001.0***	***9,863.2***

Pesticide type & formulation	Aphids	All reasons	Basic area (ha) of treatment	Quantity (kg)
Insecticides				
Cypermethrin	164.2	164.2	164.2	3.3
Deltamethrin/pirimicarb	8.6	8.6	8.6	0.9
Lambda-cyhalothrin	809.4	809.4	643.2	6.3
Thiacloprid	78.4	78.4	78.4	5.6
All insecticides	***1,060.6***	***1,060.6***	***894.0***	***16.1***

Table 21 (cont.): Maincrop potatoes: pesticide-treated area (spray-hectares), weights of pesticides applied (kg) and reason for use.

Pesticide type & formulation	Slugs	All reasons	Basic area (ha) of treatment	Quantity (kg)
Molluscicides				
Metaldehyde	114.9	114.9	114.9	40.2
Methiocarb	270.4	270.4	270.4	40.3
All molluscicides	***385.3***	***385.3***	***385.3***	***80.5***

Pesticide type & formulation	Growth regulation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Growth regulators				
Maleic hydrazide	55.9	55.9	55.9	167.7
All growth regulators	***55.9***	***55.9***	***55.9***	***167.7***

Table 22 Oilseed rape: pesticide-treated area (spray-hectares), quantities of pesticides applied (kg) and reason for use.

Pesticide Type & Formulation	General disease control	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides				
Azoxystrobin	388.3	388.4	373.3	49.8
Carbendazim/flusilazole	53.1	53.1	53.1	14.9
Chlorothalonil	53.1	53.1	53.1	26.6
Difenoconazole	40.4	40.4	40.4	4.3
Flusilazole	18.8	18.8	18.8	1.6
Prothioconazole	653.6	653.6	354.5	74.9
Sulphur	11.2	11.2	11.2	89.2
Tebuconazole	93.5	93.5	93.5	11.7
All fungicides	***1,312.1***	***1,312.1***	***426.0***	***273.1***

Pesticide Type & Formulation	General weed control	Desiccation	Ground preparation	All reasons	Basic area (ha) of treatment	Quantity (kg)
Herbicides & desiccants						
Bifenox	92.9	.	.	92.9	92.9	35.7
Clopyralid/picloram	172.3	.	.	172.3	172.3	18.3
Diquat	.	18.8	.	18.8	18.8	7.5
Glyphosate	.	396.5	11.2	407.6	407.6	339.5
Propyzamide	362.2	.	.	362.2	362.2	245.1
All herbicides & desiccants	***627.4***	***415.3***	***11.2***	***1,053.8***	***426.0***	***646.1***

Pesticide Type & Formulation	Aphids	General insect control	All reasons	Basic area (ha) of treatment	Quantity (kg)
Insecticides					
Esfenvalerate	.	53.1	53.1	53.1	0.2
Lambda-cyhalothrin	130.6	157.3	287.9	287.9	2.1
Zeta-cypermethrin	.	19.5	19.5	19.5	0.2
All insecticides	***130.6***	***229.9***	***360.5***	***360.5***	***2.5***

Table 23: **Peas & beans: pesticide-treated area (spray-hectares), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation	General weed control	Desiccation	General insect control	General disease control	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides							
Chlorothalonil	.	.	.	98.7	98.7	65.8	65.8
Mancozeb	.	.	.	65.8	65.8	65.8	105.3
Tebuconazole	.	.	.	131.6	131.6	65.8	12.7
All fungicides	***.***	***.***	***.***	***296.1***	***296.1***	***66.0***	***183.8***
Herbicides & desiccants							
Bentazone	65.8	.	.	.	65.8	65.8	40.1
Glyphosate	.	5.8	.	.	5.8	5.8	5.1
Pendimethalin	65.8	.	.	.	65.8	65.8	86.9
All herbicides & desiccants	***131.6***	***5.8***	***.***	***.***	***137.4***	***72.0***	***132.1***
Insecticides							
Lambda-cyhalothrin	.	.	98.7	.	98.7	65.8	0.5
All insecticides	***.***	***.***	***98.7***	***.***	***98.7***	***66.0***	***0.5***

Table 24: **Triticale: pesticide-treated area (spray-hectares), weights of pesticides applied (kg) and reason for use.**

Pesticide type & formulation	Aphids	General disease control	All reasons	Basic area (ha) of treatment	Quantity (kg)
Fungicides					
Fenpropimorph	.	4.8	4.8	4.8	3.6
All fungicides	***.***	***4.8***	***4.8***	***4.8***	***3.6***
Insecticides					
Deltamethrin	4.8	.	4.8	4.8	<0.1
All insecticides	***4.8***	***.***	***4.8***	***4.8***	***<0.1***

Table 26: Comparison of the area of arable crops grown (hectares) in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
Crop	**1990**	**1992**	**1994**	**1996**	**1998**	**2000**	**2002**	**2004**	**2006**	**2008**	**2010**	**2010-90**	**2010-92**	**2010-94**	**2010-96**	**2010-98**	**2010-00**	**2010-02**	**2010-04**	**2010-06**	**2010-08**
Cereals																					
Spring barley	29,893	24,729	20,890	21,256	23,066	23,901	22,658	21,959	17,573	18,742	16,967	-43%	-31%	-19%	-20%	-26%	-29%	-25%	-23%	-3%	-9%
Undersown barley	5,800	5,759	6,542	4,875	4,035	3,532	1,876	599	654	803	591	-90%	-90%	-91%	-88%	-85%	-83%	-68%	-1%	-10%	-26%
Winter barley	3,670	5,721	5,832	7,166	7,720	5,194	3,922	4,535	4,599	6,149	6,767	84%	18%	16%	-6%	-12%	30%	73%	49%	47%	10%
Spring wheat	348	136	32	129	400	863	1,428	1,523	1,517	1,552	1,686	384%	1140%	5169%	1205%	322%	95%	18%	11%	11%	9%
Undersown wheat	27	.	42	.	.	.	.	.	.	.	58	115%	.	38%	.	.	.	.	.	.	.
Winter wheat	5,827	6,839	6,952	6,543	6,745	4,125	5,807	7,111	7,203	10,553	9,151	57%	34%	32%	40%	36%	122%	58%	29%	27%	-13%
Spring oats	2,220	1,257	953	858	978	1,920	804	903	991	778	1,441	-35%	15%	51%	68%	47%	-25%	79%	60%	45%	85%
Undersown oats	117	221	337	130	102	25	20	234	71	.	49	-58%	-78%	-85%	-62%	-52%	93%	145%	-79%	-31%	.
Winter oats	673	1,008	1,125	1,481	1,523	967	1,547	1,556	875	1,640	841	25%	-17%	-25%	-43%	-45%	-13%	-46%	-46%	-4%	-49%
All cereals	***48,575***	***45,670***	***42,704***	***42,438***	***44,569***	***40,528***	***38,062***	***38,420***	***33,482***	***40,217***	***37,551***	***-23%***	***-18%***	***-12%***	***-12%***	***-16%***	***-7%***	***-1%***	***-2%***	***12%***	***-7%***
Spring oilseed rape	15	31	287	66	237	.	111	.	.	.	.										
Winter oilseed rape	891	1,032	323	127	502	.	.	.	.	.	.										
All oilseed rape *	906	1,063	610	193	739	131	111	255	471	439	446	-51%	-58%	-27%	131%	-40%	240%	302%	75%	-5%	2%
Hemp	.	.	.	.	.	.	.	.	.	40	.	.	.	.	.	.	.	.	.	.	.
Linseed	.	158	.	.	.	.	14	.	.	2	.	.	.	.	.	.	.	.	.	.	.
Maize	.	45	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Peas & beans	.	.	.	.	199	273	197	212	83	55	85	.	.	.	.	-57%	-69%	-57%	-60%	3%	54%
Triticale	37	.	.	.	17	64	49	182	12	82	5	-86%	.	.	.	-70%	-92%	-90%	-97%	-58%	-94%
Lupins	.	.	.	.	.	.	67	10	19	.	.	.	.	.	.	.	.	.	.	.	.
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	-80%	-81%	-58%	-61%	-56%	.	-43%	-38%	-7%	-11%
Early potatoes	463	836	813	729	391	.	728	403	370	401	191	-59%	-77%	-77%	-74%	-51%	.	-74%	-53%	-48%	-52%
Maincrop potatoes	7,863	6,540	5,913	5,961	5,515	.	4,741	4,517	3,984	4,308	4,041	-49%	-38%	-32%	-32%	-27%	.	-15%	-11%	1%	-6%
All potatoes	***11,835***	***11,064***	***8,404***	***8,488***	***7,513***	***.***	***6,708***	***6,068***	***5,118***	***5,501***	***4,939***	***-58%***	***-55%***	***-41%***	***-42%***	***-34%***	***.***	***-26%***	***-19%***	***-3%***	***-10%***
All crops	***61,355***	***57,999***	***51,718***	***51,119***	***53,036***	*****43,447***	***48,222***	***48,541***	***41,469***	***46,337***	***43,027***	***-30%***	***-26%***	***-17%***	***-16%***	***-19%***	***.***	***-11%***	***-11%***	***4%***	***-7%***

*** both winter & spring oilseed rape**

****excluding potatoes**

Table 27: The area (spray-hectares) of arable crops treated with pesticides in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
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**	**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	44%	39%	29%	21%	5%		16%	6%	20%	-7%
Herbicides & desiccants	75,130	76,444	72,725	81,027	91,193	.	86,597	104,539	94,148	116,029	102,211	36%	34%	41%	26%	12%		18%	-2%	9%	-12%
Insecticides																					
Carbamates	.	*111*	*167*	*520*	*297*	.	*594*	*592*	*30*	*558*	*59*	.	-47%	-65%	-89%	-80%		-90%	-90%	97%	-89%
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*	-21%	-53%	-45%	-62%	-27%		-8%	-52%	-36%	0%
Pyrethroids	*2,895*	*2,800*	*3,267*	*7,706*	*17,084*	.	*18,164*	*26,973*	*25,055*	*35,936*	*26,467*	814%	845%	710%	243%	55%		46%	-2%	6%	-26%
Azomethine	.	.	.	.	.	.	.	*673*	*71*	.	.										
Neonicotinoid	.	.	.	.	.	.	.	.	*96*	.	*78*	.	.	.	.	.		.	.	-19%	.
Feeding blocker	.	.	.	.	.	.	.	.	.	*252*	*77*	.	.	.	.	.		.	.	.	-69%
Mixed Formulations	.	.	.	.	.	.	.	*581*	*96*	.	*129*	.	.	.	.	.		.	-78%	34%	.
Unknown insecticides	*465*	*694*	*207*	*815*	*1,238*	.	.	*180*	*89*	.	.										
All insecticides	4,831	6,138	6,020	12,348	20,206	.	20,023	31,421	27,255	37,910	27,974	479%	356%	365%	127%	38%		40%	-11%	3%	-26%
Molluscicides	834	871	243	434	1,123	.	1,926	337	1,237	1,277	816	-2%	-6%	236%	88%	-27%		-58%	142%	-34%	-36%
Growth regulators	8,681	10,594	12,836	13,953	19,049	.	17,445	16,559	19,572	22,408	23,983	176%	126%	87%	72%	26%		37%	45%	23%	7%
Other	.	.	.	.	.	.	.	.	.	89	210	.	.	.	.	.		.	.	.	136%
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	-20%	-24%	-12%	-12%	-5%		-1%	4%	13%	-7%
All pesticides	***234,985***	***245,485***	***245,971***	***268,710***	***308,881***	***.***	***288,348***	***325,299***	***295,635***	***374,207***	***337,336***	***44%***	***37%***	***37%***	***26%***	***9%***		***17%***	***4%***	***14%***	***-10%***
Area grown (ha)	61,355	57,999	51,718	51,119	53,036	.	48,222	48,541	41,469	46,337	43,027	-30%	-26%	-17%	-16%	-19%		-11%	-11%	4%	-7%

Table 28: The quantity (tonnes) of pesticides applied to arable crops in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
Pesticide type	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	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	-30%	-33%	-25%	-28%	-25%		-20%	-5%	1%	-12%
Herbicides & desiccants	253.62	212.36	133.57	336.33	337.65	.	390.98	254.62	152.13	71.58	50.75	-80%	-76%	-62%	-85%	-85%		-87%	-80%	-67%	-29%
Insecticides																					
Carbamates	.	*0.02*	*0.02*	*0.07*	*0.04*	.	*0.08*	*0.08*	*0.004*	*0.075*	*0.008*	.	-60%	-62%	-89%	-78%		-90%	-90%	100%	-89%
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*	8%	-8%	-14%	-51%	-16%		28%	-32%	-47%	-7%
Pyrethroids	*0.05*	*0.05*	*0.07*	*0.15*	*0.19*	.	*0.20*	*0.20*	*0.163*	*0.295*	*0.163*	226%	226%	136%	9%	-14%		-20%	-18%	0%	-45%
Azomethine	.	.	.	.	.	.	.	*0.10*	*0.005*	.	.										
Neonicotinoid	.	.	.	.	.	.	.	.	*0.009*	.	*0.006*	.	.	.	.	.		.	.	-33%	.
Feeding blocker	.	.	.	.	.	.	.	.	.	*0.02*	*0.006*	.	.	.	.	.		.	.	.	-70%
Mixed Formulations	.	.	.	.	.	.	.	*0.05*	*0.016*	.	*0.01*	.	.	.	.	.		.	-73%	-13%	.
Unknown Insecticide	.	.	.	.	.	.	.	*0.01*	.	.	.										
All insecticides	0.72	0.96	1.23	1.95	1.10	.	0.85	1.51	1.57	1.18	0.93	29%	-3%	-24%	-52%	-15%		9%	-38%	-41%	-21%
Molluscicides	0.33	0.27	0.12	0.09	0.17	.	0.34	0.06	0.28	0.17	0.12	-64%	-56%	2%	34%	-31%		-64%	100%	-58%	-29%
Growth regulators	10.60	9.35	10.86	12.84	14.43	.	11.61	11.70	12.63	17	14	35%	53%	32%	12%	-1%		23%	22%	13%	-16%
Other	.	.	.	.	.	.	.	.	.	0.014	0.180	.	.	.	.	.		.	.	.	1186%
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	.	-45%	-59%	-31%	-44%		-26%	-8%	-48%	15%
All pesticides	***363.74***	***328.89***	***242.12***	***448.78***	***448.40***	***.***	***491.93***	***341.30***	***237.89***	***169.06***	***136.28***	***-63%***	***-59%***	***-44%***	***-70%***	***-70%***		***-72%***	***-60%***	***-43%***	***-19%***
Area grown (ha)	61,355	57,999	51,718	51,119	53,036	.	48,222	48,541	41,469	46,337	43,027	-30%	-26%	-17%	-16%	-19%		-11%	-11%	4%	-7%

* Seed treatments on potatoes not recorded

Table 29: The area (spray-hectares) of cereal crops treated with pesticides in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
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	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	170%	142%	114%	60%	42%	43%	51%	6%	17%	-15%
Herbicides & desiccants	52,342	52,872	56,201	63,072	72,911	71,281	69,752	82,884	77,378	95,133	83,268	59%	57%	48%	32%	14%	17%	19%	0%	8%	-12%
Insecticides																					
Carbamates	.	*88*	*167*	*493*	*249*	.	*182*	*120*	.	*127*	*59*	.	-33%	-65%	-88%	-76%	.	-68%	-51%	.	-54%
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*	0%	-51%	-37%	-52%	-19%	-69%	2%	-43%	-34%	0%
Pyrethroids	*2,381*	*2,670*	*3,267*	*7,047*	*16,481*	*23,617*	*16,709*	*24,258*	*23,328*	*34,701*	*24,909*	946%	833%	662%	253%	51%	5%	49%	3%	7%	-28%
Unknown insecticides	*465*	*694*	*207*	*816*	*1,207*	*2,290*	.	*114*	*89*												
All insecticides	4,010	5,890	5,754	11,028	19,377	29,681	18,031	26,550	25,168	35,991	26,132	552%	344%	354%	137%	35%	-12%	45%	-2%	4%	-27%
Molluscicides	24	.	27	168	129	833	305	223	307	493	324	1250%	.	1100%	93%	151%	-61%	6%	45%	6%	-34%
Growth regulators	8,607	10,509	12,836	13,953	18,998	17,237	17,330	16,476	19,559	22,386	23,927	178%	128%	86%	71%	26%	39%	38%	45%	22%	7%
Other										89	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	41,739	39,958	35,995	35,525	31,728	34,260	31,494	29,069	27,353	33,567	31,572	-24%	-21%	-12%	-11%	0%	-8%	0%	9%	15%	-6%
All pesticides	***140,465***	***146,819***	***153,330***	***180,624***	***207,314***	***217,031***	***197,144***	***241,374***	***227,451***	***294,463***	***256,277***	***82%***	***75%***	***67%***	***42%***	***24%***	***18%***	***30%***	***6%***	***13%***	***-13%***
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	-23%	-18%	-12%	-12%	-16%	-7%	-1%	-2%	12%	-7%

Table 30: The quantity (tonnes) of pesticides applied to cereal crops in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
Pesticide type	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	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	85%	50%	85%	13%	21%	107%	82%	44%	37%	-14%
Herbicides & desiccants	55.07	39.43	35.67	42.87	46.26	41.68	35.35	42.21	48.77	58.48	38.28	-30%	-3%	7%	-11%	-17%	-8%	8%	-9%	-22%	-35%
Insecticides																					
Carbamates	.	*0.01*	*0.02*	*0.07*	0.03	.	0.03	*0.012*	.	0.014	0.008	.	-20%	-62%	-89%	-72%	.	-69%	-33%	.	-43%
Organochlorines	.	*0.09*	*0.29*	*0.23*	.	.	.	.	.			.	-100%	-100%	-100%	.	.	.	.	.	.
Organophosphates	*0.51*	*0.68*	*0.49*	1.24	*0.74*	2.51	0.56	*0.948*	*1.200*	*0.785*	*0.733*	44%	8%	50%	-41%	-1%	-71%	32%	-23%	-39%	-7%
Pyrethroids	*0.04*	*0.04*	*0.07*	*0.13*	*0.19*	*0.26*	*0.19*	*0.178*	*0.157*	*0.275*	*0.148*	270%	270%	114%	14%	-23%	-43%	-24%	-17%	-5%	-46%
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	62%	7%	2%	-46%	-7%	-68%	15%	-22%	-34%	-17%
Molluscicides	0.01	.	0.01	0.04	0.02	0.14	0.06	0.04	0.04	0.07	0.03	180%	.	338%	-30%	68%	-80%	-57%	-30%	-35%	-59%
Growth regulators	10.51	9.32	10.86	12.84	14.41	12.87	11.61	11.64	12.62	16.93	14.16	35%	52%	30%	10%	-2%	10%	22%	22%	12%	-16%
Other	.	.	.	.	.	.	.	.	.	0.01	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	0.33	0.94	3.80	2.41	1.72	2.34	1.57	1.35	1.42	1.09	1.37	315%	46%	-64%	-43%	-20%	-41%	-13%	2%	-3%	26%
All pesticides	***81.44***	***68.94***	***66.17***	***84.35***	***86.19***	***73.11***	***64.35***	***75.55***	***84.41***	***109.83***	***82.35***	***1%***	***19%***	***24%***	***-2%***	***-4%***	***13%***	***28%***	***9%***	***-2%***	***-25%***
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	-23%	-18%	-12%	-12%	-16%	-7%	-1%	-2%	12%	-7%

Table 31: The area (spray-hectares) of oilseed rape treated with pesticides in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
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**	**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	186%	155%	1464%	492%	101%	448%	1799%	463%	107%	81%
Herbicides & desiccants	1,603	1,343	597	292	1,171	366	194	448	970	972	1,054	-34%	-22%	77%	261%	-10%	188%	444%	135%	9%	8%
Insecticides																					
Carbamates	.	.	.	.	*28.6*	.	.	.	.	.	.										
Organochlorines	.	.	.	.	.	.	.	.	.	.	.										
Organophosphates	.	*67*	*180*	*25*	*5.4*	.	.	.	.	.	.										
Pyrethroids	.	*131*	.	.	*190*	.	*49*	*55*	*149*	*316*	*361*	.	176%	.	.	90%	.	640%	556%	142%	14%
Unknown insecticides	.	.	.	.	*10*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
All insecticides	.	198	180	25	234	.	49	55	149	316	361	.	82%	100%	1344%	54%	.	640%	560%	142%	14%
Molluscicides	810	871	216	72	522	.	39	.	68	120	.	.	.	.	.	.	.	.	.	.	.
Growth regulators	.	84	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Other	.	.	.	.	.	.	.	.	.	.	210	.	.	.	.	.	.	.	.	.	.
Seed treatments	906	1,063	610	140	339	123	98	106	271	22	423	-53%	-60%	-31%	202%	25%	244%	333%	300%	56%	1823%
All pesticides	***3,786***	***4,084***	***1,689***	***755***	***2,931***	***732***	***450***	***846***	***2,104***	***2,167***	***3,360***	***-11%***	***-18%***	***99%***	***345%***	***15%***	***359%***	***647%***	***297%***	***60%***	***55%***
Area grown (ha)	906	1,062	610	193	739	131	111	255	471	439	446	-51%	-58%	-27%	131%	-40%	240%	302%	75%	-5%	2%

Table 32: The quantity (tonnes) of pesticides applied to oilseed rape in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
Pesticide type	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	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	-49%	350%	716%	-10%	-55%	-58%	2169%	800%	162%	133%
Herbicides & desiccants	1.31	0.98	0.62	0.20	0.74	0.16	0.10	0.25	0.76	0.81	0.65	-50%	-34%	6%	225%	-12%	306%	564%	160%	-14%	-20%
Insecticides																					
Carbamates	.	.	.	.	*0.004*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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*	.	-80%	.	.	82%	.	1900%	567%	67%	-82%
All insecticides	.	0.03	0.08	0.01	0.009	.	0.0001	0.0003	0.001	0.011	0.003	.	-90%	-96%	-70%	-67%	.	2900%	1011%	150%	-73%
Molluscicides	0.32	0.27	0.11	0.01	0.06	.	0.01	.	0.01	0.03	.	.	.	.	.	.	.	.	.	.	.
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	-86%	-94%	-88%	-65%	55%	.	-49%	241%	40%	600%
All pesticides	***2.21***	***1.49***	***0.90***	***0.54***	***1.41***	***0.81***	***0.13***	***0.28***	***0.88***	***0.96***	***1.11***	***-50%***	***-26%***	***24%***	***105%***	***-22%***	***37%***	***726%***	***296%***	***26%***	***15%***
Area grown (ha)	906	1,062	610	193	739	131	111	255	471	439	446	-51%	-58%	-27%	131%	-40%	240%	302%	75%	-5%	2%

Table 33: The area (spray-hectares) of peas and beans treated with pesticides in Northern Ireland, 1998-2010.

	Survey Year							Differences between:					
	1998	2000	2002	2004	2006	2008	2010	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
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**
Fungicides	314	138	302.7	676.7	19.0	8.0	296.0	-6%	114%	-2%	-56%	1458%	3600%
Herbicides & desiccants	444	199	241.1	321.5	120.0	63.0	137.0	-69%	-31%	-43%	-57%	14%	117%
Insecticides													
Carbamates	*19*	*18.3*	*54.2*	.				.	.	.	.	.	.
Organochlorines	.	.	.	.				.	.	.	.	.	.
Organophosphate	*22*	.	.	.				.	.	.	.	.	.
Pyrethroids	*64*	.	*66.1*	*197.20*	*12.00*	*8.00*	*99.00*	55%	.	50%	-50%	725%	1138%
Unknown insecticides	.	.	.	.				.	.	.	.	.	.
All insecticides	105	18.3	120.3	197.2	12.00	8.00	99.00	-6%	441%	-18%	-50%	725%	1138%
Molluscicides	.	.	.	.	.	.	.	.	.	.	.	.	.
Growth regulators	.	.	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	.	105	137.9	15.1	.	8	72	.	-31%	-48%	377%	.	800%
All pesticides	***863***	***459.9***	***802***	***1,210***	***151.0***	***88.0***	***604.0***	***-30%***	***31%***	***-25%***	***-50%***	***300%***	***586%***
Area grown (ha)	199	273	197	212	83	55	85	-57%	-69%	-57%	-60%	3%	55%

Table 34: The quantity (tonnes) of pesticides applied to peas and beans in Northern Ireland, 1998-2010.

	Survey Year							Differences between:					
	1998	2000	2002	2004	2006	2008	2010	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
Pesticide type	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	-10%	236%	71%	-67%	1900%	2900%
Herbicides & desiccants	0.41	0.20	0.2545	0.197	0.098	0.062	0.132	-68%	-33%	-48%	-33%	35%	113%
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	.	-84%	20%	690%	.	260%
All pesticides	***0.614***	***0.367***	***0.3782***	***0.740***	***0.107***	***0.073***	***0.334***	***-46%***	***-9%***	***-12%***	***-55%***	***212%***	***358%***
Area grown (ha)	199	273	197	212	83	55	85	-57%	-69%	-57%	-60%	3%	55%

Table 35: The area (spray-hectares) of set-aside treated with pesticides in Northern Ireland, 2000-2010.

	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 36: The quantity (tonnes) of pesticides applied to set-aside in Northern Ireland, 2000-2010.

	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 37: The area (spray-hectares) of potato crops treated with pesticides in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
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**	**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	-19%	-19%	-24%	-15%	-27%	.	-17%	6%	22%	6%
Herbicides & desiccants	21,146	21,819	15,927	17,663	16,616	.	14,852	19,839	15,971	19,843	17,753	-16%	-19%	11%	1%	7%	.	20%	-11%	11%	-11%
Insecticides																					
Carbamates	.	*23*	.	*28*	.	.	*357*	*473*	*30*	*431*	.	.	.	.	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	*308*	*28*	*88*	*612*	*123*	.	*125*	*365*	*55*	.	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	*512*	.	.	*656*	*353*	.	*1,340*	*2,408*	*1,553*	*913*	*1,094*	114%	.	.	67%	210%	.	-18%	-55%	-30%	20%
Azomethine	.	.	.	.	.	.	.	*673*	*71*	.							.				
Neonicotinoid	.	.	.	.	.	.	.	.	*96*	.	*78*	.	.	.	.	.	.	.	.	-19%	.
Feeding blocker	.	.	.	.	.	.	.	.	.	*252*	*77*	.	.	.	.	.	.	.	.	.	-69%
Mixed Formulation	.	.	.	.	.	.	.	*581*	*96*	.	*129*	.	.	.	.	.	.	.	-78%	34%	.
Unknown insecticides	.	.	*14*	.	*20*	.	.	*66*	.	.	.						.				
All insecticides	820	51	102	1,295	492	.	1,823	4,565	1,900	1,595	1,379	68%	2604%	1259%	6%	180%	.	-24%	-70%	-27%	-14%
Molluscicides	.	.	.	195	472	.	1,581	114	930	664	491	.	.	.	152%	4%	.	-69%	331%	-47%	-26%
Mixed formulations	233	186	134	137	128	.	86	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Growth regulators	.	.	.	.	.	.	72	.	.	23	56	.	.	.	.	.	.	-22%	.	.	143%
Seed treatments	*	3,738	2,420	3,314	4,017	.	3,071	3,679	2,756	3,158	2,117	.	-43%	-13%	-36%	-47%	.	-31%	-42%	-23%	-33%
All pesticides	***90,583***	***93,972***	***90,952***	***87,330***	***97,658***	***.***	***88,295***	***80,347***	***66,954***	***77,473***	***77,085***	***-15%***	***-18%***	***-15%***	***-12%***	***-21%***	***.***	***-13%***	***-4%***	***15%***	***-1%***
Area grown (ha)	11,835	11,064	8,404	8,488	7,513	.	6,708	6,068	5,118	5,501	4,940	-58%	-55%	-41%	-42%	-34%	.	-26%	-19%	-3%	-10%

Table 38: The quantity (tonnes) of pesticides applied to potato crops in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
Pesticide type	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	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	-52%	-52%	-48%	-43%	-41%	.	-43%	-22%	-15%	-12%
Herbicides & desiccants	197.20	171.75	97.28	293.26	290.23	.	354.01	211.18	101.78	12.22	11.70	-94%	-93%	-88%	-96%	-96%	.	-97%	-94%	-89%	-4%
Insecticides																					
Carbamates	.	*<0.01*	.	*<0.01*	.	.	0.05	*0.07*	*0.004*	*0.060*	.	.	.	.	.	.	.	.	.	.	.
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%	.	.	-50%	.	.	20%	0%	67%	43%
Azomethine	.	.	.	.	.	.	.	*0.102*	*0.005*	.	.	.	.	.	.	.	.	.	.	.	.
Neonicotinoid	.	.	.	.	.	.	.	.	*0.010*		*0.006*	.	.	.	.	.	.	.	.	-40%	.
Feeding blocker	.	.	.	.	.	.	.	.		*0.020*	*0.006*	.	.	.	.	.		.	.	.	-70%
Mixed Formulation	.	.	.	.	.	.	.	*0.051*	*0.015*	.	*0.014*	.	.	.	.	.	.	.	-73%	-7%	.
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	-79%	-64%	-87%	-87%	-72%	.	-52%	-90%	-82%	-59%
Molluscicides	.	.	.	0.04	0.10	.	0.26	0.02	0.23	0.07	0.09	.	.	.	125%	-8%	.	-66%	463%	-61%	22%
Mixed formulations	0.51	0.41	0.29	0.30	0.28	.	0.13	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Growth regulators	.	.	.	.	.	.	*0.17*	.	.	0.07	0.17	.	.	.	.	.	.	-2%	.	.	143%
Seed treatments	*	2.71	1.20	0.61	*1.99*	.	*1.22*	0.90	2.60	0.73	0.70	.	-74%	-42%	14%	-65%	.	-43%	-23%	-73%	-4%
All pesticides	***279.95***	***258.25***	***175.06***	***363.89***	***360.16***	***.***	***425.84***	***263.78***	***151.75***	***58.20***	***52.48***	***-81%***	***-80%***	***-70%***	***-86%***	***-85%***	***.***	***-88%***	***-80%***	***-65%***	***-10%***
Area grown (ha)	11,835	11,064	8,404	8,488	7,513	.	6,708	6,068	5,118	5,501	4,940	-58%	-55%	-41%	-42%	-34%	.	-26%	-19%	-3%	-10%

* Seed treatments not recorded

Table 39: The area (spray-hectares) of seed potatoes treated with pesticides in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
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**	**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	-64%	-64%	-60%	-51%	-53%	.	-28%	-35%	19%	20%
Herbicides & desiccants	6,535	8,118	3,784	4,035	3,363	.	2,650	4,917	2,285	3,170	2,240	-66%	-72%	-41%	-44%	-33%	.	-15%	-54%	-2%	-29%
Insecticides																					
Carbamates	.	*23*	.	.	.	.	.	*365*	.	*252*	.	.	.	.	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	*18*	.	.	*26*	.	.	*365*	.	.	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	*501*	.	.	*586*	*205*	.	*16*	*406*	*931*	*168*	*84*	-83%	.	.	-86%	-59%	.	415%	-79%	-91%	-50%
Neonicotinoid	.	.	.	.	.	.	.	.	*39*		.	.	.	.	.	.	.	.	.	.	.
Feeding blocker	.	.	.	.	.	.	.	.	.	*252*	*77*	.	.	.	.	.	.	.	.	.	-69%
Mixed Formulations	.	.	.	.	.	.	.	*453*	*39*	.	*120*	.	.	.	.	.	.	.	-74%	208%	
All insecticides	501	41	8	586	230	.	*16*	1,589	1,008	671	281	-44%	585%	3503%	-52%	22%	.	1624%	-82%	-72%	-58%
Molluscicides	.	.	.	.	66	.	*267*	.	77	160	86	.	.	.	.	31%	.	-68%	.	12%	-46%
Mixed formulations	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	*	2,039	744	1,065	882	.	512	1,224	303	622	238	.	-88%	-68%	-78%	-73%	.	-53%	-81%	-21%	-62%
All pesticides	***25,370***	***28,801***	***21,000***	***19,148***	***18,783***	***.***	***12,665***	***17,956***	***9,291***	***10,153***	***9,507***	***-63%***	***-67%***	***-55%***	***-50%***	***-49%***	***.***	***-25%***	***-47%***	***2%***	***-6%***
Area grown (ha)	3,509	3,688	1,678	1,798	1,607	.	1,239	1,148	763	792	707	-80%	-81%	-58%	-61%	-56%	.	-43%	-38%	-7%	-11%

* Seed treatments not recorded

Table 40: The quantity (tonnes) of pesticides applied to seed potatoes in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
Pesticide type	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	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	-74%	-76%	-61%	-55%	-58%	.	-34%	-32%	-3%	90%
Herbicides & desiccants	127.42	100.45	41.73	146.03	148.63	.	129.71	31.62	7.38	2.88	1.41	-99%	-99%	-97%	-99%	-99%	.	-99%	-96%	-81%	-51%
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*	.	.	.	.	.	.	.	.	.	.
Neonicotinoid	.	.	.	.	.	.	.	.	*0.004*			.	.	.	.	.	.	.	.	.	.
Feeding blocker										*0.02*	*0.006*	.	.	.	.	.	.	.	.	.	-70%
Mixed Formulations	.	.	.	.	.	.	.	*0.04*	*0.006*		*0.013*	.	.	.	.	.	.	.	-65%	117%	.
All insecticides	0.01	0.06	0.03	0.02	0.01	.	<0.01	0.22	0.014	0.057	0.020	100%	-67%	-24%	0%	99%	.	.	-91%	43%	-65%
Molluscicides	.	.	.	.	0.01	.	0.04	.	0.02	0.01	0.01	.	.	.	.	-52%	.	-84%	.	-59%	-46%
Mixed formulations	0.02	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Seed treatments	*	1.97	0.30	0.21	0.74	.	0.08	0.41	0.11	0.17	0.10	.	-95%	-67%	-53%	-87%	.	29%	-76%	-6%	-43%
All pesticides	***150.37***	***127.30***	***57.30***	***159.70***	***163.68***	***.***	***138.91***	***41.04***	***13.67***	***6.27***	***7.52***	***-95%***	***-94%***	***-87%***	***-95%***	***-95%***	***.***	***-95%***	***-82%***	***-45%***	***20%***
Area grown (ha)	3,509	3,688	1,678	1,798	1,607	.	1,239	1,148	763	792	707	-80%	-81%	-58%	-61%	-56%	.	-43%	-38%	-7%	-11%

* Seed treatments not recorded

Table 41: The area (spray-hectares) of early potatoes treated with pesticides in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
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**	**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	-46%	-66%	-70%	-65%	-35%	.	-80%	-48%	-47%	-49%
Herbicides & desiccants	849	1,304	835	1,312	618	.	1,520	841	1,124	1,280	484	-43%	-63%	-42%	-63%	-22%	.	-68%	-42%	-57%	-62%
Insecticides																					
Carbamates	.	.	.	*28*	.	.	.	*87*	.	.	.	.	.	.	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	*63*	*66*	.	*24*	.	*25*	.	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	.	.	.	.	*39*	.	*173*	*150*	.	*22*	*37*	.	.	.	.	-4%	.	-79%	-75%	.	68%
Unknown insecticide	.	.	.	.	*2.2*	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Azomethine	.	.	.	.	.	.	.	*30*	.	.	.	.	.	.	.	.	.	.	.	.	.
											.	.	.	.	.	.	.	.	.	.	.
All insecticides	.	.	.	90	107	.	197	267	25	22	37	.	.	.	-59%	-65%	.	-81%	-86%	48%	68%
Molluscicides	.	.	.	.	10	.	206	.	.	58	20	.	.	.	.	95%	.	-90%	.	.	-66%
Seed treatments	*	360	130	303	154	.	481	212	147	327	68	.	-81%	-48%	-78%	-56%	.	-86%	-68%	-54%	-79%
All pesticides	***2,886***	***4,914***	***4,672***	***4,794***	***2,582***	***.***	***7,966***	***3,436***	***3,376***	***3,842***	***1,705***	***-41%***	***-65%***	***-64%***	***-64%***	***-34%***	***.***	***-79%***	***-50%***	***-49%***	***-56%***
Area grown (ha)	463	836	813	729	391	.	728	403	370	401	191	-59%	-77%	-77%	-74%	-51%	.	-74%	-53%	-48%	-52%

* Seed treatments not recorded

Table 42: The quantity (tonnes) of pesticides applied to early potatoes in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
Pesticide type	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	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	-74%	-84%	-85%	-83%	-68%	.	-88%	-73%	-67%	-66%
Herbicides & desiccants	0.51	3.09	0.55	4.05	1.73	.	32.56	24.26	1.70	0.74	0.43	-16%	-86%	-22%	-89%	-75%	.	-99%	-98%	-75%	-42%
Insecticides																					
Carbamates	.	.	.	*< 0.1*	.	.	*<.01*	*0.012*	.	.	.	.	.	.	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	.	.	.	*0.02*	*0.08*	.	*0.01*	.	*0.074*	.	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	.	.	.	.	.	.	.	*0.001*	.	*<0.0001*	*<0.0001*	.	.	.	.	.	.	.	.	.	.
Azomethine	.	.	.	.	.	.	.	*0.005*	.			.	.	.	.	.	.	.	.	.	.
All insecticides	.	.	.	0.02	0.08	.	0.01	0.02	0.074	<0.0001	<0.0001	.	.	.	.	.	.	.	.	.	.
Molluscicides	.	.	.	.	0.002	.	0.038	.	.	0.004	0.002	.	.	.	.	13%	.	-95%	.	.	-50%
Seed treatments	*	0.20	0.04	0.05	0.03	.	0.11	0.02	0.01	0.11	0.02	.	-91%	-56%	-64%	-40%	.	-84%	20%	50%	-84%
All pesticides	***3.05***	***7.40***	***5.05***	***7.96***	***3.92***	***.***	***38.21***	***26.72***	***3.78***	***2.77***	***1.11***	***-64%***	***-85%***	***-78%***	***-86%***	***-72%***	***.***	***-97%***	***-96%***	***-71%***	***-60%***
Area grown (ha)	463	836	813	729	391	.	728	403	370	401	191	-59%	-77%	-77%	-74%	-51%	.	-74%	-53%	-48%	-52%

Table 43: The area (spray-hectares) of maincrop potatoes treated with pesticides in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
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**	**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	-1%	3%	-9%	-1%	-21%	.	-9%	19%	26%	7%
Herbicides & desiccants	13,762	12,397	11,309	12,316	12,635	.	10,682	14,081	12,562	15,393	15,029	9%	21%	33%	22%	19%	.	41%	7%	20%	-2%
Insecticides																					
Carbamates	.	.	.	.	.	.	*357.4*	*20*	*30*	*179*	.	.	.	.	.	.	.	.	.	.	.
Organochlorines	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Organophosphates	*308*	*10*	.	*549*	*32*	.	*101*	.	*30*	.	.	.	.	.	.	.	.	.	.	.	.
Pyrethroids	*11*	.	.	*70*	*110*	.	*1151*	*1852*	*622*	*723*	*973*	.	.	.	1290%	786%	.	-15%	-47%	56%	35%
Azomethine	.	.	.	.	.	.	.	*642*	*71*	.	.	.	.	.	.	.	.	.	.	.	
Neonicotinoid	.	.	.	.	.	.	.	.	*57*	.	*78*	.	.	.	.	.	.	.	.	37%	.
Mixed Formulations	.	.	.	.	.	.	.	*128*	*57*	.	*9*	.	.	.	.	.	.	.	-93%	-84%	.
Unkown insecticide	.	.	.	.	.	.	.	*66*	.	.	.	.	.	.	.	.	.	.	.	.	
All insecticides	319	10	94	619	155	.	1,609	2,709	867	902	1,061	233%	10510%	1032%	71%	585%	.	-34%	-61%	22%	18%
Molluscicides	.	.	.	195	396	.	1,108	114	853	446	385	.	.	.	97%	-3%	.	-65%	238%	-55%	-14%
Growth regulators	.	.	.	.	.	.	72	.	.	23	56	.	.	.	.	.	.	-22%	.	.	143%
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	.	35%	17%	-7%	-39%	.	-13%	-19%	-21%	-18%
All pesticides	***62,328***	***60,257***	***65,280***	***63,388***	***76,292***	***.***	***67,664***	***58,955***	***54,287***	***63,478***	***65,873***	***6%***	***9%***	***1%***	***4%***	***-14%***	***.***	***-3%***	***12%***	***21%***	***4%***
Area grown (ha)	7,863	6,540	5,913	5,961	5,515	.	4,741	4,517	3,984	4,308	4,041	-49%	-38%	-32%	-32%	-27%	.	-15%	-11%	1%	-6%

Table 44: The quantity (tonnes) of pesticides applied to maincrop potatoes in Northern Ireland, 1990-2010.

	Survey Year											Differences between:									
	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2010-90	2010-92	2010-94	2010-96	2010-98	2010-00	2010-02	2010-04	2010-06	2010-08
Pesticide type	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	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	-41%	-39%	-41%	-36%	-35%	.	-40%	-17%	-15%	-17%
Herbicides & desiccants	69.27	68.21	55.01	143.18	139.86	.	191.80	155.30	92.70	8.60	9.86	-86%	-86%	-82%	-93%	-93%	.	-95%	-94%	-89%	15%
Insecticides																					
Carbamates	.	.	.	.	.	.	*0.05*	*0.003*	*0.004*	*0.025*	.	.	.	.	.	.	.	-51%	733%	525%	.
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*	.	.	.	.	.	.	.	-25%	350%	80%
Azomethines	.	.	.	.	.	.	.	*0.097*	*0.005*	.	.	.	.	.	.	.		.	.	.	
Neonicotinoid	.	.	.	.	.	.	.	.	*0.006*	.	*0.006*	.	.	.	.	.	.	.	.	0%	.
Mixed Formulations	.	.	.	.	.	.	.	*0.014*	*0.009*	.	*0.001*	.	.	.	.	.	.	.	-93%	-89%	.
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	-91%	-47%	-94%	-93%	-56%	.	-76%	-88%	-86%	-47%
Molluscicides	.	.	.	0.04	0.08	.	0.18	0.02	0.21	0.06	0.08	.	.	.	103%	-1%	.	-55%	406%	-62%	42%
Growth regulators	.	.	.	.	.	.	0.1721	.	.	0.069	0.168	.	.	.	.	.	.	-2%	.	.	143%
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	.	7%	-33%	61%	-53%	.	.	22%	-77%	30%
All pesticides	***126.55***	***123.55***	***112.71***	***196.23***	***192.56***	***.***	***248.72***	***196.03***	***134.30***	***49.16***	***43.85***	***-65%***	***-65%***	***-61%***	***-78%***	***-77%***	***.***	***-82%***	***-78%***	***-67%***	***-11%***
Area grown (ha)	7,863	6,540	5,913	5,961	5,515	.	4,741	4,517	3,984	4,308	4,041	-49%	-38%	-32%	-32%	-27%	.	-15%	-11%	1%	-6%

* Seed treatments not recorded

Table 45: Estimated quantity (tonnes) of potato crops stored in each region of Northern Ireland, 2010.

Location of holding	Early	Ware	Seed	Total
Antrim	.	18,098	1,513	19,611
Armagh	.	245		245
Down	.	36,117	11,365	47,483
Londonderry	.	35,580	3,317	38,897
Tyrone	.	4,731	61	4,793
Northern Ireland	***.***	***94,771***	***16,256***	***111,028***

Table 46: Estimated quantity (treated tonnes) of potatoes stored in each region of Northern Ireland, 2010.

Location of holding	Ware potatoes	Total quantity treated (tt)
Londonderry	9,644	9,644
Northern Ireland	***9,644***	***9,644***

Table 47: The weight of pesticides (kg) applied to potatoes stored in each region of Northern Ireland, 2010.

Location of holding	Ware potatoes	Total quantity (kg)
Londonderry	202.53	202.53
Northern Ireland	***202.53***	***202.53***

Table 48: Estimated quantity (treated tonnes) of potatoes in storage receiving pesticide treatment in Northern Ireland, 2010.

Active ingredients	Ware potatoes	Total quantity treated (tt)
Chlorpropham	9,644	9,644
All pesticides	***9,644***	***9,644***

Table 49: Weight (kg) of active ingredients applied to stored potatoes in Northern Ireland, 2010.

Active ingredients	Ware	Total
Chlorpropham	202.53	202.53
All pesticides	***202.53***	***202.53***

Table 50: The active ingredients applied to stored potatoes in Northern Ireland in 2010, prioritised by weight (kg).

	Active ingredients	Quantity used (kg)
1	Chlorpropham	173.16

Table 51: Type of storage building, storage method, potato type and quantity (tonnes) of potatoes stored in Northern Ireland, 2010.

Type of storage building	Early	Ware	Seed	Total
Barn store				
Boxed	.	13,290	7,910	21,200
Bulk	.	13,224	2,721	15,945
All barn stores	**.**	***26,514***	***10,631***	***37,145***
Modified Barn				
Boxed	.	4,289	.	4,289
Bulk	.	1,550	.	1,550
Unknown	.	884	.	884
All modified barns	**.**	***6,723***	**.**	***6,723***
Purpose built ventilated store				
Boxed	.	14,958	2,198	17,156
Bulk	.	5,559	.	5,559
All purpose built ventilated stores	**.**	***20,516***	***2,198***	***22,715***
Refrigerated store				
Boxed	.	39,058	3,209	42,267
Bulk	.	1,960	.	1,960
Unknown	.	.	218	218
All refrigerated stores	**.**	***41,018***	***3,427***	***44,445***
Total	**.**	***94,771***	***16,256***	***111,028***

Table 52: Type of storage method, potato type and total quantity (tonnes) of potatoes stored in Northern Ireland, 2010.

Type of storage method	Early	Ware	Seed	Total
Boxed	.	71,595	13,317	84,912
Bulk	.	22,292	2,721	25,013
Unknown	.	884	218	1,102
Total	**.**	***94,771***	***16,256***	***111,028***

Table 53: Comparison of ware potatoes stored (tonnes), quantity treated (tonnes) and the weight of pesticides applied (kg) to stored potatoes between 1992 and 2010.

	Ware potatoes									Difference between:							
	1992	1994	1996	1998	2002	2004	2006	2008	2010	2010-92	2010-94	2010-96	2010-98	2010-02	2010-04	2010-06	2010-08
Quantity stored (t)	139,570	84,868	135,933	112,675	44,322	122,348	92,914	60,855	94,771	-32%	12%	-30%	-16%	114%	-23%	2%	56%
Quantity treated (tt)	16,289	11,630	19,022	5,899	9,024	3,099	.	4680	9644	-41%	-17%	-49%	63%	7%	211%	.	106%
Quantity of pesticides (kg)	1,998	1,001	750	227	439	148	.	173	203	-90%	-80%	-73%	-11%	-54%	36%	.	17%
Quantity untreated (t)	123,281	73,238	116,910	106,777	35,298	119,249	92,914	56,175	85,127	-31%	16%	-27%	-20%	141%	-29%	-8%	52%

Table 54: Comparison of seed potatoes stored (tonnes), quantity treated (tonnes) and the weight of pesticides applied (kg) to stored potatoes between 1992 and 2010.

	Seed potatoes									Difference between:							
	1992	1994	1996	1998	2002	2004	2006	2008	2010	2010-92	2010-94	2010-96	2010-98	2010-02	2010-04	2010-06	2010-08
Quantity stored (t)	33,420	24,238	39,290	39,809	16,032	33,321	24,640	5,138	16,256	-51%	-33%	-59%	-59%	1%	-51%	-34%	216%
Quantity treated (tt)	7,536	14,950	12,915	5,628	4,029	673	76	.		.	.	.	.	.	.	.	
Quantity of pesticides (kg)	1,052	851	480	896	48	5	0.76	.		.	.	.	.	.	.	.	
Quantity untreated (t)	27,033	9,288	26,652	34,181	12,003	32,648	24,564	.		.	.	.	.	.	.	.	

Table 55: Comparison of reserved potatoes stored (tonnes), quantity treated (tonnes) and the weight of pesticides applied (kg) to stored potatoes between 1992 and 2010.

	Reserved potatoes									Difference between:							
	1992	1994	1996	1998	2002	2004	2006	2008	2010	2010-92	2010-94	2010-96	2010-98	2010-02	2010-04	2010-06	2010-08
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 56: Comparison of all potatoes stored (tonnes), quantity treated (tonnes) and the weight of pesticides applied (kg) to stored potatoes between 1992 and 2010.

	All potatoes									Difference between:							
	1992	1994	1996	1998	2002	2004	2006	2008	2010	2010-92	2010-94	2010-96	2010-98	2010-02	2010-04	2010-06	2010-08
Quantity stored (t)	191,019	119,447	190,392	162,608	60,353	155,669	117,554	70,794	111,028	-42%	-7%	-42%	-32%	84%	-29%	-6%	57%
Quantity treated (tt)	23,825	26,580	38,624	14,051	13,053	3,772	76	4680	9644	-60%	-64%	-75%	-31%	-26%	156%	12570%	106%
Quantity of pesticides (kg)	3,050	1,852	1,605	1,245	488	154	0.76	173.00	203	-93%	-89%	-87%	-84%	-58%	32%	26507%	17%
Quantity untreated (t)	168,344	92,868	152,027	148,557	47,300	151,897	117,478	66,114	101,384	-40%	9%	-33%	-32%	114%	-33%	-14%	53%

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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

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

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