

National Apple Orchard Census 2012



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National Apple Orchard Census 2012

Introduction

The National Apple Orchard Census 2012 was compiled from information provided by the 45 commercial apple growers operating in the Republic of Ireland in 2012. The census provides an important overview of apple production, and comparisons are made to previous censuses (2007, 2002 and 1997) where possible.

The census surveyed all commercial orchards, defined as follows:

- a production area of at least 0.2 hectares of apples, including cider apples
- the fruit from the orchard is sold every year
- the orchard is sprayed against pests/diseases every year, or maintained to organic standards

Within the 45 growers, there are two organic growers.

Production areas are based on areas planted up to March 2012. Sales value and volume reflects the 2011 crop, harvested in autumn 2011 and sold in 2011/12.

Bord Bia and the Department of Agriculture, Food and the Marine wish to thank all apple growers surveyed, and Teagasc, for their assistance in compiling this census.

Notes:

For convenience, figures in this report are rounded.

Statistical analysis for this census was carried out by Franklin Research, Dun Laoghaire, Co. Dublin.

Executive Summary

This report presents the findings of a census of the 45 Irish orchards operating in 2012.

Total apple production area in 2012 is 615 hectares, which represents a 6% increase from the previous census (579 hectares in 2007). Half (50%) of the total production area is accounted for by the culinary variety *Bramley's Seedling*. Culinary varieties in total account for 51% of total production area, followed by cider varieties at 29% and dessert varieties at 20%.

Culinary apple production area increased 18% since the 2007 census, while cider apple production area increased 12%. Production area of dessert apples continues to decline, down 20% from the 2007 census and 40% since the 1997 census.

The value of Irish apples harvested in 2011 is €4.88 million. This is a 24% increase in farmgate value since the last census. Culinary apples account for 49% of total production value, dessert apples account for 35% and cider apples 16%.

The apple sector employs 58 people full-time and 236 people part-time, corresponding to 113 full-time equivalent jobs.

Dublin, Tipperary, Meath, Waterford and Kilkenny are the principal counties for apple production, accounting for 90% of total apple production area in 2012.

Dublin and Meath production is mostly concentrated in culinary production, with 177 hectares and 49 hectares of culinary apples respectively. Tipperary production is mostly cider production, with 82 hectares of cider apples. Production in Waterford and Kilkenny is more evenly spread across the three apple types.

Growers with larger orchards dominate apple production. Of the 45 orchards in 2012, the top 10 (in terms of orchard area) account for 63% of total production area.

The production area of the culinary variety *Bramley's Seedling* has increased 16% from the last census (309 hectares in 2012, up from 266 hectares in 2007). This increase is mostly due to significant new plantings by a small number of growers.

Among the dessert varieties, the production area of *Jonagold* is down 39% from the last census (35 hectares in 2012, from 57 hectares in 2007). The production areas of the other main dessert varieties *Elstar* and *Katja* are virtually unchanged.

Dabinett is the most important cider variety. Its production area is up 17% from the last census (90 hectares in 2012, from 77 hectares in 2007). The production area of *Michelin* is unchanged at 51 hectares.

The age profile of apple trees varies by apple variety. 35% of total production area in trees is under 10 years of age. However, 44% of culinary trees are 20+ years of age, in comparison to only 28% of dessert trees and 31% of cider trees.

38% of orchards have mechanical harvesting equipment. 40% of orchards have refrigeration storage, with 9% having ultra low O₂ stores.

Grower comments on barriers to expansion are dominated by cost and profitability issues (e.g. establishment costs, time before return on investment, low cost imports and labour costs).

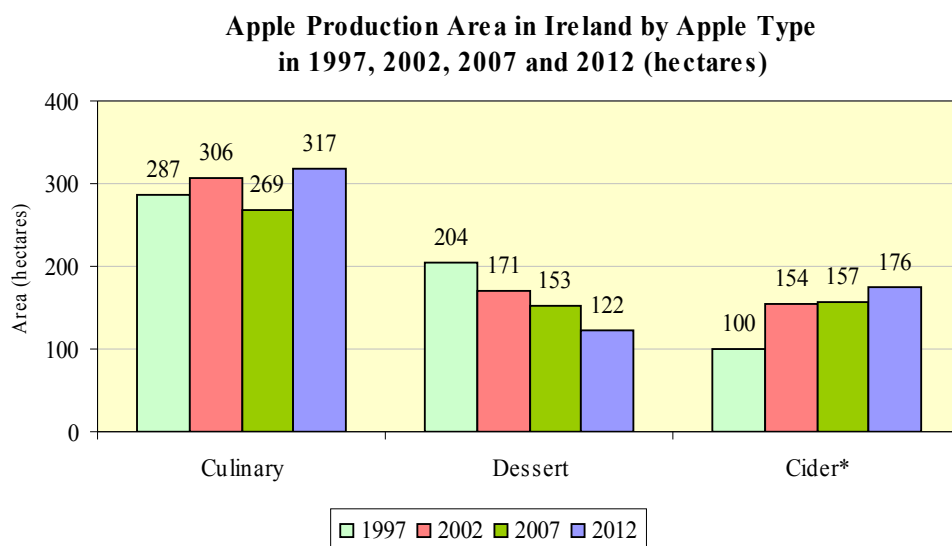
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Section 1 Orchard Area, Sales, Growers and Markets

This section provides an overview of apple production in Ireland. The charts illustrate the key trends in orchard area, sales, growers and markets.



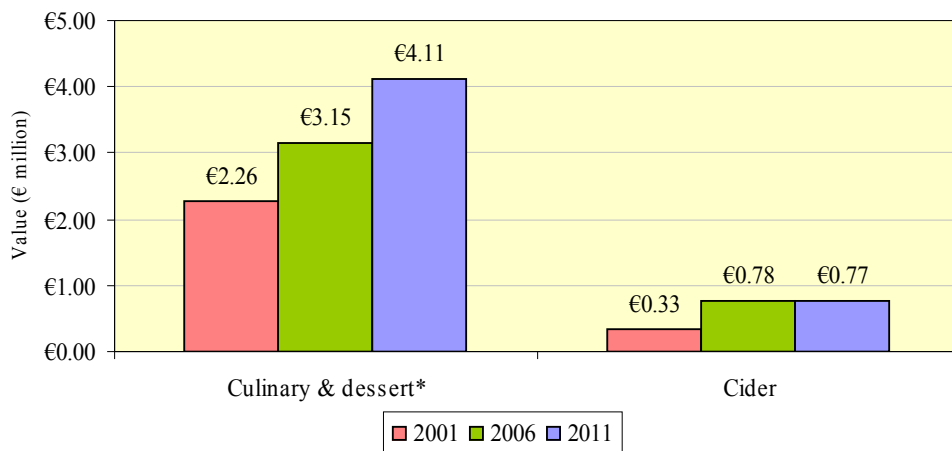
* The 1997 cider apple figure is based on a Teagasc estimate.

Total apple production area (culinary, dessert and cider) in 2012 is 615 hectares. This is a 6% increase from the last census (579 hectares in 2007). The average (median) orchard size in 2012 is 8.2 hectares.

Culinary apple production area in 2012 is 317 hectares, representing 51% of total production area. Cider apple production area is 176 hectares (29% of total production area) and dessert apple production area is 122 hectares (20% of total production area).

Culinary apple production area increased 18% since the 2007 census (from 269 hectares in 2007 to 317 hectares in 2012). This increase is largely due to significant new plantings of *Bramley's Seedling* by a small number of growers (both new and existing growers), but may be partly attributable to an under-recording of culinary area in the 2007 census. Cider apple production area increased 12% (from 157 hectares in 2007 to 176 hectares in 2012). Production area of dessert apples continues to decline, down 20% from the last census and 40% since the 1997 census (204 hectares in 1997, 153 hectares in 2007 and 122 hectares in 2012).

**Farmgate Value of Apples in Ireland
for 2001, 2006 and 2011 Harvests (€ million)**



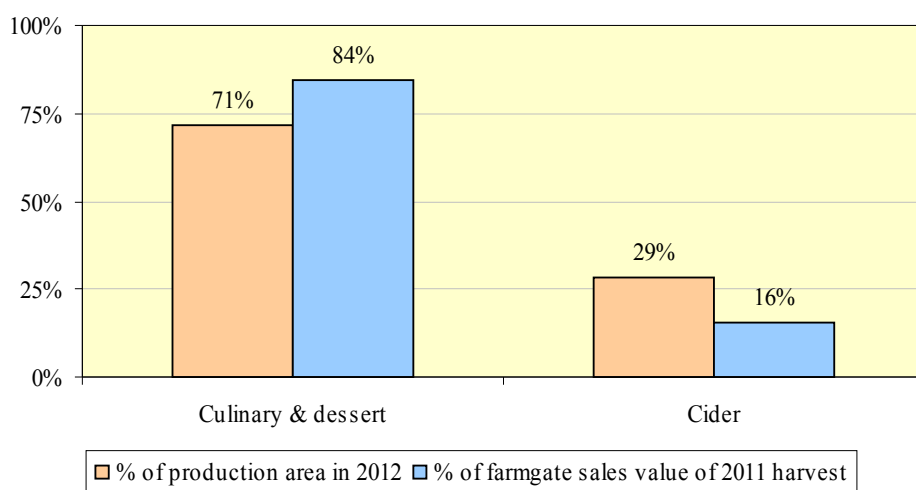
* 1996 value figures not available. Culinary and dessert combined because 2007 census asked growers for the combined value of culinary and dessert apple sales.

Total farmgate sales value of Irish apples harvested in 2011 is €4.88 million. This is a 24% increase in farmgate value since the last census (€3.93 million) and an 88% increase on the 2002 census (€2.59 million).

Culinary apples sales in 2011/12 were €2.39 million (representing 49% of total farmgate value), dessert apple sales were €1.72 million (35% of total farmgate value) and cider apples sales were €0.77 million (16% of total farmgate value).

The value of culinary and dessert apple sales increased by 30% (from €3.15 million in 2006/07 to €4.11 million in 2011/12), while the value of cider apple sales is unchanged (€0.78 million in 2006/07 and €0.77 million in 2011/12).

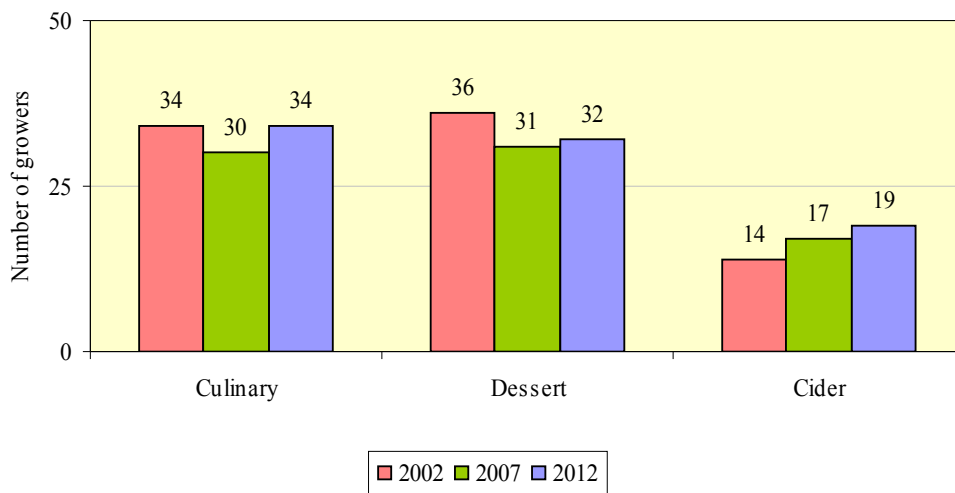
Breakdown of Orchard Production Area in 2012 and Farmgate Sales Value of 2011 Harvest in Ireland



Production area in 2012 = 615 ha.; farmgate sales value of 2011 harvest = €4.88 million.

Culinary and dessert apples in 2012 account for 71% of production area and 84% of sales value of the 2011 crop. Cider apples account for 29% of production area and 16% of sales value of the 2011 crop.

**Number of Apple Growers in Ireland by Apple Type
in 2002, 2007 and 2012**

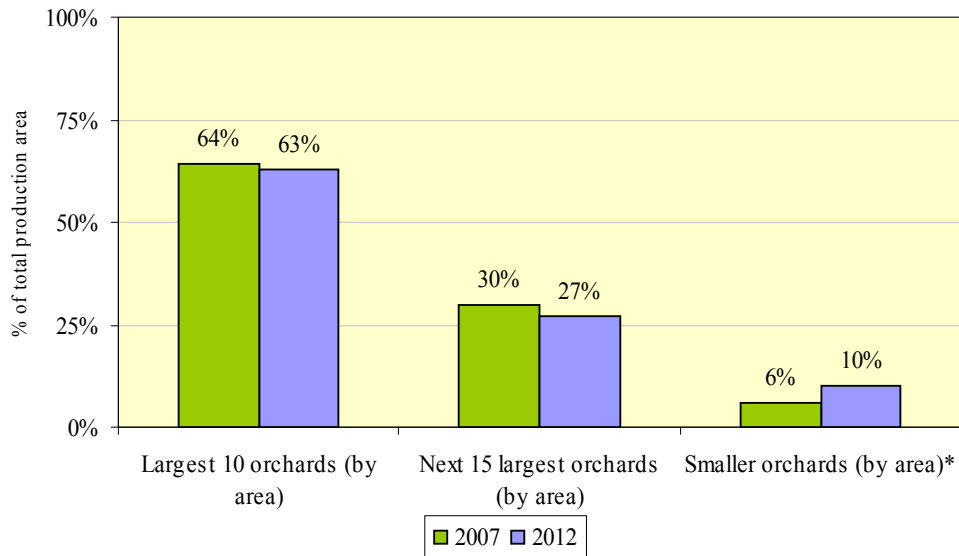


The total number of growers in 2012 is 45. This is almost identical to the 46 growers operating in 2002 and up from the 40 growers operating in 2007.

Of the 45 growers operating in 2012, 34 grow culinary apples, 32 grow dessert apples and 19 grow cider apples.

The number of growers growing culinary apples is up 13% (from 30 growers in 2007 to 34 growers in 2012). There is very little change in the numbers of growers growing dessert apples (31 growers in 2007 and 32 growers in 2012) or cider apples (17 growers in 2007 to 19 growers in 2012).

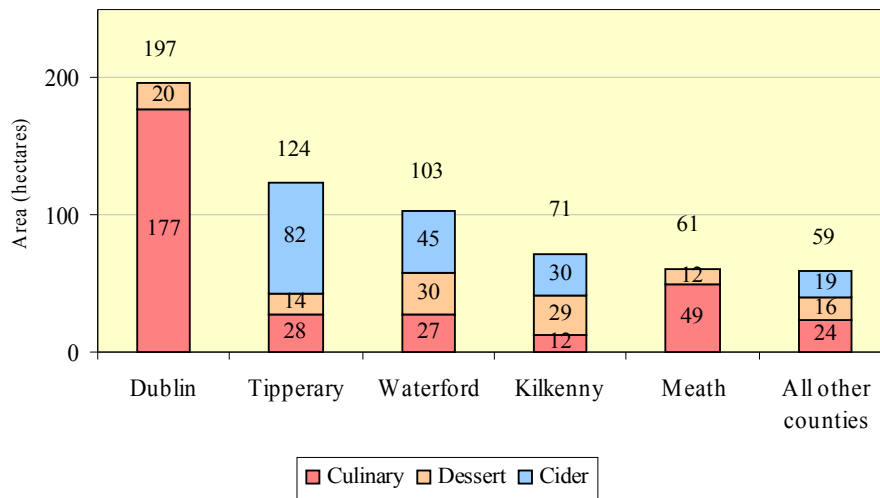
Apple Production in Ireland by Orchard Size in 2007 and 2012



* 15 smaller orchards in 2007, 20 in 2012.

Apple production is dominated by growers with larger orchards. Of the 45 orchards in 2012, the top 10 (in terms of orchard area) account for 63% of total production area. The next 15 orchards account for 27% of total production area, while the smallest 20 orchards account for 10%. However, the proportion of total production area accounted for by the top 10 growers is marginally (1%) down from the 2007 census, indicating that the larger orchards are not increasing their share of the apple market.

**Production Area of Each Apple Type in Ireland by County in 2012
(hectares)**

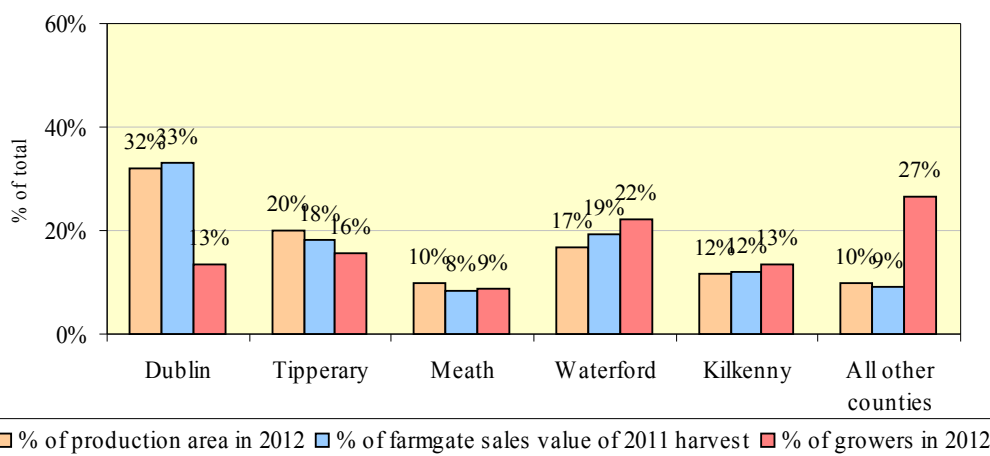


Five counties (Dublin, Tipperary, Meath, Waterford and Kilkenny) account for 90% of total apple production area in 2012.

Dublin’s production area of 197 hectares in 2012 is up 6% since the last census (185 hectares in 2007), while Meath’s production area of 61 hectares is up 17% (52 hectares in 2007). Of the other major counties, Tipperary’s production area is 124 hectares in 2012 (up from 115 hectares in 2007), Waterford’s is 103 hectares (up from 92 hectares) and Kilkenny’s is 71 hectares (down from 83 hectares).

Dublin and Meath production is largely focused on culinary production, with 177 hectares and 49 hectares of culinary apples respectively (together accounting for 71% of culinary apple production area). Tipperary’s production is mostly cider production, with 82 hectares of cider apple varieties (accounting for 47% of cider apple production area). Production in Waterford and Kilkenny is more evenly spread across the three apple types.

Apple Production Area, Farmgate Sales Value and Number of Growers in Ireland by County in 2011/12

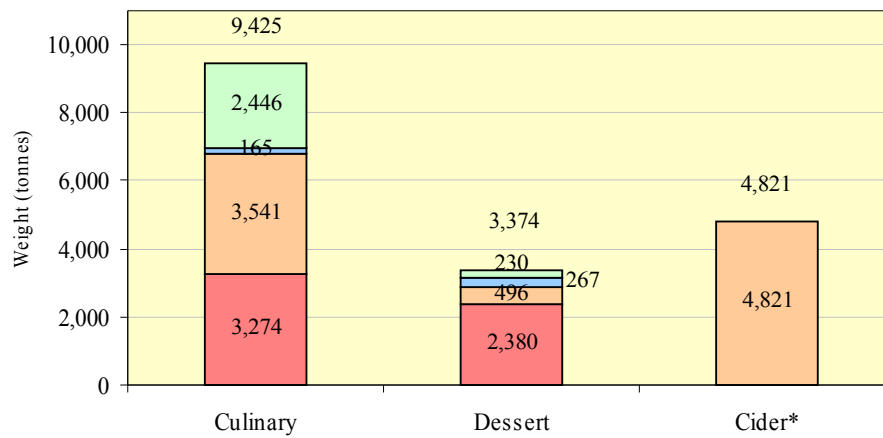


Production area in 2012 = 615 ha.; farmgate sales value of 2011 harvest = €4.88 million; number of growers in 2012 = 45.

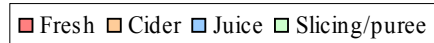
The five counties, Dublin, Tipperary, Meath, Waterford and Kilkenny account for 90% of total production area, 91% of total farmgate sales value and 73% of all growers.

Dublin and Meath have a small number of growers relative to their share of production area and farmgate sales value, indicating a larger than average orchard size.

Market Destination for Irish Apples Harvested in 2011 (tonnes)



* Not shown: 27 tonnes to slicing/puree, and 4 tonnes to juicing. Total cider variety tonnes = 4,852.



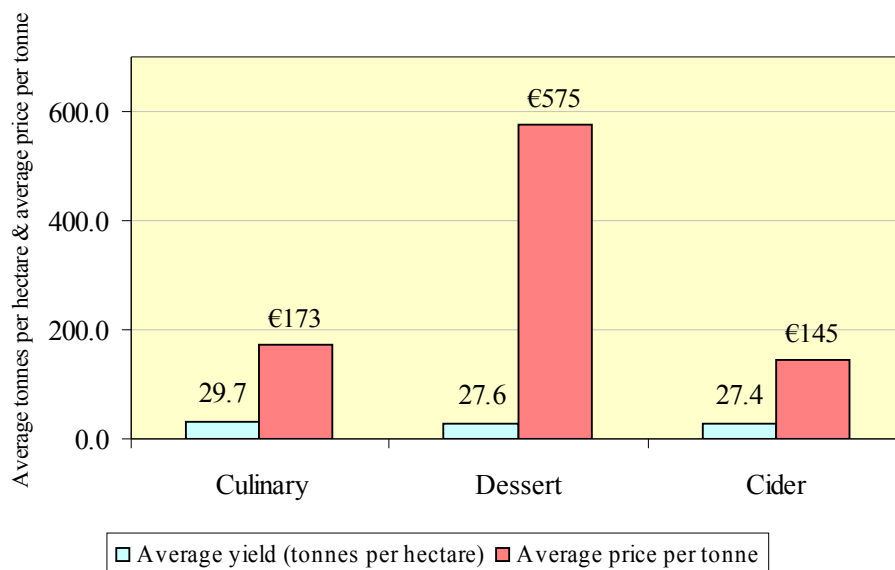
The total tonnage of culinary, dessert and cider apples harvested in 2011 is 17,650 tonnes.

Culinary apples sales tonnage was 9,425 tonnes in 2011, representing 53% of total sales tonnage. Of this, 3,541 tonnes were sold into the cider market, 3,274 tonnes were sold into the fresh market, 2,446 tonnes were sold into the slicing/puree market and 165 tonnes were sold into the juice market.

Dessert apple sales tonnage was 3,374 tonnes, representing 19% of total sales tonnage. The majority of dessert apple sales (2,380 tonnes) were sold into the fresh market.

Cider apple sales tonnage (for dedicated cider varieties) was 4,821 tonnes, representing 27% of total sales tonnage. In addition, 3,541 tonnes of culinary apples and 496 tonnes of dessert apples were destined for the cider market.

Average Yields and Prices per Tonne in Ireland for 2011 Harvest



For culinary apples harvested in 2011, the average yield is 29.7 tonnes per hectare while the average farmgate sales price per tonne is €173. This gives an average sales value per hectare for culinary apples of €5,136.

For dessert apples, the average yield is 27.6 tonnes per hectare while the average farmgate sales price per tonne is €575. This gives an average sales value per hectare for culinary apples of €15,873.

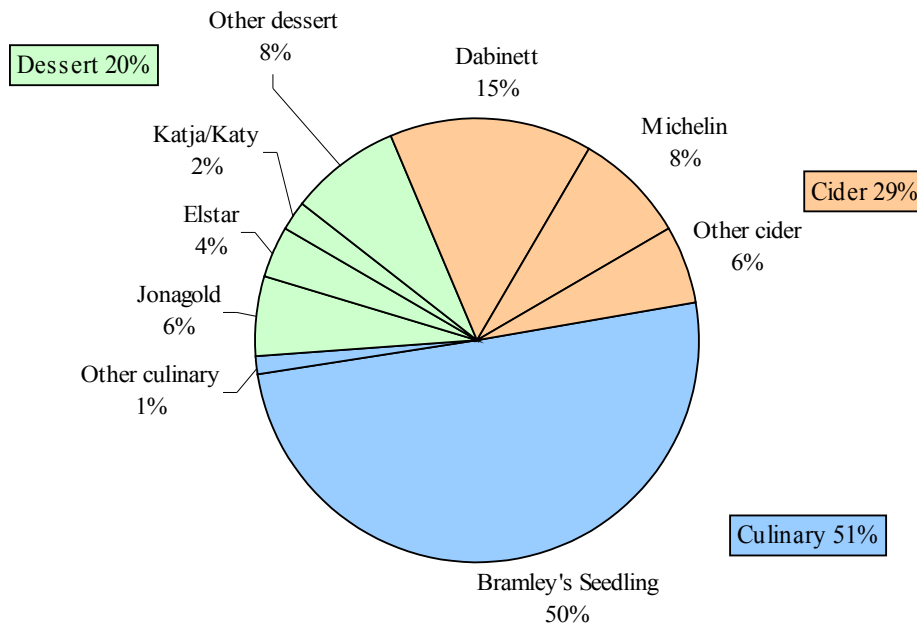
For cider apples, the average yield is 27.4 tonnes per hectare while the average farmgate sales price per tonne is €145. This gives an average sales value per hectare for culinary apples of €3,972.

Average prices per tonne by market are shown in Table 6 of the appendix.

Section 2 Varieties and Orchard Age

This section provides a breakdown of the census information by variety of apple grown. Information about the age profile of apple trees is also provided.

Apple Production Area in Ireland by Variety in 2012



Production area in 2012 = 615 hectares.

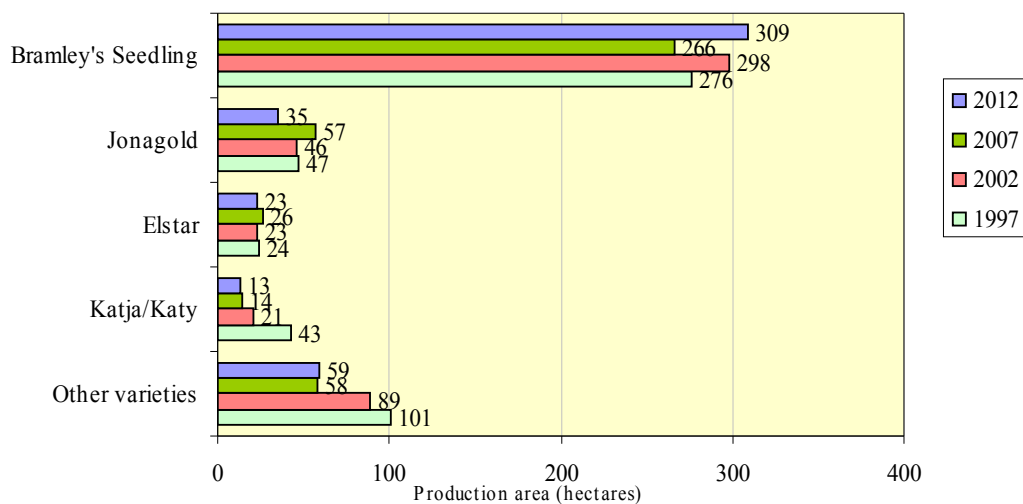
Culinary production: culinary apples account for 51% of total apple production area in 2012. *Bramley's Seedling* accounts for virtually all culinary apple production (317 hectares of culinary apples, of which 309 hectares are *Bramley's Seedling*).

Dessert production: dessert apples account for 20% of total apple production area. *Jonagold* is the most widely produced dessert variety accounting for 6% of total apple

production area, followed by *Elstar* (4% of total apple production area) and *Katja* (2%).

Cider production: cider apples account for 29% of total apple production area. *Dabinett* is the most produced cider variety accounting for 15% of total apple production area, followed by *Michelin* (8% of total apple production area)

Production Area for Most Important Culinary and Dessert Apple Varieties Grown in Ireland in 1997, 2002, 2007 and 2012 (hectares)

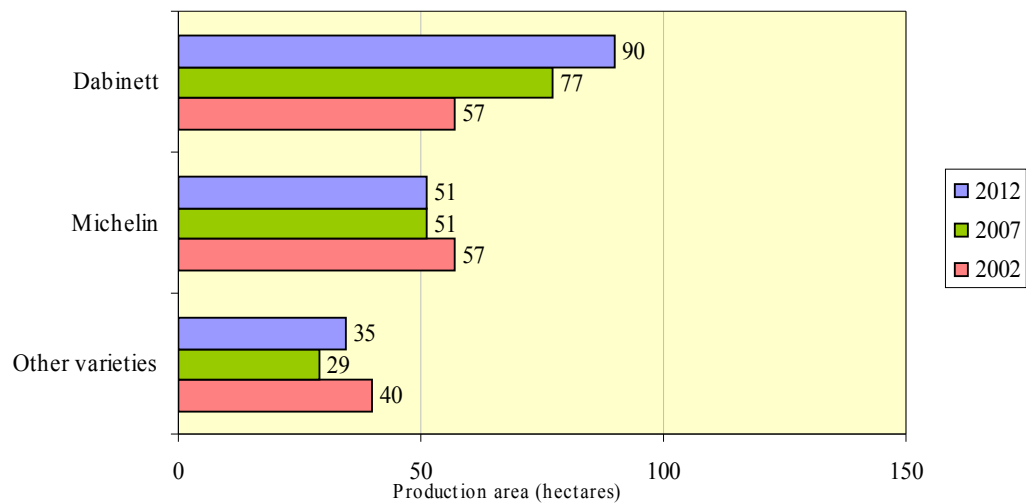


The production area of the culinary variety *Bramley's Seedling* in 2012 is 309 hectares, up from 266 hectares in 2007.

Among the dessert varieties, the production area of *Jonagold* is down 39% from previous years (35 hectares in 2012, from 57 hectares in 2007). The production areas of *Elstar* and *Katja* are virtually unchanged (*Elstar*: 23 hectares in 2012, from 26 hectares in 2007; *Katja*: 13 hectares in 2012, from 14 hectares in 2007).

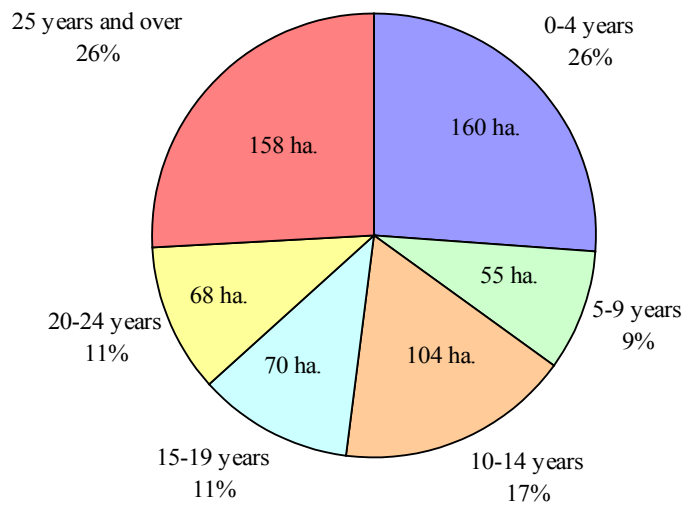
Table 5 in the appendix provides production areas for other culinary and dessert varieties.

Production Area for Most Important Cider Apple Varieties Grown in Ireland in 2002, 2007 and 2012 (hectares)



Among the cider varieties, the production area of Dabinett is up 17% from the previous census (90 hectares in 2012, from 77 hectares in 2007), while the production area of Michelin is unchanged at 51 hectares.

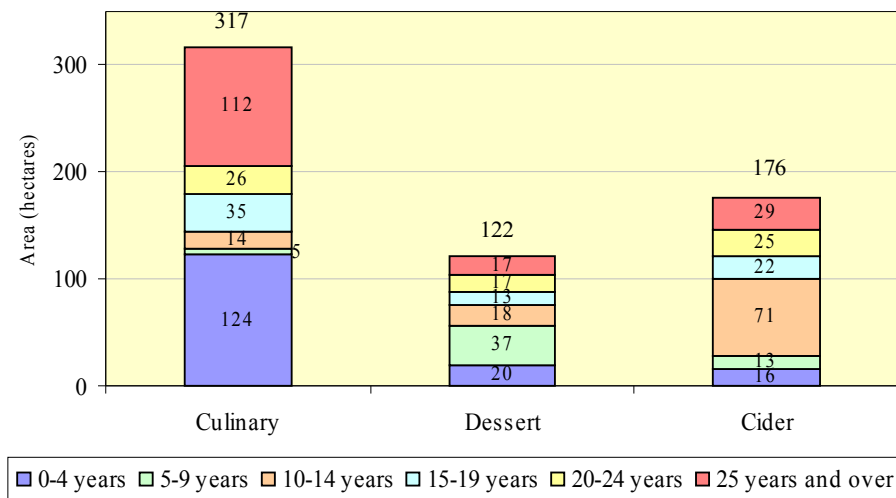
**Age Profile of Apple Trees in Ireland
in March 2012 (percent of total apple production area)**



Production area in 2012 = 615 hectares.

Overall, Irish orchards have a varied age profile between younger trees and trees that have reached maturity. However, only 37% are in their most productive years (5-19 years). While 26% of trees are aged 0-4 years a further 37% are aged over 20 years and as such have reducing production capacity.

**Age Profile of Apple Trees in Ireland by Apple Type
in March 2012 (hectares)**

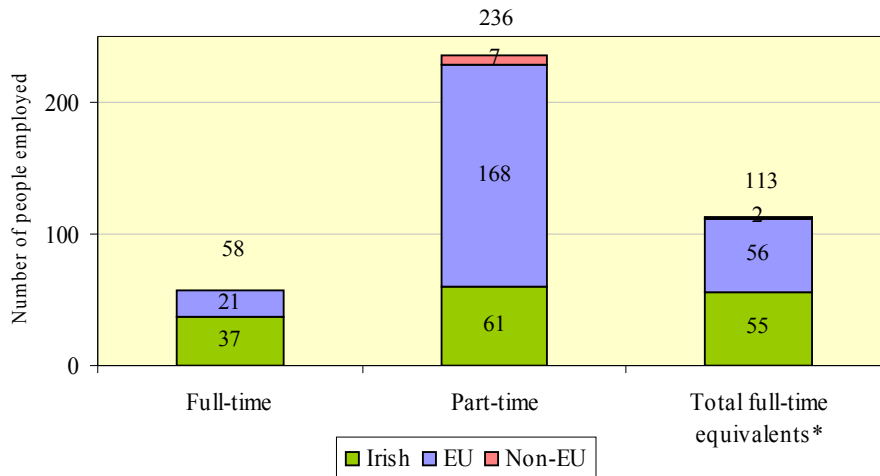


The majority of apple trees planted within the last 10 years are culinary (129 hectares of culinary trees aged 0-9 years, versus 56 hectares for dessert trees and 29 hectares for cider trees).

Culinary production could be expected to significantly increase over the coming years with a total of 124 hectares (39% of culinary production area) less than 5 years of age. This recent planting will go some way to address the age imbalance in culinary orchards where 138 hectares (44% of culinary production area) are aged 20+ years.

Section 3 Employment, Facilities, Business Development and Producer Profile

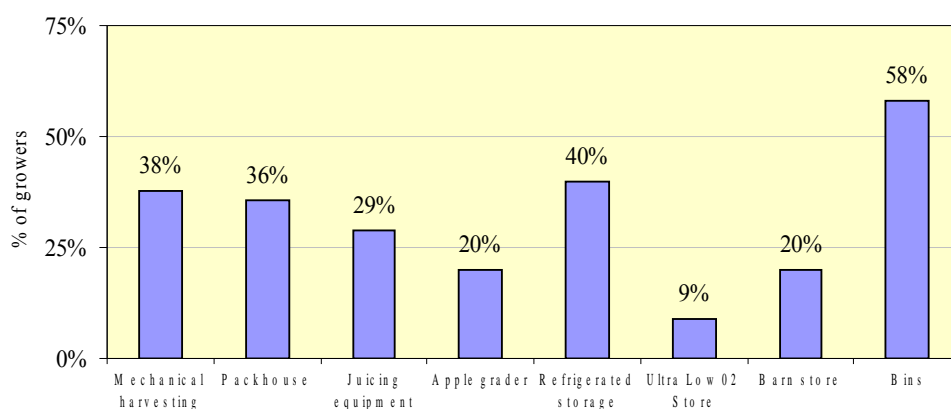
Apple Orchard Employment in Ireland in 2012



* Full-time jobs plus part-time jobs aggregated to the number of full-time jobs they would represent.

There are 58 people in full-time employment on Irish orchards in 2012 and 236 people in part-time employment. Converting those in part-time employment to the number of full-time jobs they would represent, results in a total of 113 full-time equivalent jobs in Irish orchards in 2012. This indicates very little change in employment in Irish orchards since 2007.

Percentage of Irish Apple Growers with Different Facilities in 2012



* number of growers in 2012 is 45.

38% of growers have mechanical harvesting equipment.

For apple storage, 40% of growers have refrigeration storage, but only 9% of growers have ultra low O₂ storage facilities, which exist within a refrigerated store.

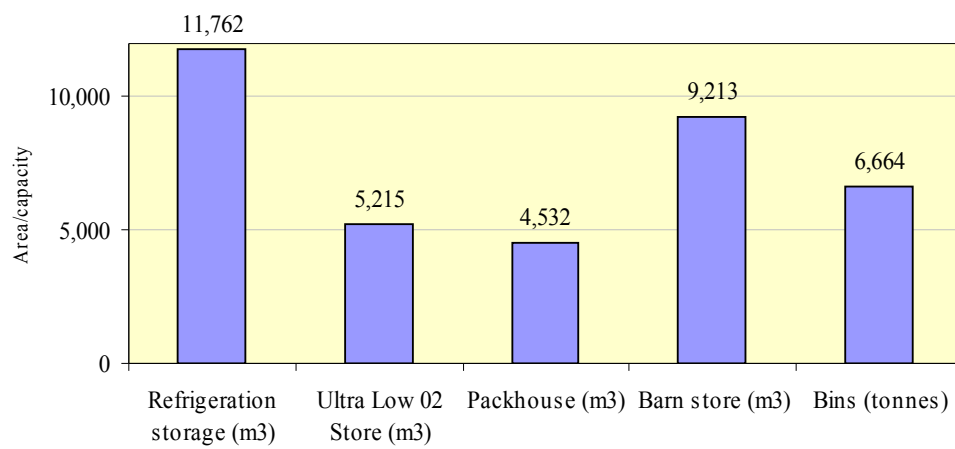
36% of growers have packhouses. Growers with packhouses tend to also have refrigerated and possibly ultra low O₂ stores. Growers that solely have barn storage are unlikely to have a packhouse.

29% of growers have juicing equipment. This is higher than expected and may be attributable to many smaller growers that have low capacity (i.e. non-commercial) juicing equipment.

58% of growers have bins. While producers solely involved in cider apple production don't use bins, this figure is lower than expected. This is considered to be due to smaller growers with multiple varieties harvesting directly into boxes.

For apple transport (not shown), 9% of growers (i.e. four growers) have their own chilled transport.

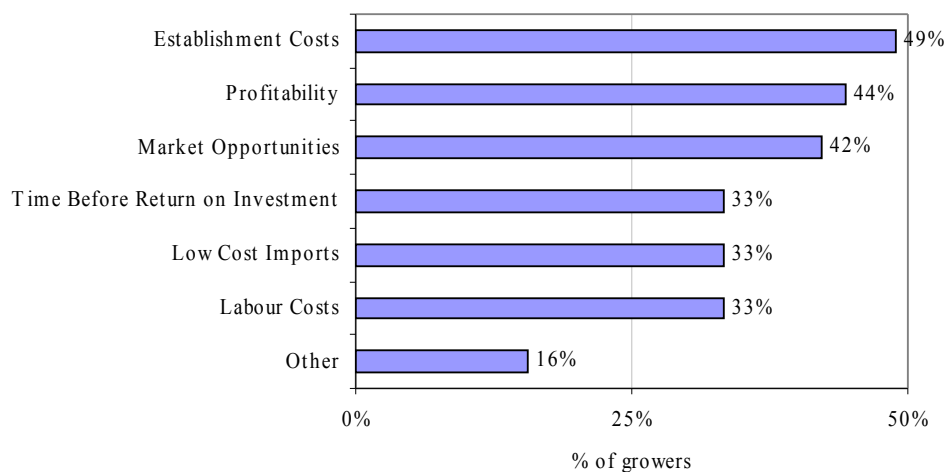
Area and Capacity of Apple Storage Facilities in Ireland in 2012



Total refrigeration capacity is 11,762 cubic metres, with ultra low O₂ storage capacity of 5,215 cubic metres.

Packhouse area is 4,532 cubic metres, barn storage area is 9,213 cubic metres and bin capacity is 6,664 tonnes.

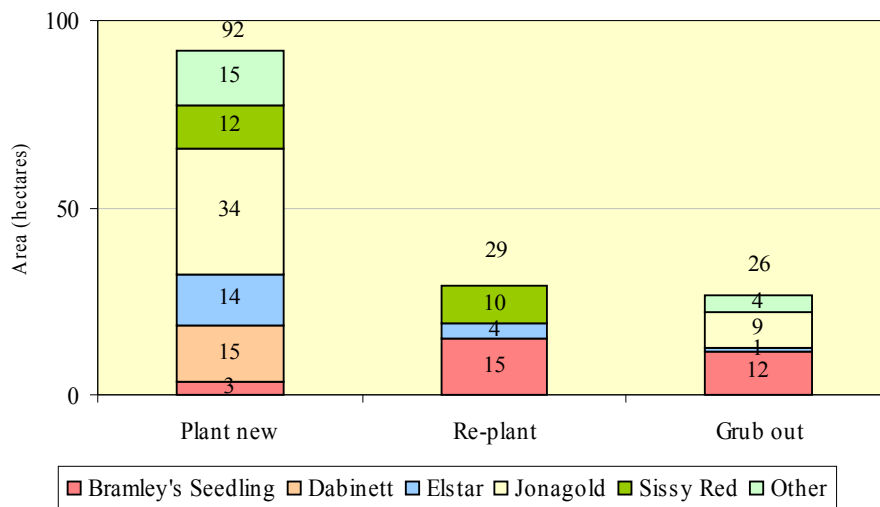
Stated Barriers to Expansion for Irish Apple Growers in 2012



Number of growers in 2012 is 45.

Grower comments on barriers to expansion are dominated by cost and profitability issues. In the above chart, *establishment costs*, *profitability*, *time before return on investment*, *low cost imports* and *labour costs* all relate to making a profitable return on investment.

**Irish Grower's Orchard Development Plans for next 5 years
(hectares)**



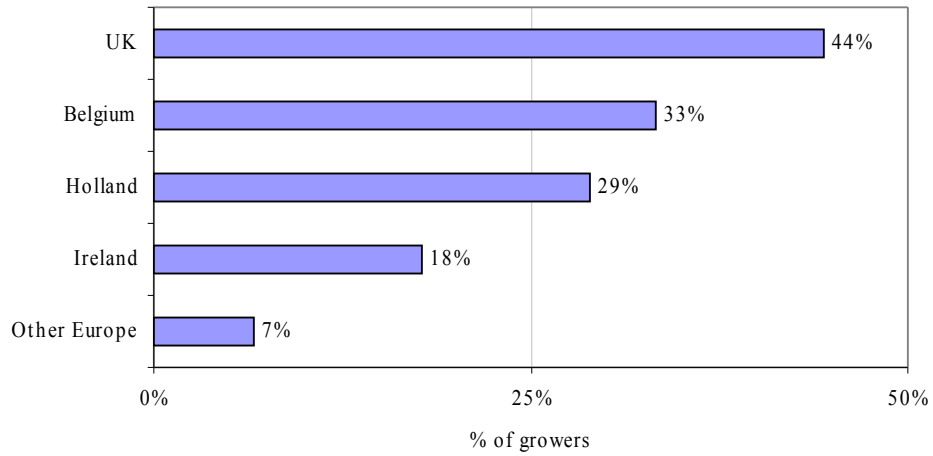
Growers plan to plant 92 hectares with new trees over the next 5 years. Among planned new trees, *Jonagold* has the highest area with 34 hectares of new orchard planned. However, growers also plan to grub out 9 hectares of *Jonagold*. Significant new plantings of Sissy Red are also planned by growers (12 hectares of new plantings and 10 hectares of replantings).

As seen earlier, 139 hectares of culinary trees are aged 20 years or more. It is therefore not surprising that growers plans to grub out 12 hectares of *Bramley's Seedling* over the next 5 years.

While there have been significant new plantings of culinary apples over the last 5 years, growers will mostly plant dessert apples over the next 5 years. This should maintain the positive age profile among dessert varieties.

There is a long lead-in time between planting and when an orchard reaches its full productive capacity. Therefore to predict future Irish apple production the above graph should be read in conjunction with “Age Profile of Apple Trees in Ireland by Apple Type” presented on Page 20 of this Report.

Sources of Plant/Propagating Material for Irish Apple Growers in 2012

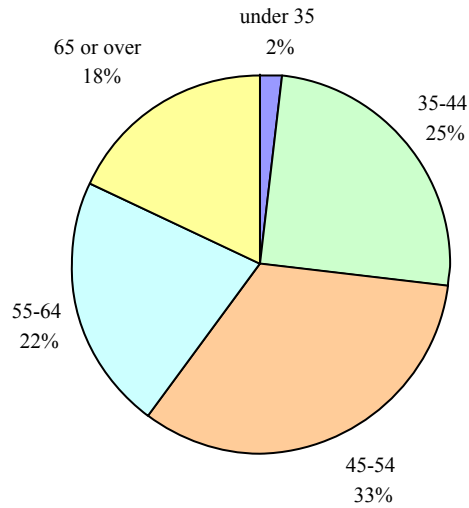


Number of growers in 2012 is 45.

Adds to more than 100% as some growers source from more than one country.

44% of Irish apple growers in 2012 source their plant/propagating materials from the UK. Belgium and Holland are next main source countries (33% and 29% of growers respectively). Less than one-fifth (18%) of growers source plant/propagating materials in Ireland.

**Age Profile of Irish Apple Growers
in 2012**



Number of growers in 2012 is 45.

Almost one-fifth of growers (18%) are aged 65 or older, while only 2% are under 35 years of age.

The census also asked whether the grower had an identified successor and 47% said that they did.

APPENDICES

Table 1: Apple Production Area (hectares) by Year of Planting and Apple Type in Ireland in 2012

Apple Type	Area (hectares)						Total
	Planted 2007-2012	Planted 2002-2007	Planted 1997-2002	Planted 1992-1997	Planted 1987-1992	Planted 1986 and earlier	
Culinary	124	5	14	35	26	112	317
Dessert	20	37	18	13	17	17	122
Cider	16	13	71	22	25	29	176
Total	160	55	104	70	68	158	615
% of total	26%	9%	17%	11%	11%	26%	100%

Table 2: Number of Apple Trees by Year of Planting and Apple Type in Ireland in 2012

Apple Type	Number of trees						Total
	Planted 2007-2012	Planted 2002-2007	Planted 1997-2002	Planted 1992-1997	Planted 1987-1992	Planted 1986 and earlier	
Culinary	183,806	7,219	11,032	38,433	12,984	51,834	305,307
Dessert	37,754	46,598	26,508	14,331	21,341	14,159	160,690
Cider	12,205	6,835	44,467	15,744	8,100	8,886	96,238
Total	233,765	60,651	82,007	68,508	42,425	74,879	562,235
% of total	42%	11%	15%	12%	8%	13%	100%

Table 3: Number of Growers of Each Apple Type by County in Ireland in 2012*

County	Number of growers			
	Culinary Apples	Dessert Apples	Cider Apples	Total**
Waterford	6	7	7	10
Tipperary	5	4	5	7
Dublin	5	5		6
Kilkenny	5	6	4	6
Wexford	4	4		4
Other counties	9	6	3	12
Total	34	32	19	45

* Counties with at least 3 growers for each apple type.

** The total is not the sum of the row as growers can grow more than one apple type.

Table 4: Sales of 2011 Harvest by Market by County of (tonnes)*

County	Market				
	Fresh	Cider	Juice	Slicing/puree	Total
Waterford	856	2,113	56	0	3,024
Tipperary	352	3,341	172	0	3,865
Dublin	2,427	1,187	0	200	3,813
Kilkenny	1,088	1,122	16	27	2,253
Wexford	176	46	77	0	299
Other counties	756	1,049	116	2,476	4,397
Total	5,654	8,858	436	2,703	17,650

* Counties with at least 3 growers for culinary, dessert and cider apples.

Table 5: Production Area, Number of Growers and Sales for Most Commonly Grown Apple Varieties in Ireland in 2011/12*

Apple variety	Number of growers	Area (hectares) (as at March 2012)	Sales of 2011 harvest by market type (tonnes)					Sales value of 2011 harvest	
			Fresh	Cider	Juice	Slicing/puree	Total	Total sales value	Average sales value per tonne
Culinary									
Bramley's Seedling	34	309	3,274	3,337	162	2,422	9,195	€2,350,716	€256
Grenadier	7	8		183	3	24	210	€35,362	€168
Dessert									
Elstar	19	23	449	86	49		583	€310,921	€533
John of Gold Strains	17	35	982	192	77		1,251	€629,378	€503
Katja/Katy	13	13	169	102	9		279	€79,660	€285
Discovery	12	7	40	40	21		101	€51,358	€510
Golden Delicious	5	11	70	17	9	206	301	€74,724	€249
Ida Red	4	3	92	10			102	€32,965	€324
Red Windsor	3	1	9				9	€6,813	€801
Worcester Permain	3	6	90				90	€55,740	€619
Cider									
Dabinet	18	90		2,371		27	2,398	€389,268	€162
Michelin	13	51		1,626			1,626	€253,072	€156
Aston Bitter	5	5		76	4		80	€14,278	€178

* Varieties grown by at least 3 orchards.

Table 6: Average (median) Prices per Tonne by Market for 2011 harvest

	Market			Total (all markets)
	Fresh	Cider	Juice*	
Culinary	€350	€155	€1,450	€173
Dessert	€489	€145	€700	€575
Cider	n/a	€145	n/a	€145

* Many apple producers, and especially culinary apple producers, producing apples for juice add value to their apples by juicing them on-farm or by paying another grower to juice their apples. The figures outlined above reflect the ex-farm sale price so in cases where juice is sold rather than apples they reflect the value of the juice produced from a tonne of apples rather than the estimated value of the apples prior to juicing.

Table 7: Apple Production Area (hectares) in Ireland in 1980-2012

	Area (hectares)
2012	615
2007	579
2002	631
1997	591
1990	732*
1985	662*
1980	699*

* estimated figures, not based on census of apple growers. Estimates might not have included cider apple production.