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Results of the German Fruit Tree Census

Report Categories:
Fresh Deciduous Fruit
Stone Fruit
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Report Highlights:
This report summarizes the results of the 2017 German fruit tree census and developments in the planted varieties of apples and pears. Total planted area increased by 10 percent, although 4 percent of German fruit farms have stopped operating since the previous census in 2012. Apples are the most planted fruit trees and account for 68 percent of total fruit tree area, followed by sweet cherries, plums, and pears.

General Information

Contents

1. Introduction

Every five years, EU-Member States carry out a statistical survey of deciduous fruit area and production capacity. Details are laid down in EU regulation 1337/2011[1]. Results of the German survey were recently published by the German Federal Office of Statistics (destatis) and are summarized in this report.

The survey covers cultivated area for market production, and does not include area for subsistence farming or house gardens. It reports on the following species: apples, pears, sweet cherries, sour cherries, plums, small yellow plums (aka mirabelle plums), apricots, peaches, quince, and walnuts. However, reporting on varieties within those species is only available for apple and pears. In addition, the report for the first surveyed how much of the area was under organic production.

Abbreviations and Terms

ar = 1/100 ha= 100 square meters = 0.2471 acres =119.6 square yards
ha = hectare(s), 1 ha = 10,000 square meters = 2.471 acres
MT = metric ton(s) = 1000 kg

For clarity variety names and the Latin names of fungal diseases are displayed in *italics* in the text.

[1] http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1509003014890&uri=CELEX:32011R1337

2. Development of Deciduous Fruit Farms and Area from 2012 to 2017

Within the past five years, four percent of the deciduous fruit farms have stopped farming, while the farmed area increased by 10 percent. This is symptomatic of a trend towards larger farms. In an attempt to remain viable, larger commercial farms are trying to increase their area by buying or leasing additional land partly from smaller fruit farms which stopped producing. The very small farms (<2 ha) are usually run part time, with the owners generating most of the household income outside of agriculture. For them it is challenging to both keep up with the technical developments and to find a successor upon retirement.

Table 1: Deciduous Fruit Farms and Farm Area in Germany 1997-2017

Area from … to …. ha	Farms 1997	Farms 2012	Farms 2017	Farms % Change 2012-2017	Area 1997 (ha)	Area 2012 (ha)	Area 2017 (ha)	Area % Change 2012-2017
0.5 –2	8114	3857	3388	-12%	7943	3855	3617	-6%
2 – 5	2578	1563	1580	1%	7992	4921	4931	0%
5 – 10	1164	854	873	2%	8221	6131	6164	1%
> 10	1149	1181	1326	12%	28355	30685	35223	15%
Total	13005	7455	7167	-4%	52511	45592	49935	10%

Source: German Federal Office of Statistics, Wiesbaden

3. Situation in 2017

3.1 Organic Production

Fifteen percent of the German fruit tree is farmed organically. However, the share varies substantially by species. It is highest in quince and walnuts and lowest in apricots. An assessment on whether organic area increases cannot be made at this point, as reporting on this feature was newly introduced in this report.

Table 2: Total and Organic Fruit Bearing Tree Area in ha and percent

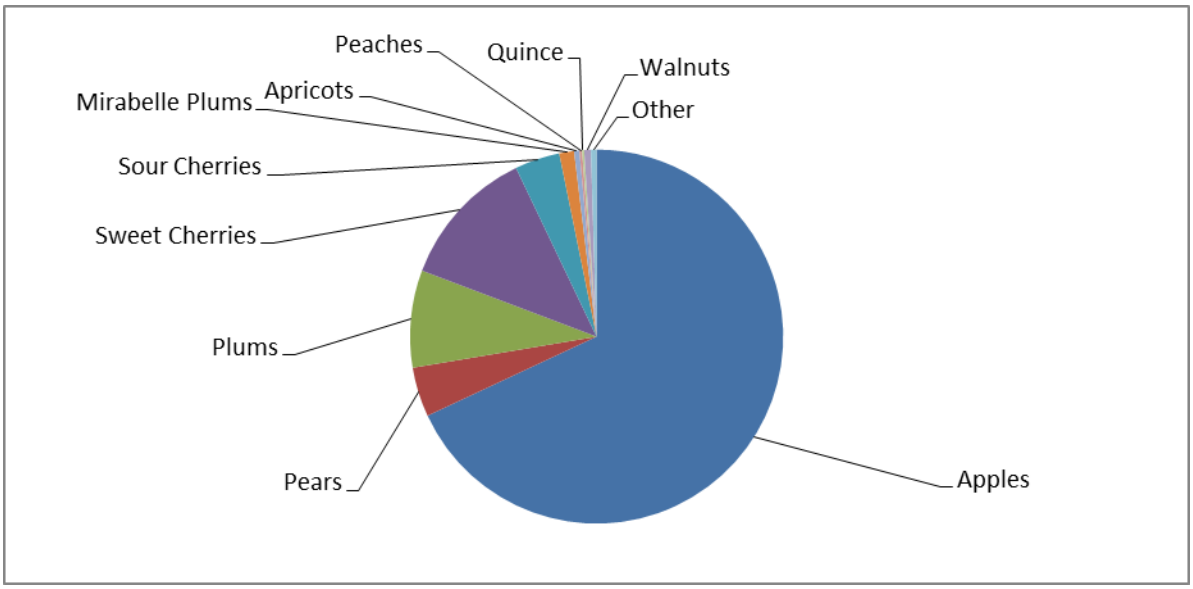
	Total Area (ha)	Thereof Organic (ha)	% Organic Area
Apples	33981	6092	17.9%
Pears	2137	318	14.9%
Plums	4199	294	7.0%
Sweet Cherries	6066	296	4.9%
Sour Cherries	1948	174	8.9%
Mirabelle Plums	639	39	6.1%
Apricots	228	11	4.8%
Peaches	112	8	7.1%
Quince	91	44	48.4%
Walnuts	291	130	44.7%
Other	242	108	44.6%
Total	49934	7514	15.0%

Source: FAS/Berlin based on data from:
German Federal Office of Statistics, Wiesbaden

3.2 Species of Trees

In terms of area, apples are by far the most important deciduous fruit species in Germany, which account for about two-thirds (33,981 ha) of total German deciduous fruit area. Following in area are sweet cherries (6,066 ha), plums (4,199 ha), pears (2,137 ha), sour/tart cherries (1,948 ha), and mirabelle plums (639 ha). Reporting on peaches, apricots, and walnuts was reintroduced after having been discontinued in the surveys of 2007 and 2012, reporting on quince is new. However, these species play a marginal role and together accounts for less than 2 percent of the German fruit bearing tree area.

Chart 1: Percentage of Total Fruit-bearing Tree Area by Species in Germany



3.2.1 Apples

From 2012 to 2017, the reported figures (table 2) show a 7 percent increase in total apple area.

The 2017 survey reports on 65 different apple varieties that are currently grown in Germany. Most of these varieties have a limited or regional importance. Only 24 varieties are grown on more than 100 ha each, less than ten cover more than 1000 ha. More than half of the area (56 percent) is covered by one of the top 5 varieties. The top 10 varieties take up 66 percent of the area. They are shown in table 3. The share of each variety as a percentage of the total apple area is illustrated in chart 2.

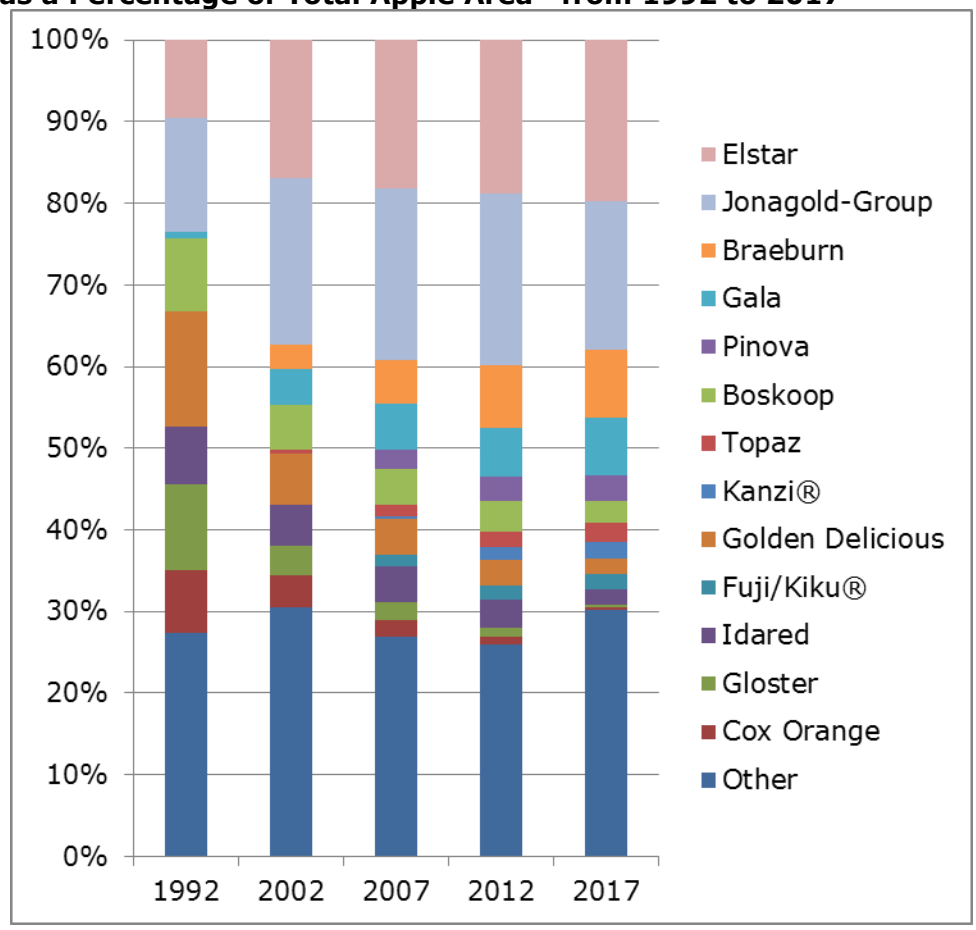
Table 3: Major Apples Varieties by ha and Year

						change in percent	
	1992	2002	2007	**2012**	**2017**	2012 to 2017	1992 to 2017
Elstar	3,416	5,271	5,770	**5,948**	**6,698**	13%	96%
Jonagold-Group	4,994	6,339	6,687	**6,705**	**6,214**	-7%	24%
thereof:							
Jonagold	4,251	4,529	3,807	3,036	2,285	-25%	-46%
Jonagored	743	1,810	2,366	2,476	1,937	-22%	161%
Jonaprince	.	.	514	1,193	1,992	67%	.
Braeburn	.	952	1699	**2415**	**2,824**	17%	.
Gala	295	1,346	1,770	**1,908**	**2,382**	25%	707%
Pinova	.	.	768	**964**	**1,057**	10%	.
Boskoop	3,143	1,710	1,389	**1,168**	**927**	-21%	-71%
Topaz	.	158	460	**617**	**816**	32%	.
Kanzi®	.	.	94	**483**	**670**	39%	.
Golden Delicious	5,076	1,964	1,416	**982**	**655**	-33%	-87%
Fuji/Kiku®	.	.	404	**568**	**636**	12%	
Idared	2,487	1,575	1,442	**1,073**	**626**	-42%	-75%
[…]							
Gloster	3,791	1,103	693	**349**	**105**	-70%	-97%
Cox Orange	2,720	1,234	634	**312**	**123**	-61%	-95%
Other	9,775	9,481	8,536	**8,246**	**10,248**	24%	5%
Total	35,697	31,219	31,762	**31,738**	**33,981**	7%	-5%

Note: year on year comparison is somewhat flawed as data collection has changed: 2012 and 2017 include data from farms larger than 0.5 ha, 2007 and 2002 larger than 0.3 ha, 1992 larger than 0.15 ha.

Source: FAS/Berlin based on data from German Federal Office of Statistics, Wiesbaden

Chart 2: The Share of the Major Apple Varieties in Germany as a Percentage of Total Apple Area* from 1992 to 2017



* excluding apples for processing
Source: FAS/Berlin based on data from:
German Federal Office of Statistics, Wiesbaden

3.2.1.1 Factors influencing the variety mix

The variety mix of apples grown in Germany is largely determined by climatic factors, consumer and retail preferences. Retail chains favor bi-color apple varieties, a fruit diameter of 75 – 80 mm, and a long shelf life.

Compared to some other big apple regions, e.g. France or the southern hemisphere, Germany has a cooler climate and a shorter growing season. It is therefore less suitable for some of the popular new varieties, such as "*Pink Lady*".

The majority of German consumers favor "sweet and sour" tasting apples as opposed to "just sweet" apples. *Elstar*, *Jonagold*, and many of the old traditional varieties serve this taste. However, some of the old traditional varieties are difficult to handle, such as *Berlepsch* which is very susceptible to bruising. Others do not fit the retail requirements in size or appearance. Most of these varieties are not well received by the retail sector and are therefore grown less and less for the "big market." However, they do continue to have some importance with farmers, who grow these varieties for direct sale to the consumer either on their farm-site or at farmers' markets.

3.2.1.2 Changes in the variety mix

Over the past 25 years there has been quite some change in the ranking of apple varieties grown in Germany.

Elstar is the leading apple grown in Germany and steadily on the rise. It gained 13 percent from 2012 to 2017 and almost doubled its area compared to 1992. It is also the most planted variety in young orchard (see table 3). In consumer apple tastings, *Elstar* usually receives better results than *Jonagold*, in part because of its firmer texture. In addition, it does not have the *Jonagold* problem of oversized fruit.

Jonagold-group lost 7 percent in acreage compared to 2012, albeit it is still grown on 24 percent larger area than in 1992. However, within the *Jonagold* group there is a clear trend towards the red strain *Jonaprince* at the expense of the "standard *Jonagold*" and *Jonagored* varieties. This is largely due to the fact that the standard *Jonagold* tends to develop difficulties in fruit coloring when the trees get older.

Other expanding varieties are *Braeburn*, *Gala*, *Pinova, Topaz, Fuji/Kiku®,* and *Nicoter*/*Kanzi*®. For a long time *Gala* and *Braeburn* were not considered suitable for the German climate, and were restricted to the most southern regions of Germany. However, these varieties are now also increasingly grown in more northern parts of Germany. *Pinova* was bred in Saxony in 1986, and is very popular in East Germany. Lately, producer organizations in the West, especially along the river Rhine are pushing this variety, which is known for its outstanding shelf-life. *Topaz* is prized for its tolerance against the scab fungus (*venturia inaequalis*). *Fuji/Kiku*® is mostly grown in the Lake Constance area in the South of Germany.

In contrast, *Golden Delicious*, which ranked first in 1992 and third in 2002, lost 87 percent of its area compared to 1992 and by 2017 had dropped to number nine. Other high ranking varieties from 1992 have also lost ground. The varieties *Gloster*, *Cox Orange*, *Idared*, and *Boskoop*, have declined from 1992 to 2017 by 97, 95, 75, and 71 percent, respectively. Among these only *Boskoop* and *Idared* reached the top 10 of plantings in 2017. *Boskoop* has a good reputation among consumers for baking and cooking. "Cox Orange" was bred in the United Kingdom in 1825 and is a variety with a long tradition in Germany. In recent years low crops and its variety-inherent small fruit size have decreased the popularity of *Cox Orange* with growers. *Gloster* was bred in Germany in 1951 and had its peak in the 1970s and 1980s. It is a high yielding red variety, with a rather neutral taste.

Table 4: Variety mix in young apple orchards (< 5 years) in 2017

Variety	Area (ha)
Elstar	1248
Jonagold-Group total	832
Thereof:	
Jonaprince	575
Jonagold	215
Jonagored	42
Gala	614
Braeburn	364
Topaz	190
Boskoop	188
Wellant ®	184
Pinova	173
Kanzi ®	148
Holsteiner Cox	97
Santana	87
Fuji/Kiku ®	72
Delbarestivale ®	64
Other varieties	824
Total	5085

Source: FAS/Berlin based on data from German Federal Office of Statistics, Wiesbaden

3.2.2 Pears

From 2012 to 2017, pear area increased by 7 percent. This is a reversal of the declining trend of the previous 25 years.

The number of pear varieties is much smaller than those for apples. The survey reports on 25 varieties, with the top four varieties accounting for 75 percent of the pear area. The sector is also less dynamic concerning variety changes. Form the 1800s until 2007 *Alexander Lucas* and *Bartlett* were the two leading varieties. However, in recent years, *Conference* has gained popularity among growers and by 2017 managed to become the most grown variety in Germany (see table 4). *Xenia®/Novembra®* displayed the most dynamic development of all varieties in recent years. The variety displays a reduced susceptibility for pear scab (*venturia pirina*) and canker (*nectria galligena*), which is especially important for organic production (table 5).

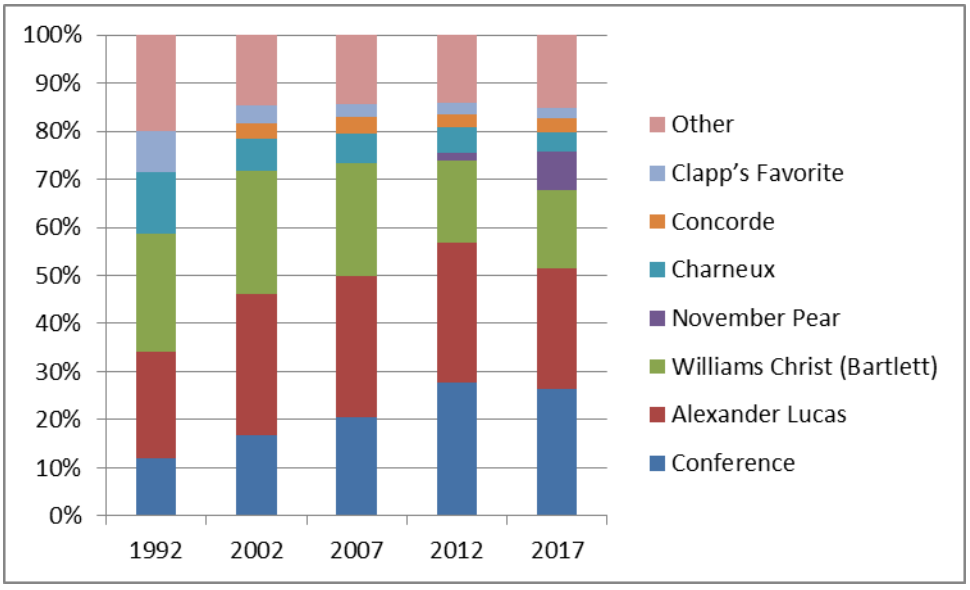
Table 5: Major Pear Varieties in ha

	1992 (ha)	2002 (ha)	2007 (ha)	**2012 (ha)**	**2017 (ha)**	Change in Percent 2012-2017	1992-2017
Conference	236	268	325	**376**	**386**	3%	64%
Alexander Lucas	441	467	465	**398**	**362**	-9%	-18%
Williams Christ (Bartlett)	491	410	370	**230**	**239**	4%	-51%
Xenia®/Novembra®	.	.	.	**22**	**115**	423%	.
Charneux	257	104	98	**73**	**61**	-16%	-76%
Concorde	.	52	52	**36**	**43**	19%	.
Clapp's Favorite	167	59	43	**34**	**31**	-9%	-81%
Other	400	234	228	**214**	**220**	3%	-45%
Total	1992	1594	1581	**1361**	**1457**	7%	-27%

Note: year on year comparison is somewhat flawed as data collection has changed: 2012 and 2017 include data from farms larger than 0.5 ha, 2007 and 2002 larger than 0.3 ha, 1992 larger than 0.15 ha.

Source: FAS/Berlin based on data from German Federal Office of Statistics, Wiesbaden

Chart 3: The Share of the Major Pear Varieties in Germany as a Percentage of Total Pear Area* from 1992 to 2012



* excluding pears for processing

Source: FAS/Berlin based on data from:
German Federal Office of Statistics, Wiesbaden

Table 6: Variety Mix in Young Pear Orchards in 2017 in ha

	Pear Orchards <5 Years (ha)
Novembra®/Xenia®	67
Conference	50
Williams Christ (Bartlett)	21
Alexander Lucas	12
Abate Fetel	3
Concorde	3
Vereinsdechant	2
Other varieties	47
total	205

Source: FAS/Berlin based on data from German Federal Office of Statistics, Wiesbaden

3.2.3 Stone Fruits

Table 7: Stone Fruit Area by ha and Year

	2002	2007	**2012**	**2017**	Change in Percent	
					2012-2017	2002-2017
Sweet Cherries	5366	5482	5258	6066	15%	13%
Sour/Tart Cherries	4197	3444	2291	1948	-15%	-54%
Subtotal Cherries	9563	8926	7549	8014	6%	-16%
Plums	4519	4564	3870	4199	9%	-7%
Mirabelle Plums	474	561	502	639	27%	35%
Subtotal Plums	4993	5125	4372	4838	11%	-3%
Subtotal Cherries and Plums	14556	14051	11921	12852	8%	-12%
Apricots	53			228		330%
Peaches	101			112		11%
Total Stone Fruits	14710	14051	11921	13192		-10%

Cherry and plum area rebounded and compared to 2012 increased by 6 and 11 percent, respectively. However, the increase in cherries was only possible because the increase in sweet cherry area was able to over-compensate the reduction in sour/tart cherry orchards. The latter decline in area is a result of strong competition from other EU member states. According to German industry sources, other member states such as Hungary and Poland have lower production costs and are more competitive than German producers. Germany is more competitive for sweet cherries since most of the production is for fresh consumption and consumers are willing to pay a premium for locally produced cherries.

Apricots and peaches were not reported on in the previous two surveys. However, compared to 2002 their area increased by 11 percent for peaches and tripled for apricots. Both species

can only be grown in limited locations in South-West Germany due to their sensitivity to late frosts. In these suitable areas they compete with wine.

4. Related Reports:

Stone Fruit Report 2017|Stone Fruit Fresh Fruit|Berlin|Germany|8/14/2017 Germany is the third-largest importer of cherries in the world after Russia and China. From 2014 to 2016, between 54 and 68 percent of the cherries consumed in Germany were imported, with the majority of imports originating in other EU-28 member states. The largest non-EU cherry suppliers are Turkey for sweet cherries and Serbia for tart cherries. Total German cherry production for CY 2017 is estimated at 26,000 MT. This represents a decrease of 43 percent compared to CY 2016 and 47 percent... Stone Fruit Report 2017_Berlin_Germany_8-9-2017
Product Brief Fresh Fruits|Product Brief Fresh Fruit Fresh Deciduous Fruit Citrus Stone Fruit Strawberries|Berlin|Germany|12/21/2016 Germany is one of the largest markets for fruit in Europe. The relative affluence of its population of 82 million people makes it an attractive outlet for exporters from many countries. This product brief highlights certain aspects of the German fruit market and provides marketing, trade, and regulatory information for U.S. exporters. Product Brief Fresh Fruits_Berlin_Germany_12-16-2016
Fresh Deciduous Fruit Annual 2017|Fresh Deciduous Fruit|Vienna|EU-28|10/27/2017 Due to late frost throughout the EU and hot spells in Southern and Eastern EU, commercial apple production in MY 2017/18 is estimated to be 18 percent down compared to the previous season. This is the lowest apple production since 2007. Imports should increase by 42 percent as a result. The forecast for EU commercial pear production is 0.3 percent lower. Overall EU commercial table grapes production is expected to be down by 13 percent. This is mainly because of significantly lower productio... Fresh Deciduous Fruit Annual_Vienna_EU-28_10-24-2017

These reports can be accessed through the FAS website:
https://gain.fas.usda.gov/Lists/Advanced%20Search/AllItems.aspx

5. Key Contacts And Further Information

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