

Worldwide Production of Blackberries

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Foreword

In 2005, I (B. Strik) was invited to make a presentation on worldwide blackberry production at the International Society for Horticultural Science *Rubus* Symposium, held in Chile in December, 2005. I developed a survey, with the help of my colleagues listed above, and sent it to key extension/research colleagues and industry members worldwide. I could not have done this without their assistance (see “acknowledgements”). No industry funding, was solicited for this work/paper. However, we felt it would be of interest to the blackberry industry in the Pacific Northwest and thus are providing this summary.

Introduction

Blackberries are often classified according to their cane architecture into three types: erect, semi-erect, and trailing (Strik, 1992). Erect-caned cultivars include the thorny ‘Brazos’, ‘Tupy’, ‘Cherokee’ and the thornless ‘Navaho’ and ‘Arapaho’. Semi-erect types include ‘Chester Thornless’, ‘Thornfree’, ‘Loch Ness’, and ‘Čačanska Bestrna’. Trailing types include ‘Marion’, ‘Silvan’ and ‘Thornless Evergreen’ and the blackberry, raspberry hybrids ‘Boysen’ and ‘Logan’. The new primocane-fruited cultivars Prime-Jan and Prime-Jim are erect, thorny types.

In 1990, results of survey reported 7,860 acres of blackberries in the northwestern region (Strik, 1992) and 2,975 acres in the eastern USA (Clark, 1992) for a total of 10,835 acres. In 1990, most of the blackberry production in the eastern USA was pick-your-own or pre-picked for on-farm or local sales and less than 2% was processed (Clark, 1992). In contrast, over 90% and 50% of the trailing blackberry crop in Oregon and California, respectively, was processed in 1990. Over 80% of the production from the 135 acres of erect and semi-erect blackberries in northwestern USA was marketed fresh in 1990 (Strik, 1992).

In the 1990s, blackberries were not found on grocery store shelves in the eastern USA, and only rarely in the western USA (Clark, 2005). Late in the 1990s, ‘Chester Thornless’ became a major shipping blackberry, as it was found to have good fruit firmness. ‘Navaho’, from the University of Arkansas, was found to have excellent shelf-life and could be shipped. These and other cultivars contributed to a major shift in the production outlook for shipping of blackberries from that of a local-marketed crop to one shipped for retail marketing (Clark, 2005).

In the mid to late 1990s, the shipping of blackberries from Chile, Guatemala, and Mexico into the USA provided fresh blackberries during the “off-season” autumn, winter, and spring months and increased consumer awareness of this berry crop and consequently increased sales of USA produced fruit in the “on” season also. Production of blackberries was apparently on the increase worldwide; however, there was relatively little factual information on area planted, cultivars grown, and most common production systems.

Our findings

In 2005, there were an estimated 49,507 acres of blackberries planted and commercially cultivated worldwide (Table 1), a 45% increase from estimated area in 1995 (Fig. 1). Wild blackberries still make a significant contribution to worldwide production and although accurate data are hard to obtain, survey respondents estimated that 8,895 acres of wild blackberry (*R. glaucus* Benth.) in Ecuador, 5,930 acres in Romania (*R. armeniacus* Focke, *R. laciniatus* Willd), 4,942 acres in Chile (derived from introduced *R. ulmifolius* Schott), a small area of unknown size in Mexico, and 245 acres of planted *R. glaucus* in Venezuela were harvested in 2005. The 19,770 acres of wild blackberries harvested in 2005 had a total reported production of 14,837 tons. In some regions like the Pacific Northwest, the fruit harvested from wild blackberries, even though for personal use, may negatively impact sales of commercially grown fruit.

Worldwide blackberry production was 154,603 tons in 2005, not including the wild production mentioned above (Table 1). In the following sections, we will provide more information on blackberry area and cultivars grown in the major producing regions of the world. We will include little information on production in countries with less than 250 acres planted (Table 2).

Europe

There were 19,007 acres of commercially cultivated blackberries in Europe in 2005 (Table 1). Serbia accounted for 69% (13,096 a) of the blackberry area in Europe and had the greatest area in the world (Fig. 1). Serbia produced 27,557 tons, the fourth highest production in the world (Fig. 2), with 90% of their production processed and exported. Only semi-erect blackberry types were grown in Serbia with the predominant cultivars being ‘Thornfree’, ‘Dirksen Thornless’, and ‘Smoothstem’ that produce in July and August. ‘Čačanska Bestrna’, a new cultivar from the Investigation, Production, and Trade Center of Horticulture, Cacak that produces as high as 20 tons/acre and 22 g fruit is being widely planted. Plants are generally established at an in-row spacing of 3 to 4.5’ with 8 to 10’ between rows. Winter cold injury is considered one of the biggest production issues.

Hungary was the next largest producer in Europe with 3,950 acres or 21% of the total area and 13,227 tons. ‘Loch Ness’ accounted for 75% of the blackberry area and 90% of the total production was processed and exported. Countries in Europe with 250 acres or more were the United Kingdom, Romania, Poland, (250 a each), Germany (270 a), and Croatia (445 a). In the United Kingdom and Germany, most of their production is for fresh, domestic use. In Germany and Romania, ‘Loch Ness’ is the main cultivar. Area in Poland has doubled in the last ten years. There were 550 tons produced in 2005 with 80% processed and most of this was exported as was most of their fresh production. ‘Gazda’, from the Institute of Pomology and Floriculture in Skierniewice, Poland, accounted for 80% of the area planted in Poland. Typical yields are 2 to 3.5 tons/acre. Other countries in Europe producing blackberries are listed in Table 2.

North America

There were 17,690 acres of commercially cultivated blackberries in North America in 2005 (Table 1).

USA

The USA accounted for 67% of the area planted to blackberries in North America in 2005 with 11,905 acres, the second highest in the world (Fig. 1). Area planted in the USA increased 28% from 1995 to 2005. The USA had the highest production, 35,099 tons, in the world in 2005 (Fig. 2).

Sixty-five percent of the blackberries cultivated in the USA were planted in Oregon in 2005, 7,755 acres. Area in this state increased 25% from 1995 to 2005. Over 95% of the total production of 25,185 tons was processed with the remaining marketed fresh, all for domestic use.

Most (95%) of the blackberries in Oregon are trailing types, particularly the cultivars Marion (61%), Boysen (15%), Thornless Evergreen (11%), and Silvan (7%). However, in 2004 and 2005, plant sales of the new thornless 'Black Diamond' were greater than all other cultivars. An estimated 310 acres of semi-erect types were present in Oregon in 2005, mainly 'Chester Thornless' (82%). Only 1% of the blackberries in Oregon are erect types, mainly 'Cherokee' (63%) and 'Navaho' (30%).

The next largest blackberry producing state in the USA is California with 700 acres and 2,600 tons in 2005. The fruiting season is from mid-May through August. Over half of the area is planted to semi-erect cultivar, 'Chester Thornless' and proprietary cultivars. The production of 'Boysen' for processing in the central valley of California has declined steadily, as predicted (Strik, 1992), to only 100 acres. Most of the blackberry production in California is now located on the north-central coast and has a fresh market focus. There is no public breeding program for blackberries in California and little public research. Two private breeding companies, Driscoll Strawberry Associates Inc. and Plant Sciences International, have blackberry breeding programs. In California, a continued decline is expected in area of 'Boysen' planted in the Central Valley in contrast to a 33% increase in area planted in the coastal area in the next 10 years.

Texas reported 680 acres and 800 tons in 2005. Only erect blackberries are planted with 'Kiowa', 'Brazos', and 'Roseborough' accounting for 85% of the area. Only 10% of the production is processed with 40% sold on-farm and 50% marketed to domestic, USA markets in the months of May-July.

Arkansas had 600 acres and about 1,543 tons of production, a 60% increase in planted area from 1995. A broad range of erect types are being grown including 'Arapaho', 'Navaho', 'Ouachita', 'Apache', 'Chickasaw', and 'Kiowa'. Eighty percent of their production is marketed fresh and the rest is sold on-farm from 20 May to 20 July. Area in Arkansas is projected to grow to 1000 acres by 2015.

Area in Georgia has tripled in the last 10 years to 315 acres. However, growth projections for the next ten years were cautious as Mexico may be a large competitor for their fresh market season. Mainly erect types are grown in Georgia with 'Arapaho' and 'Navaho' accounting for 60% of the area planted.

In the USA, other than the aforementioned five states, four states reported from 125 to 250 acres planted in 2005 (North Carolina, Ohio, Virginia, Washington). An additional 26 states reported from 5 to 125 acres of blackberries. Of note is Washington State which had less than 125 acres in 1995, but has doubled in area presently and is projected to grow to 345 acres by 2015.

Mexico

Mexico accounted for 32% of the planted area in North America in 2005 with 5,683 acres. Blackberry production in this country increased from 568 acres in 1995 and is projected to grow to at least 12,355 acres by 2015. About 93% of the area was planted in the State of Michoacan in 2005. There was also some production in the State of Jalisco and a new planting of semi-erect types in Chihuahua. The predominant type of blackberry grown was erect, particularly 'Brazos' and 'Tupy' (from Brazil) with relatively little (5%) semi-erect types, mainly proprietary cultivars, grown. Most of the Mexican production targets fresh export markets to the USA. In 2004, Mexico exported 8,245 tons to the USA, more than double their export volume in 2002.

Central America

There were 4,053 acres of commercially cultivated blackberries in Central America in 2005 with 1,752 tons produced (Table 1). The two countries that reported commercial production were Costa Rica and Guatemala.

There were 3,830 acres of blackberries (mainly 'Brazos' and *R. glaucus*) in Costa Rica located predominantly in the provinces of Cartago and San José. Most grow *R. glaucus* like a shrub without a trellis in organic production systems. Of the 1,653 tons produced in 2005 less than 15% was exported. Presently most is used for local processed and fresh consumption.

Of note, is that the blackberry area in Guatemala declined 63% from 1995 to 222 acres in 2005, but is expected to increase 33% in the next ten years (Table 2), provided this country can compete with Mexican production. Guatemala is the main country in Central America that ships fresh blackberries to the USA. There were no research programs on blackberry reported in Central America.

South America

There were 3,946 acres of commercially cultivated blackberries in South America in 2005 (Table 1).

Ecuador accounted for 53% of the planted area in South America with 2,100 acres. 'Brazos' and *R. glaucus* are the main types planted in organic production systems with an average yield of 7 and 1 ton/acre, respectively. There was an estimated 30% growth in planted area from 1995 to 2005, but little growth is projected for the next ten years. Only 15% of their estimated 1,421 tons of production are exported for fresh market, mainly due to the soft fruit of *R. glaucus* and the Mediterranean fruit fly (*Ceratitis capitata* Wiedemann).

Chile had 1,111 acres of commercial blackberries in 2005 with a total production of 4,275 tons not including the 6,393 tons harvested from wild plantings and exported as a processed product. Area planted increased 50% from 1995 to 2005 and is projected to be 1,975 acres in 2015, provided competition from Mexico in the fresh market does not adversely affect cost of production and competitiveness in the processed portion of the industry. In 2004, Chile exported 10,670 tons of processed fruit (55 to 65% was harvested from introduced wild species) and 210 tons of fresh fruit. Their fruiting season is from November to March using trailing, erect, and semi-erect cultivars. Production systems are similar to those in the USA.

Brazil had 617 acres and 860 tons of production in 2005 with only 15% exported. All of their area is planted to erect blackberries, mainly 'Tupy' and 'Guarani' from the Embrapa Clima Temperado Research Center, Pelotas. Most of the production is processed for domestic use.

No other countries in South America reported more than 250 acres of area planted (Table 2). There was very little blackberry research reported other than the breeding program in Brazil and cultivar trials in Chile in 2005.

Asia

China accounted for all of the production in Asia with 3,830 acres in 2005 (Table 1). Over 90% of the area was planted to semi-erect blackberry, mainly seedlings of 'Hull Thornless' and 'Chester Thornless'. The remaining area was planted to 'Shawnee' and the trailing 'Boysen', 'Marion', and 'Siskiyou'. Most of China's production is in the Jiangsu Province, but the newest regions, in the Liaoning, Shandong, and Hebei Provinces, are projected to grow most in the next ten years when China is expected to have 5,436 acres. In most fields, the planting density is very high with 1' between plants and 3' between rows. Fields are commonly flood irrigated. Average yield is 3 to 17 tons/acre with all fruit hand picked at a cost of about \$0.10 per pound. In all production regions, except Nanjing Province, canes are buried in winter to avoid cold injury. Most of the production in China is processed with 70% of processed fruit and 10% of their fresh production exported.

Oceania

Most of the blackberry area in Oceania (Table 1) is planted in New Zealand which had 640 acres and 3,690 tons in 2005. Area in Oceania is projected to grow by about 35% in 10 years. The fruiting season in New Zealand is from November through April with almost all of their blackberry production consisting of trailing types, mainly 'Boysen'. Almost all of their production is processed with 55% of that exported. There is a strong, active breeding program along with supporting pathology and horticulture research programs conducted by New Zealand HortResearch Inc.

Africa

South Africa was the only country in 2005 reporting commercial blackberry production with 247 acres (Table 1). About 60% of their area was planted to 'Young' trailing blackberry that was all processed and 60% exported. 'Hull Thornless', 'Loch Ness', 'Choctaw' and 'Arapaho' were grown also with 50% of their production being marketed fresh. However, no fresh fruit were exported due to distance to major markets of Europe. They report problems with plant importation due to phytosanitary restrictions and the need for cultivars that are firmer for long-distance shipping. They will try to produce the new primocane-fruiting types in South Africa.

Organic production

There were 6,246 acres of organic blackberry production reported in the world in 2005: 3,830 acres in Costa Rica, 2,206 acres in South America (most in Ecuador), 180 acres in North America (most in the USA), and 27 acres in Europe.

Tunnels

Use of tunnel production was reported on 778 acres worldwide with tunnels mostly being used to protect against adverse weather (370 a in Mexico; 50 a in Oregon and 30 a in Washington, USA). Tunnels or greenhouses to advance or delay the fruiting season in addition to protection against the elements were used in Spain (123 a), The Netherlands and Italy (50 a each), Romania (25 a), and South Africa (25 a). The use of tunnels is expected to increase, particularly in Mexico and Oregon and Washington, USA.

Cultivars

Respondents reported the cultivars grown on 38,083 acres of the 49,507 acres of blackberries grown worldwide. On this reported area, 50% of the cultivars were semi-erect, 25% erect, and 25% trailing types in 2005. ‘Thornfree’, ‘Loch Ness’, and ‘Chester Thornless’ accounted for 58% of the semi-erect blackberry area and ‘Dirksen Thornless’, ‘Hull Thornless’, and ‘Smoothstem’ for 28%. The only other cultivar grown on more than 5% of the worldwide semi-erect area was ‘Čačanska Bestrna’.

‘Brazos’ was by far the most common erect blackberry grown worldwide accounting for 46% of the erect area. However, ‘Brazos’ is being rapidly being replaced by ‘Tupy’ in Mexico. Other cultivars accounting for 5% or more of the erect area planted were ‘Tupy’ (18%), ‘Navaho’ (9%), ‘Kiowa’ (5%), and ‘Cherokee’ (5%). ‘Marion’ is the most important trailing blackberry grown accounting for 51% of the worldwide area of trailing types; more than 90% of the worldwide ‘Marion’ area is located in Oregon, USA. ‘Boysen’ accounted for 24%, ‘Thornless Evergreen’ 9%, and ‘Silvan’ 5% of the worldwide area of trailing blackberry.

CONCLUSIONS

Worldwide blackberry area increased from 34,490 acres in 1995 to 49,507 acres in 2005, a 44% increase. Most of growth in the last ten years occurred in Mexico, the USA, China, and Costa Rica (Fig. 1). Projections for the greatest growth in the next ten years are in Romania (900%), Poland (200%), Mexico (117%), Chile (76%), Hungary (50%), China (42%), and the USA (20%). Based on this survey, there may be 66,797 acres of commercial blackberries worldwide, not including production from harvested wild plants, in 2015.

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Table 1. Worldwide area and production of blackberries, 2005.

Region	Area planted (acres)	Production (tons)
Europe	19,007	47,386
North America	17,690	65,154
Central America	4,053	1,752
South America	3,946	7,031
Asia	3,830	29,038
Oceania	734	4,022
Africa	247	220
World Total	49,507	154,603

Table 2. Countries, by region, that reported from 1 to 250 acres of planted blackberries in 2005.

Region/country	Area planted (a)	1995-2005 (%)	2005-2010 (%)
<i>Europe</i>			
Austria	49	0	0
Belgium	12	0	0
France	74	200	0
Ireland	25	20	100
Italy	64	28	92
Spain	136	450	0
Switzerland	86	0	0
The Netherlands	52	5	0
<i>North America</i>			
Canada	102	36	67
<i>Central America</i>			
Guatemala	222	-63	33
<i>South America</i>			
Argentina	86	106	49
Peru	5	1900	650
Uruguay	22	100	0
Venezuela	2	0	200
<i>Oceania</i>			
Australia	94	90	32

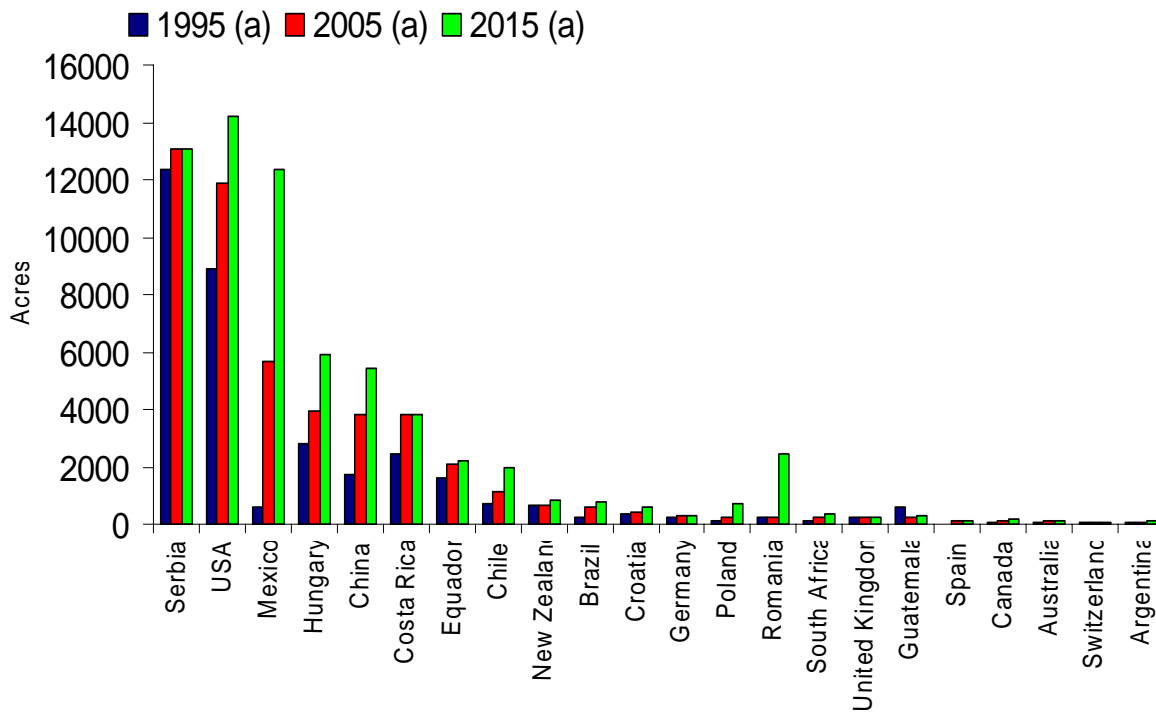


Figure 1. Worldwide cultivated blackberry area, 1995, 2005, and 2015 (projected)

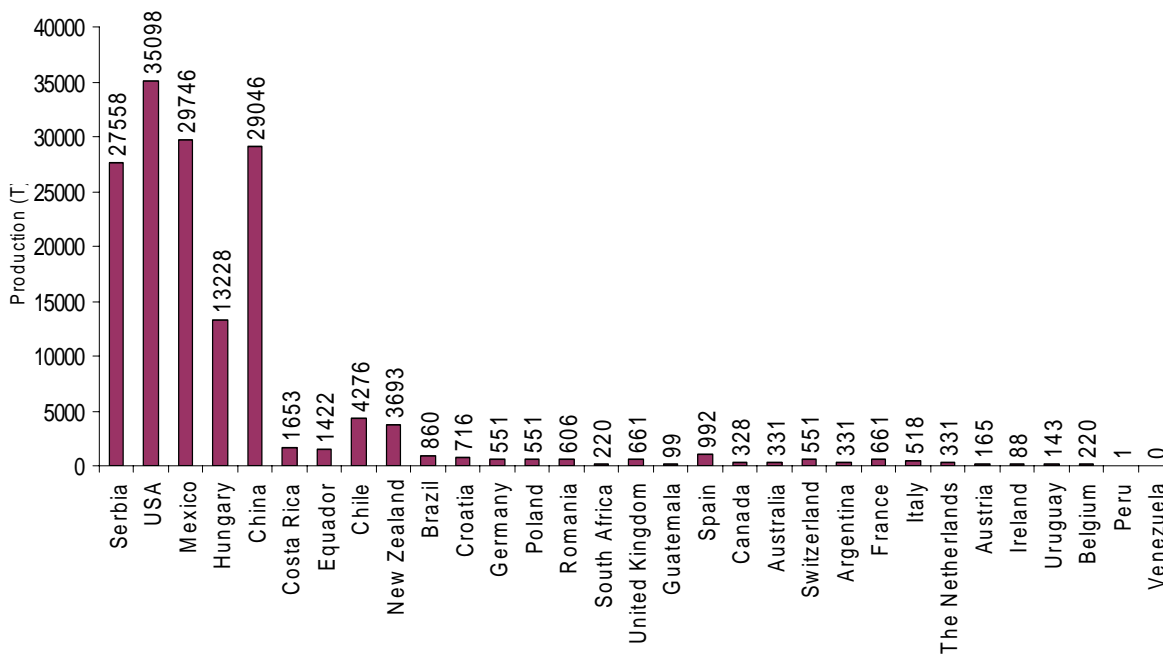


Figure 2. Worldwide cultivated blackberry production (tons), 2005