Global Fresh Berry Trends: Focus on the European Market

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Agenda

- Data caveats (e.g. MY vs CY, lags, inconsistencies, fresh vs processing)
- Overview
- US fresh berry industry
- EU fresh berry industry
- Mexican fresh berry industry
- Trends in the global highbush fresh blueberry industry, including emerging players
- Conclusions

Overview

- Berries fit global consumer preferences for healthful eating, convenience, flavor. Worldwide supply & demand growing, fighting for share of stomach with other fruits.
- N. American (US/Canada/Mexico) fresh berry market the most developed, straws, blues, rasp & blacks, all with yr-round distribution and dedicated retail shelf-space.
- Mexican berry industry now includes all 4 berries, focused on US market, long shipping seasons.
- China the biggest producer of straws and rapidly growing in blueberries and other berries, but focused on domestic market vs export (so will exclude).

Overview

- Straws are the leading berry globally but other berries rapidly gaining shelf-space, led by blues.
- EU berry demand growing rapidly and retailers seeking yr-round supply, local & import, but there can be over-supply in certain weeks & competition intensifying.
- European production of blues & blacks relatively small
- Emerging volume should go hand in hand with consumer promo in order to better match S & D.
- Straws used to represent the vast majority of berries sold in the US. Blues now 20% of total berry quantity sold, followed by rasps and blacks. Blues & straws have generic promotion.

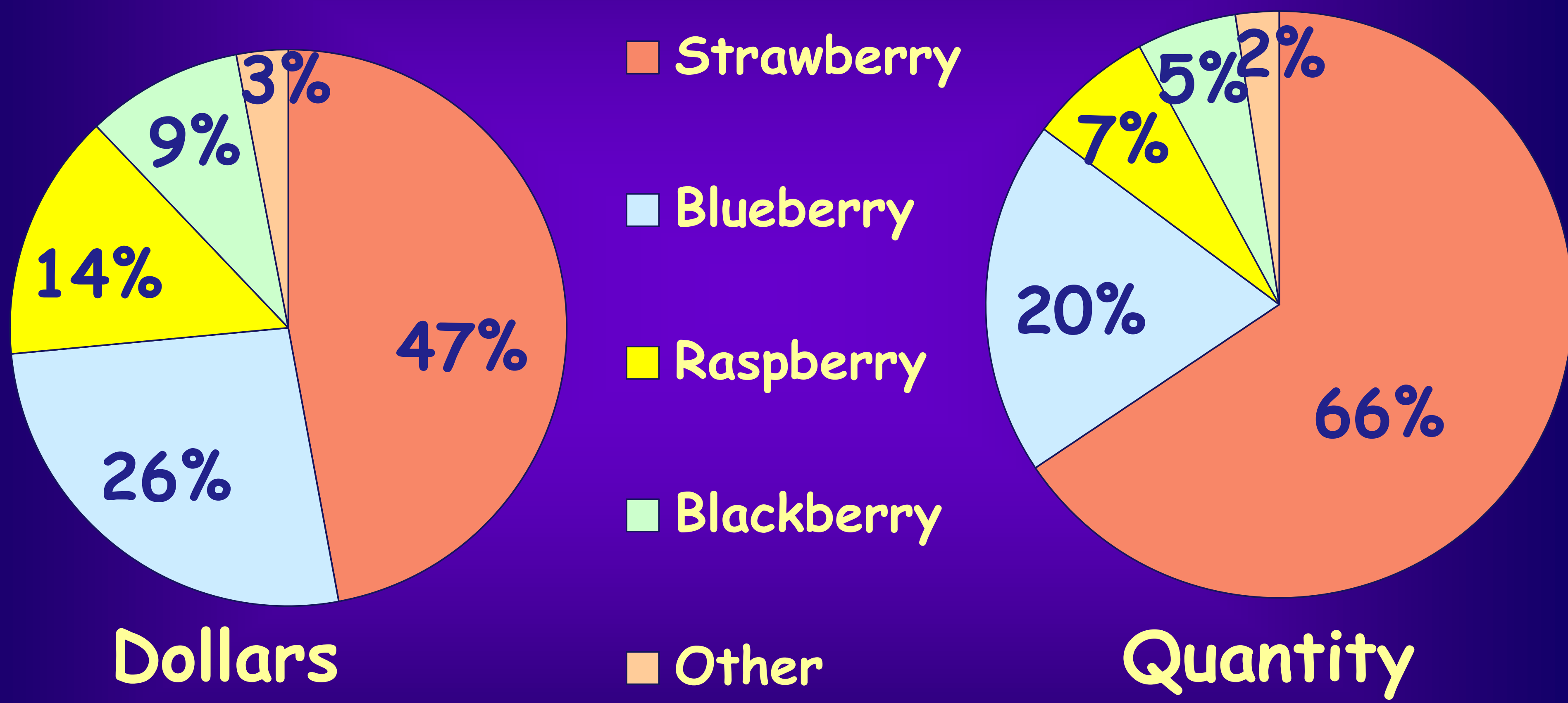
Overview

- Before, rather than cannibalization within the berry category, in the US, berries had cannibalized other fruits and the entire berry category had grown.
- Retailers, with the support of full-line, yr-round berry suppliers, have successfully promoted the total berry category; large displays catching consumer attention.
- However, straw demand now slowing and other berries may account for much of future growth.
- A similar trend appears to be unfolding in Europe.
- All countries are facing labor challenges.
- More technology being applied to production, incl substrate & table tops for straws. Growers everywhere must step up their games to remain competitive!

Overview - Blues

- Rapid expansion in global highbush fresh blueberry industry means abundant supply.
- Production of blues increasing throughout Europe to meet local summer demand, and in Spain and Portugal for spring production.
- Low-chill and no-chill varieties bringing warmer areas into production.
- S. Africa emerging in blues for EU market.
- Peruvian blues will challenge Argentina & Chile.
- Fall window will see rapid growth in global supply & market share battles.
- Slowing growth in processed blues will impact dual-market producers like the US and Chile.

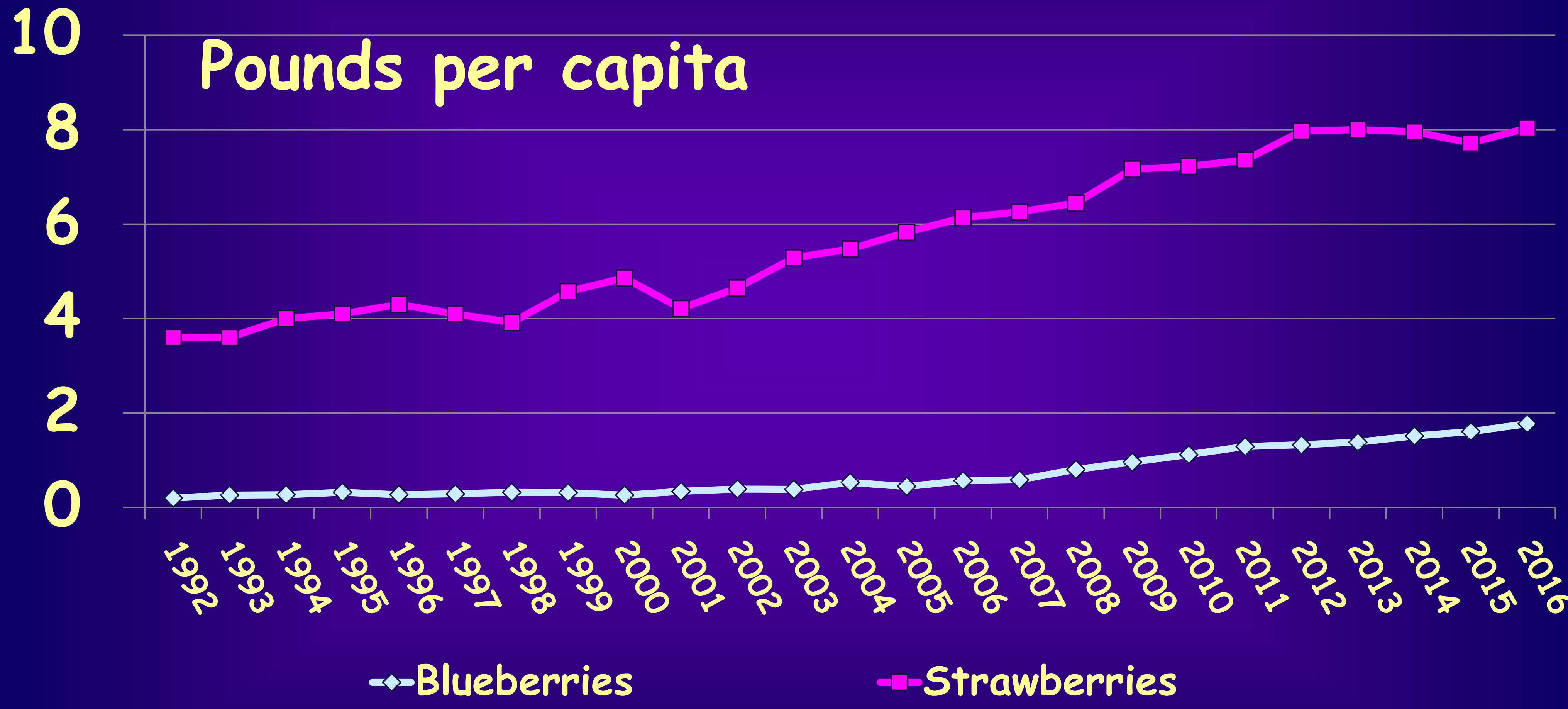
US Retail Fresh Berry Sales, by Type, Share of Dollar Sales and Quantity, 2017* ($6.4 billion total sales and 1.8 billion pounds)



Note: Berries represent 20.5% of total fresh fruit sales, and rank #1 in total produce dept $ sales; berries are 8.1% of total fresh fruit quantity, and rank #6 in total produce sales, in pounds.

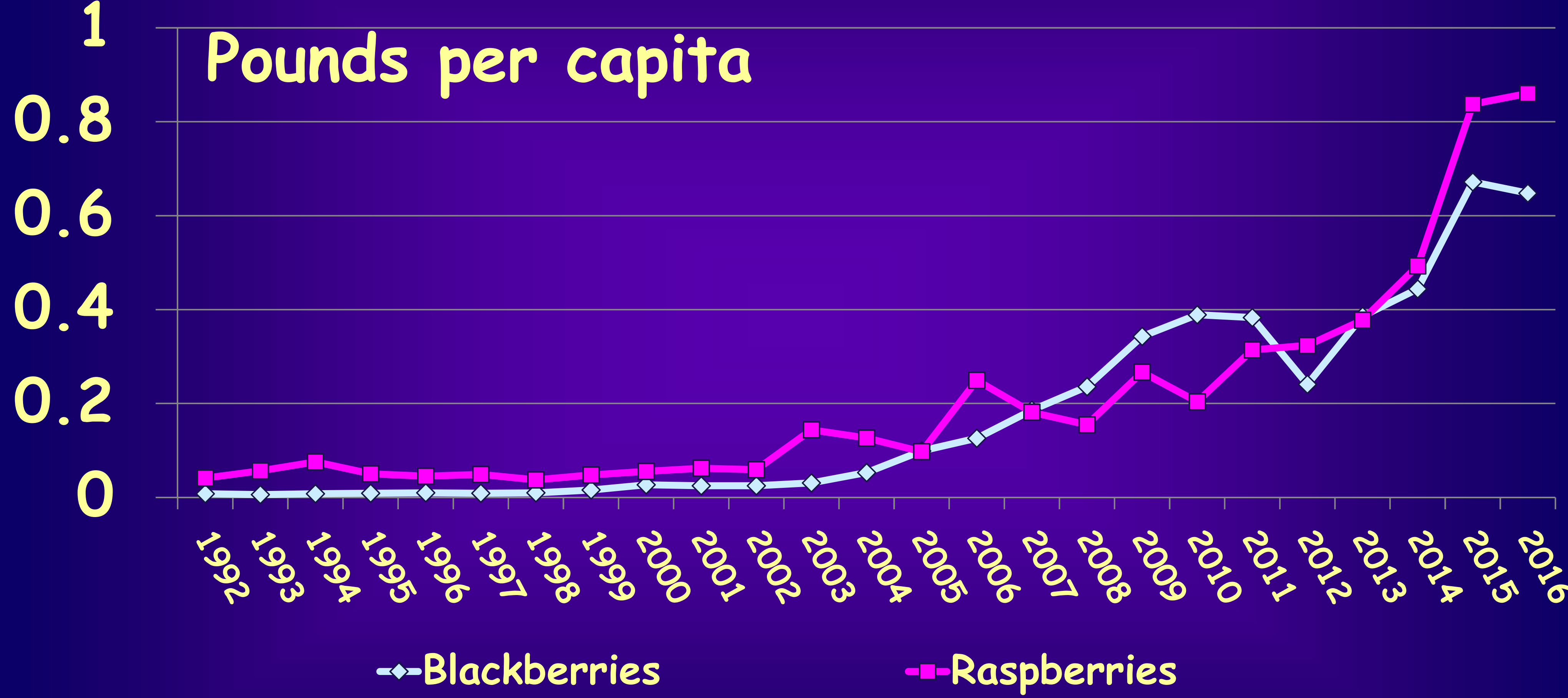
Source: Retail Category Trends: Total US, California Strawberry Commission. *IRI/Freshlook data ending August 6, 2017. Dataset includes over 60% of total US retail food sales.

US Per Capita Consumption/Disappearance of Fresh Blueberries and Strawberries, 1992-2016



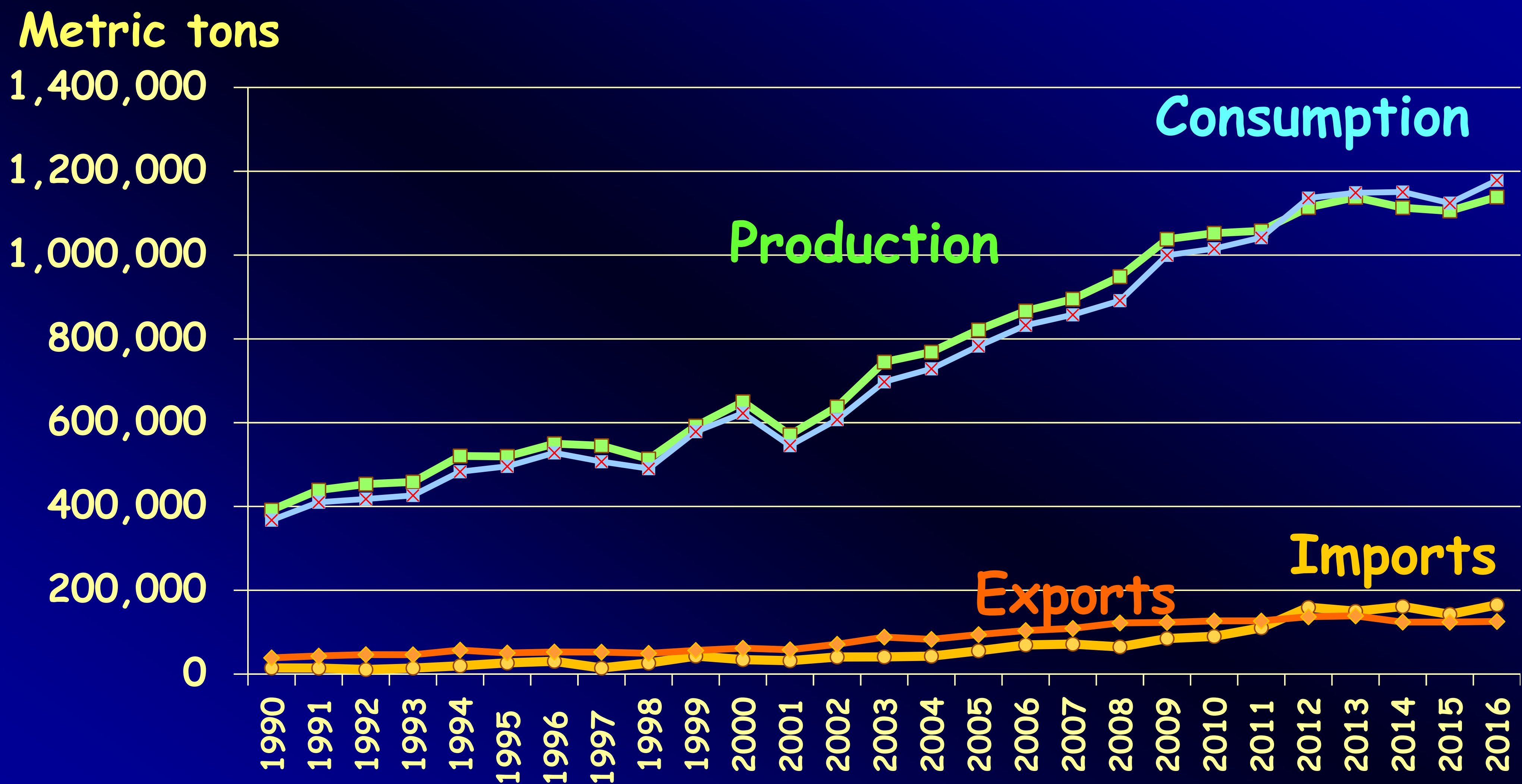
Source: 2017 Fruit and Tree Nuts Yearbook, ERS/USDA, October 31, 2017

US Per Capita Consumption/Disappearance of Fresh Blackberries and Raspberries, 1992-2016



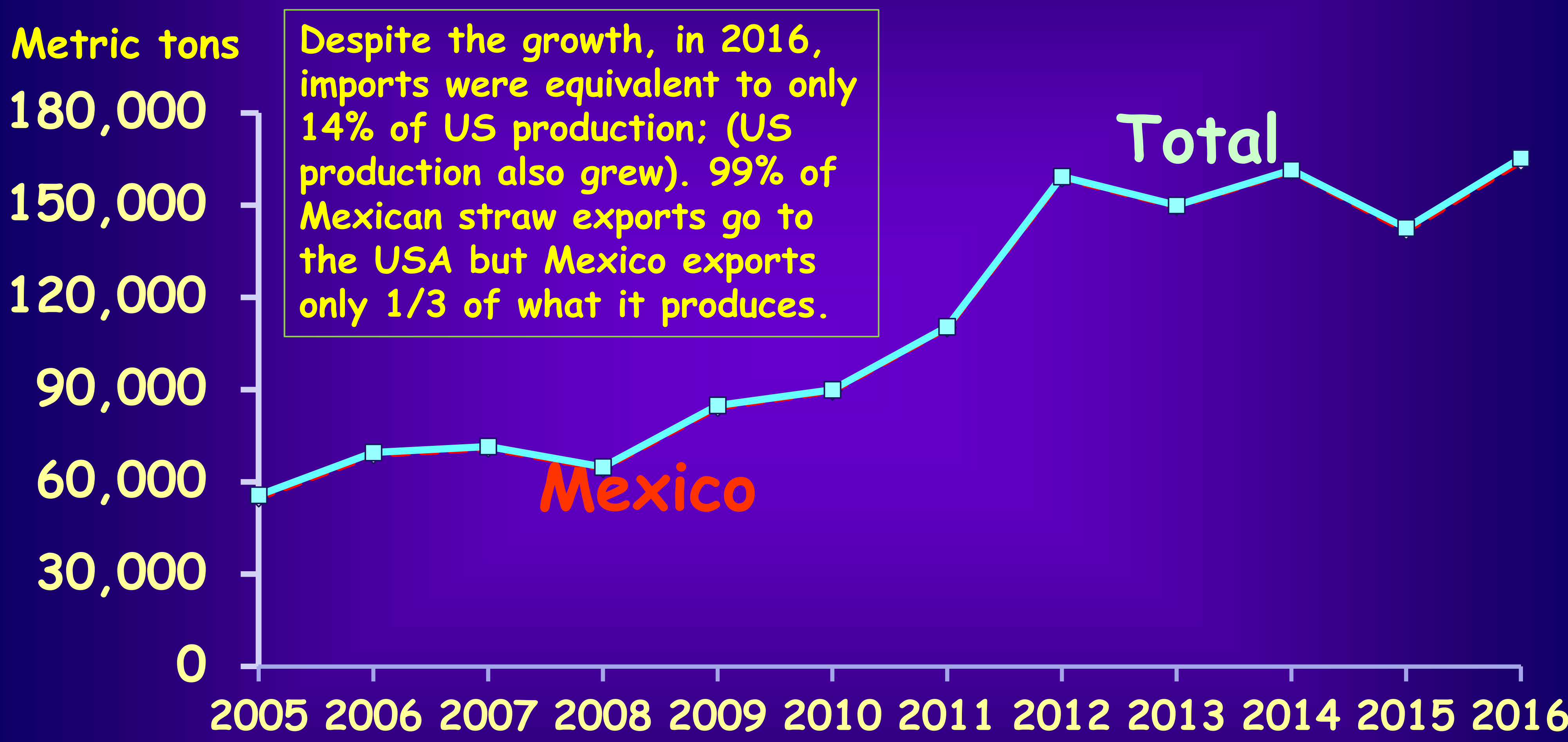
Source: 2017 Fruit and Tree Nuts Yearbook, ERS/USDA, October 31, 2017, for raspberries and ERS unpublished estimates for blackberries.

US Fresh Strawberry Production, Consumption (Utilization), Imports, and Exports, 1990-2016, MT



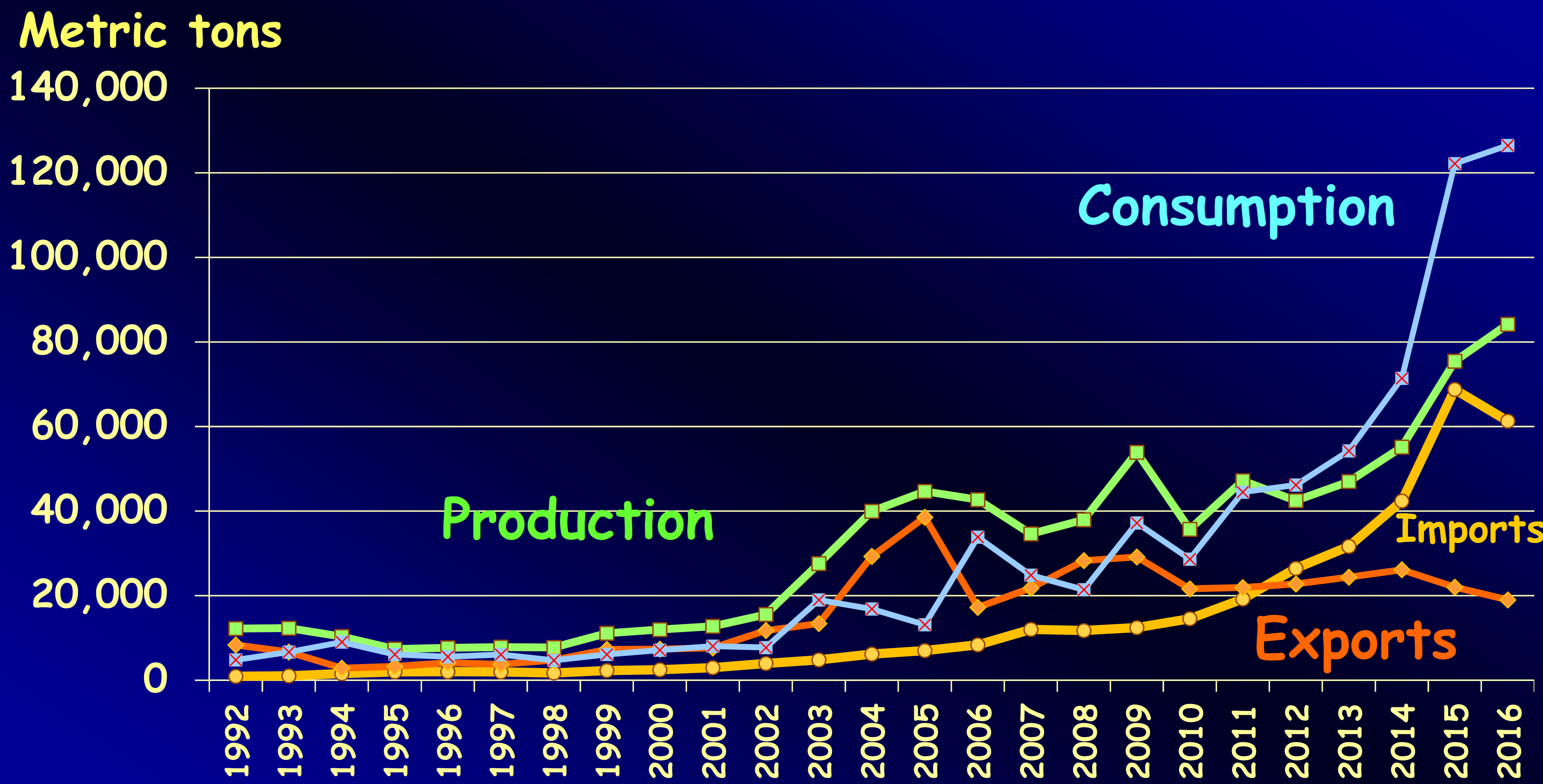
Source: 2017 Fruit and Tree Nuts Yearbook, ERS/USDA, October 31, 2017

US Fresh Strawberry Imports From Mexico and Total, 2005-2016



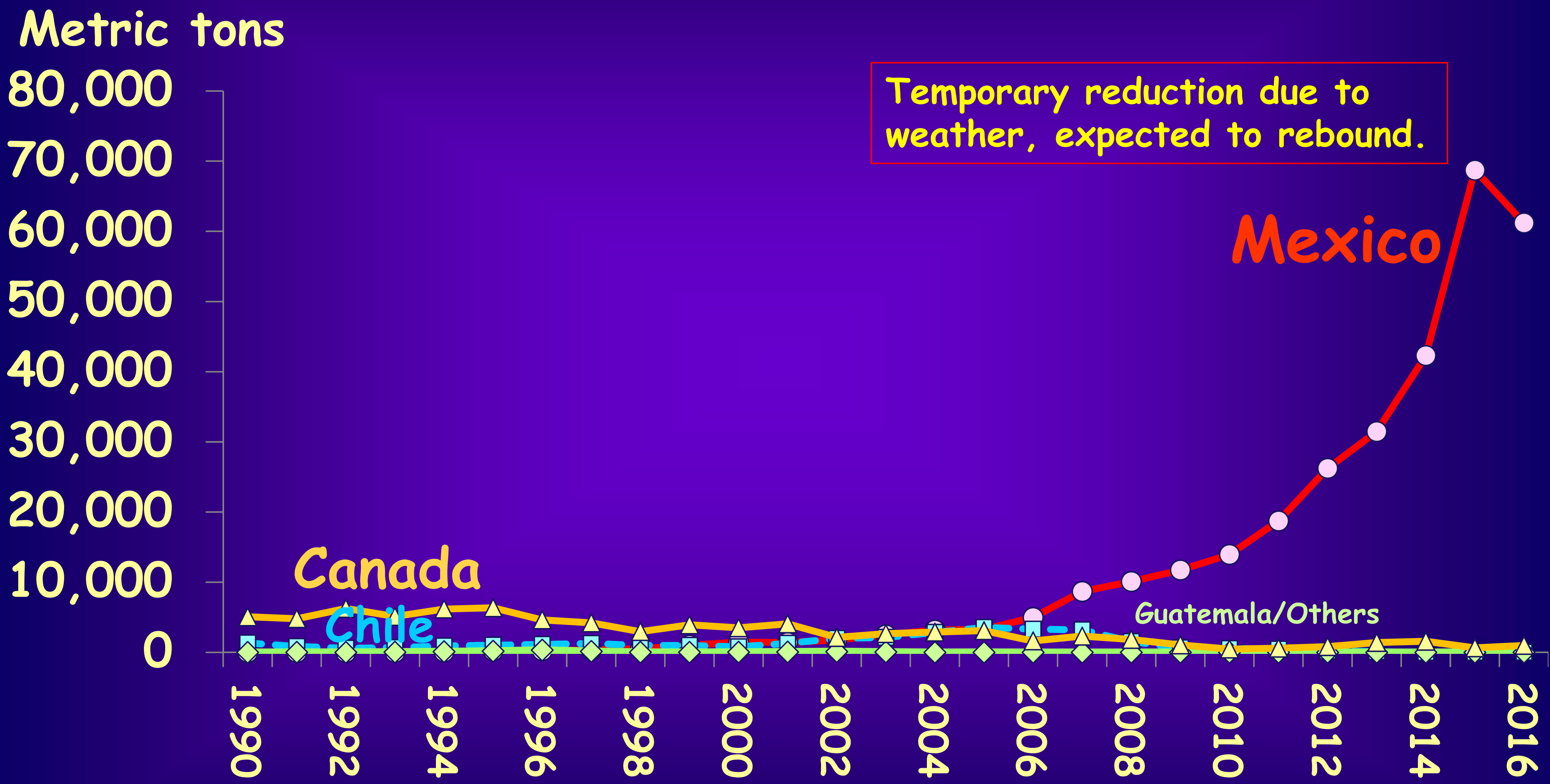
Source: USDA/ERS Fruit and Tree Nut Yearbook, October 2014 and GATS online queries for 2014-2016.

US Fresh Raspberry Production, Utilization, Imports, and Exports, 1992-2016, MT



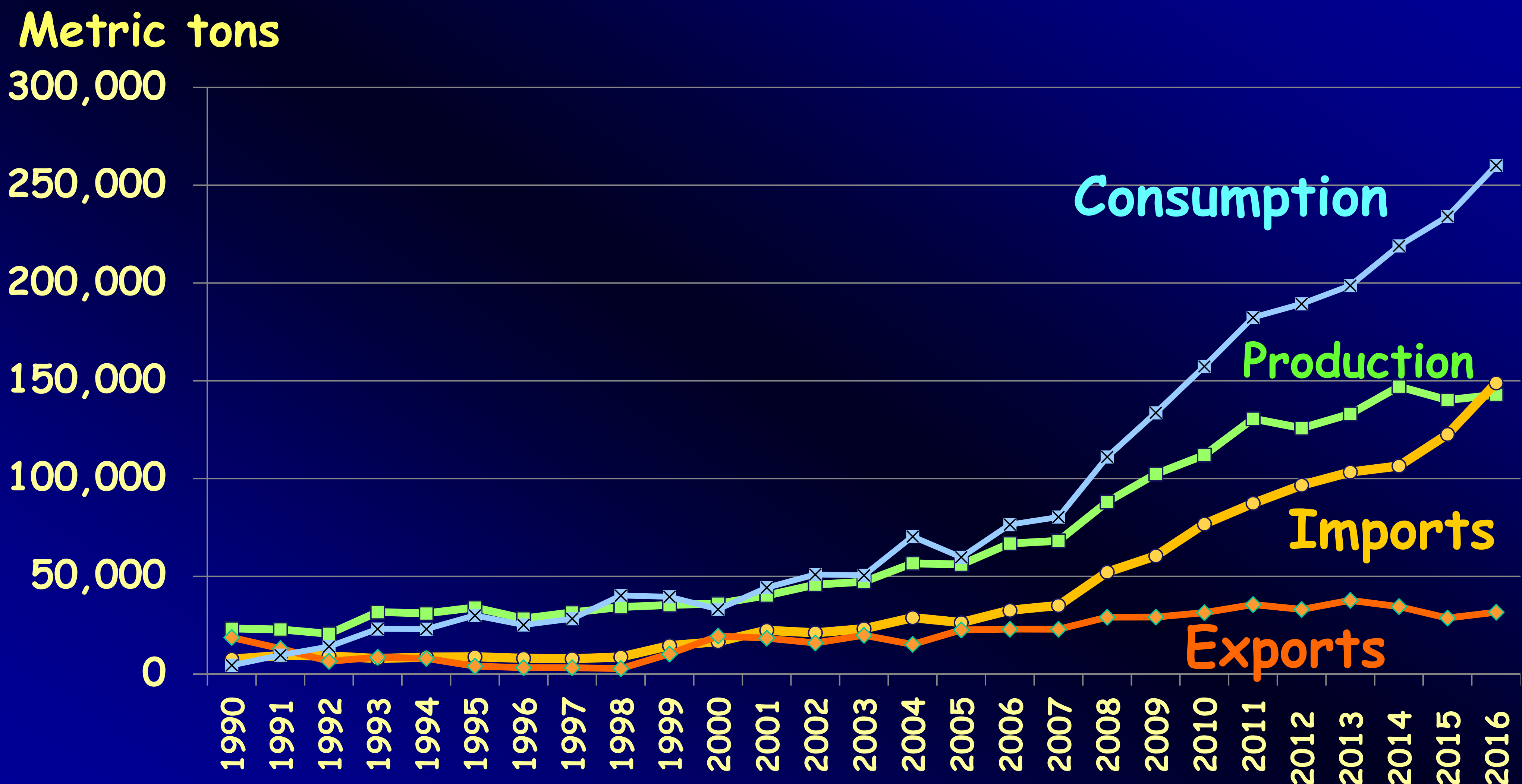
Source: 2017 Fruit and Tree Nuts Yearbook, ERS/USDA, October 31, 2017

US Fresh Raspberry Imports by Key Country of Origin,1990-2016



Source: GATS/FAS/USDA online data queries.

US Fresh Blueberry Production, Utilization, Imports, and Exports, 1990-2016, MT



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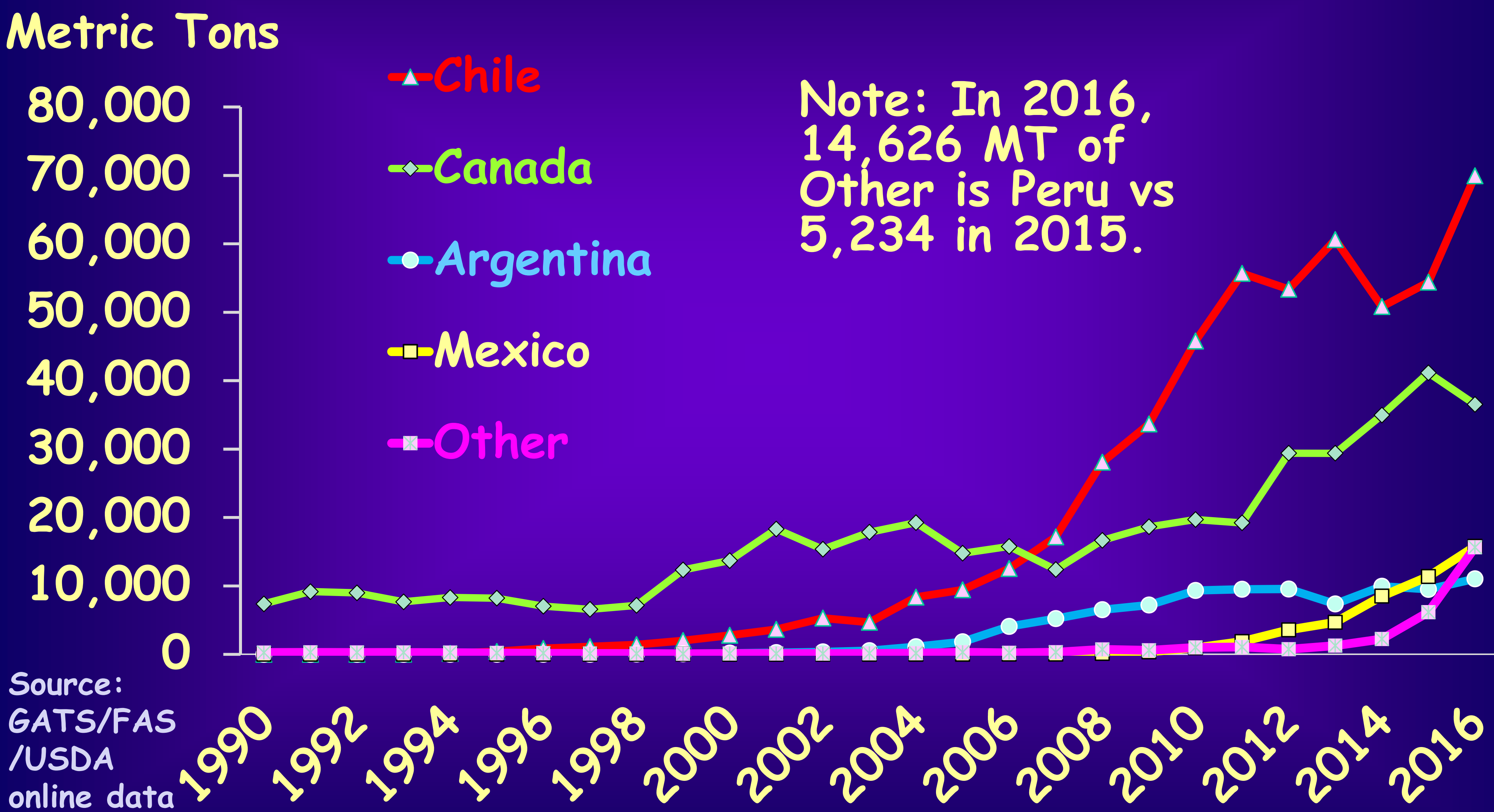
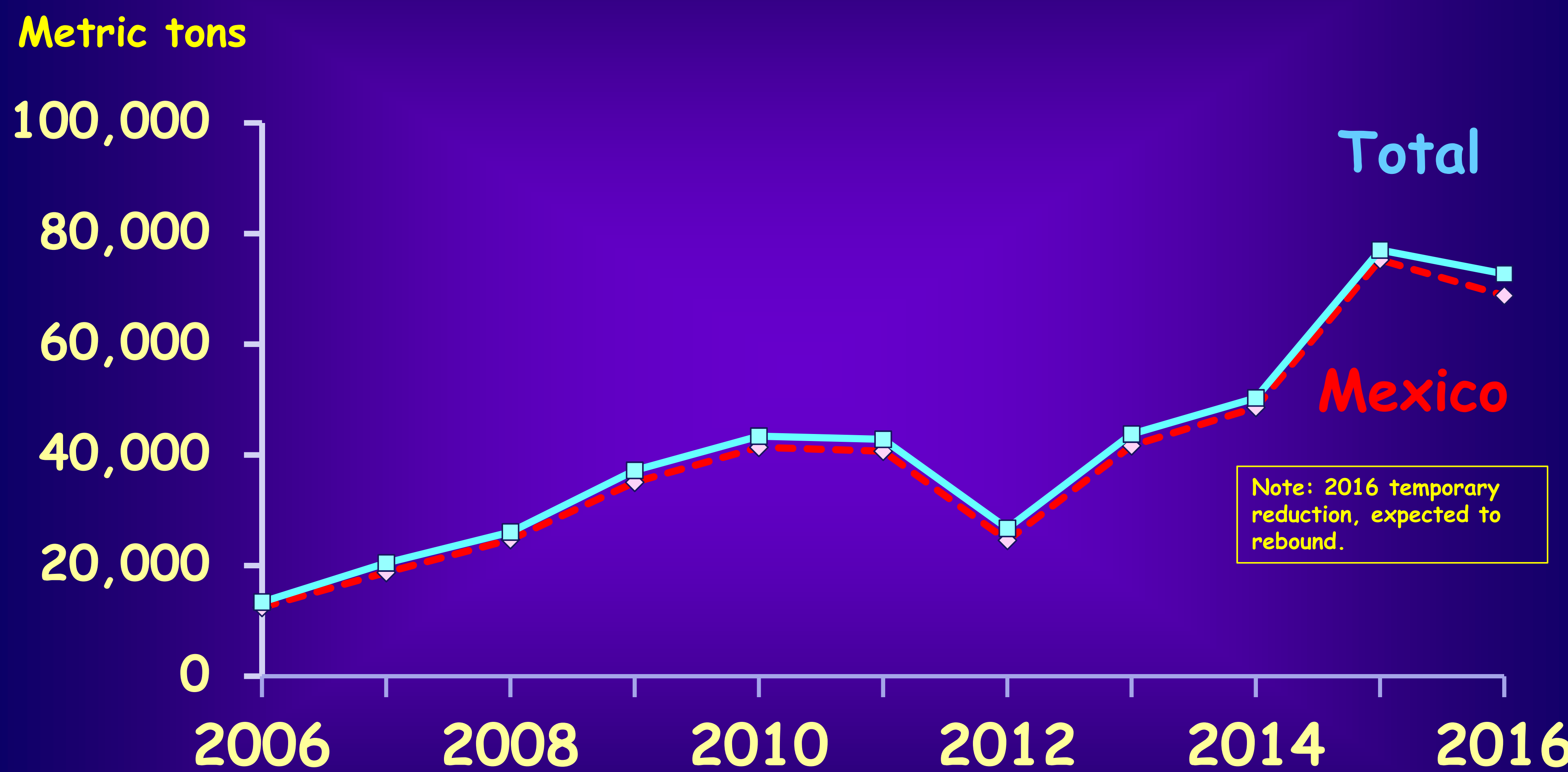
USA Fresh Blueberry Imports by Key Country of Origin, 1990-2016



Source: GATS/FAS /USDA online data queries.

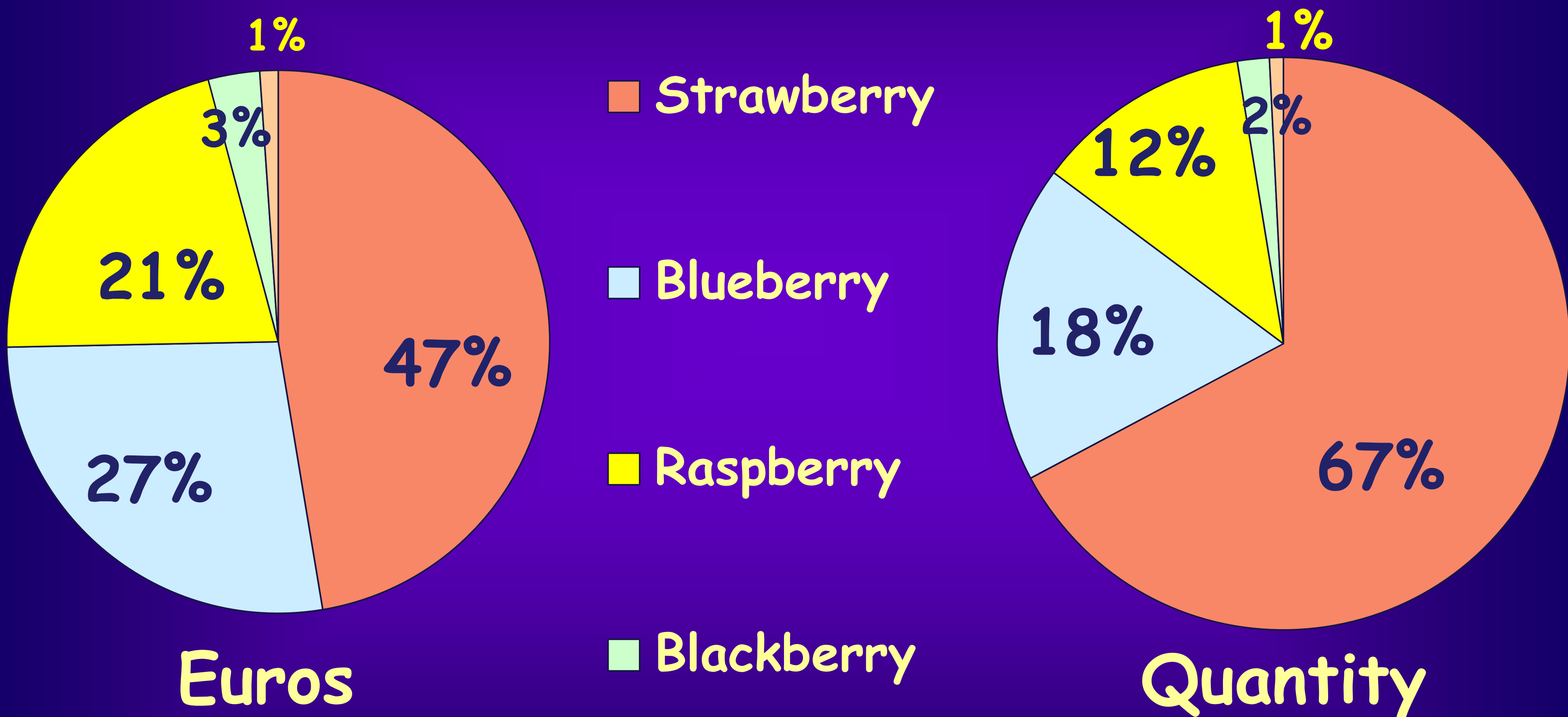
US Fresh Blackberry Imports by Source, 2006-2016



Source: GATS/FAS/USDA online data query.

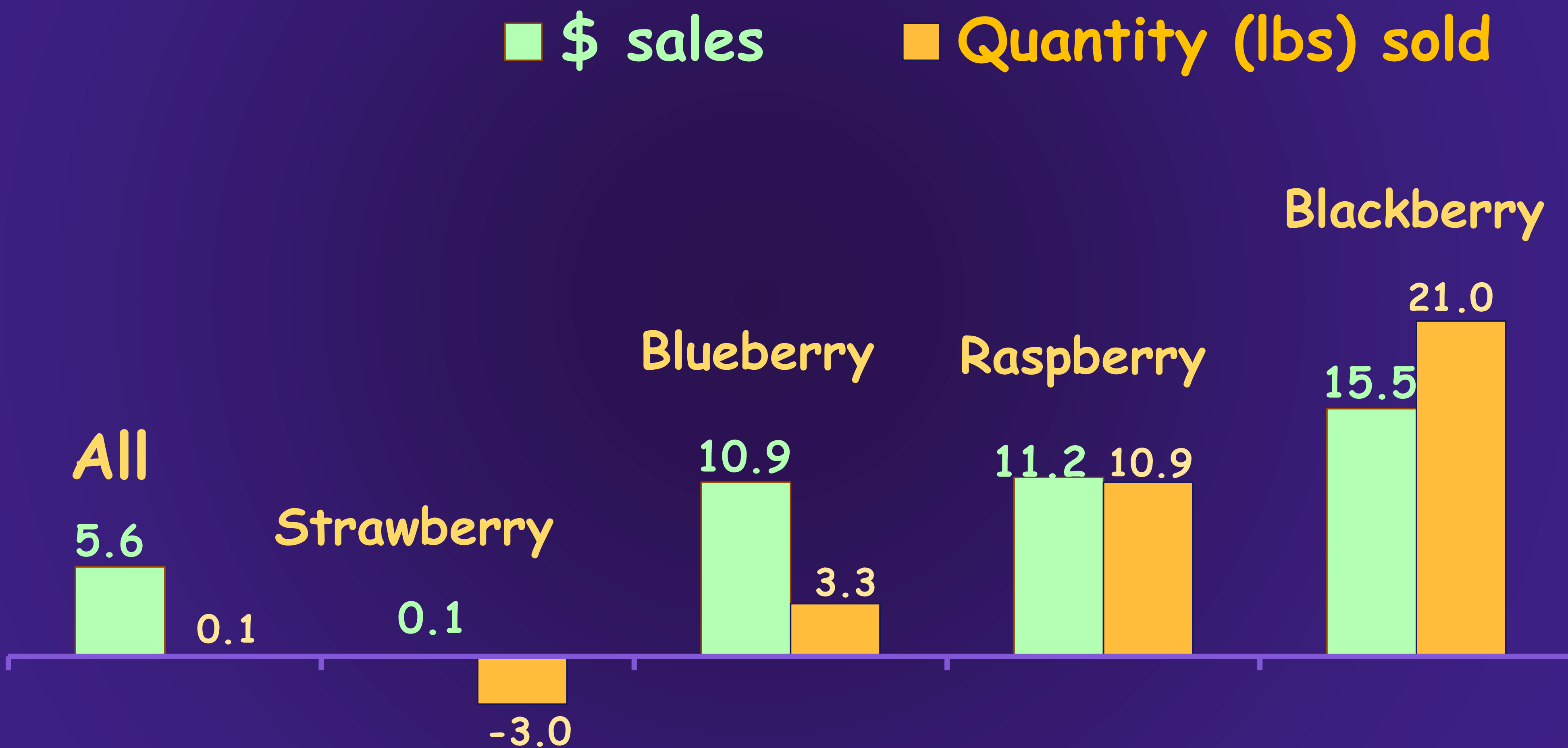
EU Berry Industry

Great Britain Retail Fresh Berry Sales, by Type, Share of Value and Quantity, 2017* (1.2 billion euros total sales and 184,876 MT)



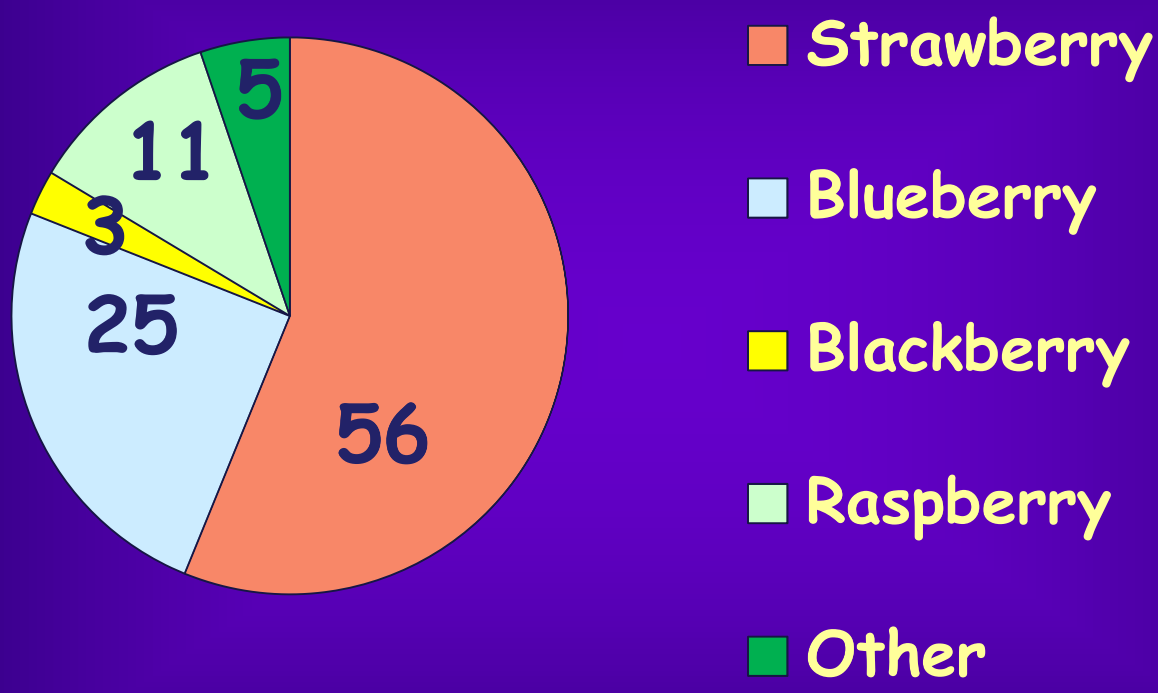
Source: Kantar World Panel, as compiled by R. Cook. *52 weeks ending September 10, 2017. Note: 27,303 households in panel projected to total retail market, including purchases in discounters. Includes currants.

Fresh Berry Sales in Great Britain, by Key Berry and Total Berry Category, % Change 2017* vs 2016



Source: Kantar World Panel, as calculated by R. Cook. *52 weeks ending September 10, 2017. Note: 27,303 households in panel projected to total retail market, including purchases in discounters. Includes currants.

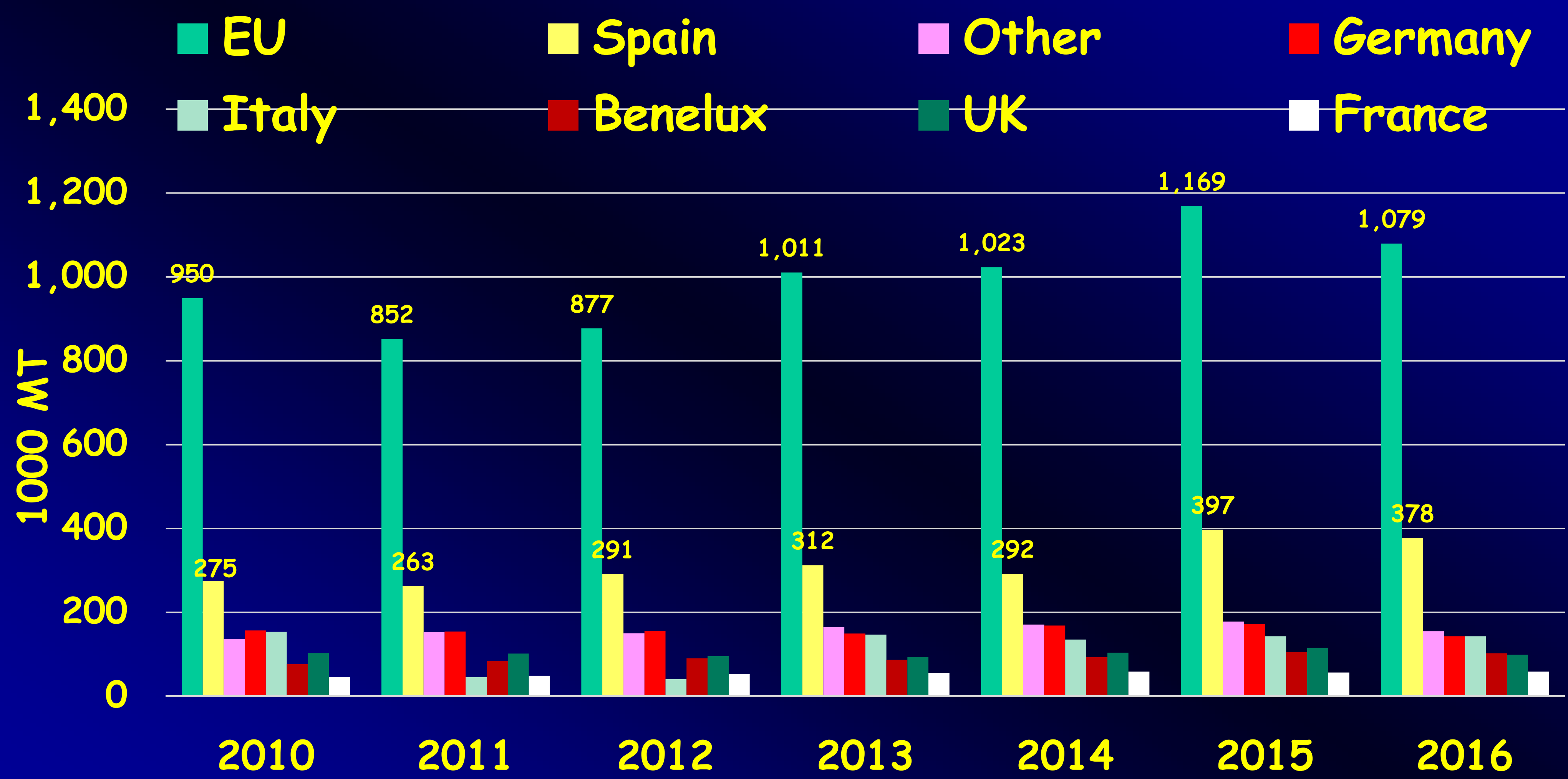
Dutch Retail Fresh Berry Shares, by Type, % of Total Berry Category Value, 2015 (169.528 million euros)



Notes: 1) Berries represented 10% of total fresh fruit sales in 2013 vs 13% (including strawberries at 7.4%) in 2015. 2) Blueberries and strawberries are growing at the highest rates, and blackberries are flat at .3% of total fruit sales both in 2013 and 2015.

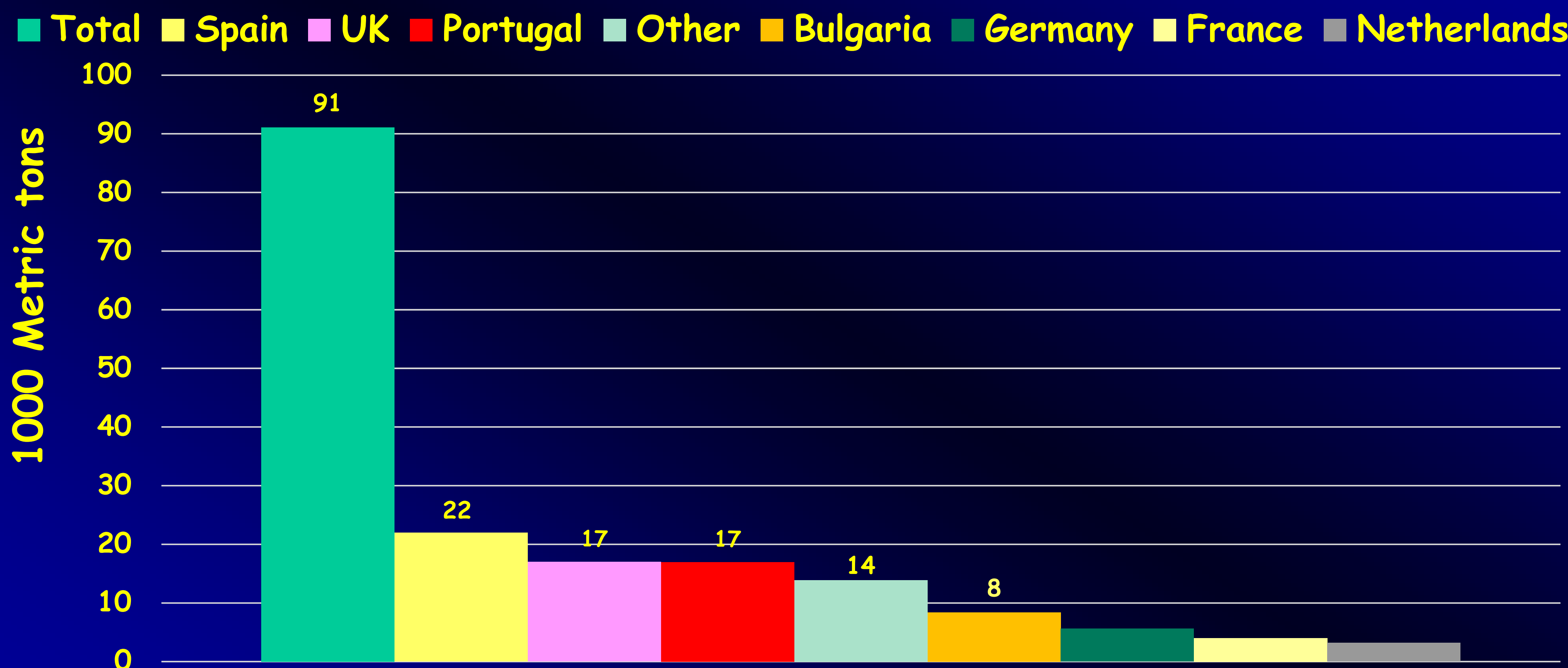
Source: IRI, as calculated by R. Cook. Excludes Aldi and Lidl.

EU Fresh and Processed Strawberry Production, by Key Country, Excluding Poland, 2010-2016 (1000 metric tons)



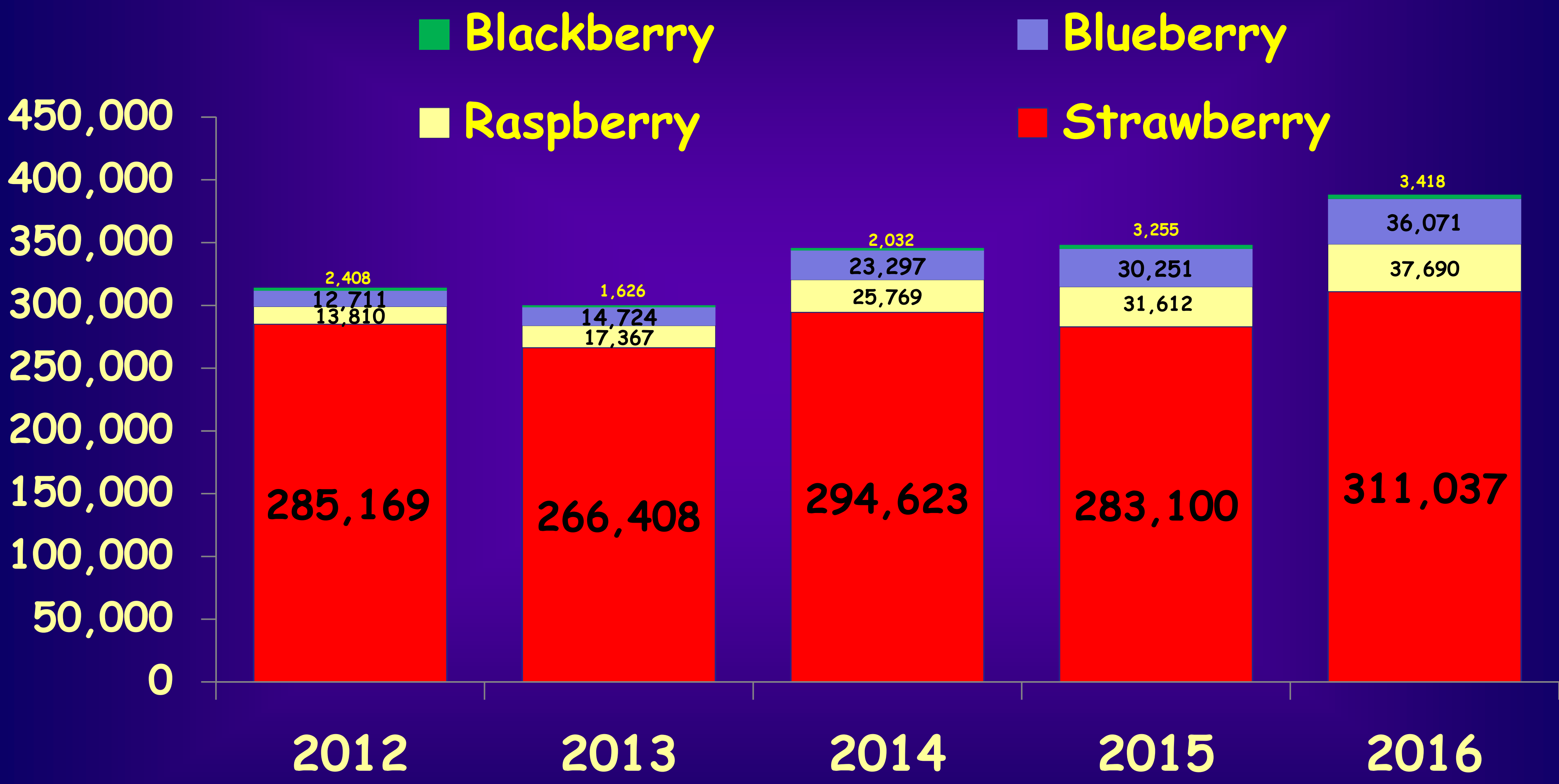
Source: Adapted by Roberta Cook from International Trade Centre data queries. Note: Poland is the 2nd largest producer in the EU (207,560 MT in 2016) but it is excluded since most of the production is for processing and our focus is on fresh.

Total EU Fresh and Processed Raspberry Production, by Top Country, excluding Poland,* 2016^{E} (1000 metric tons)



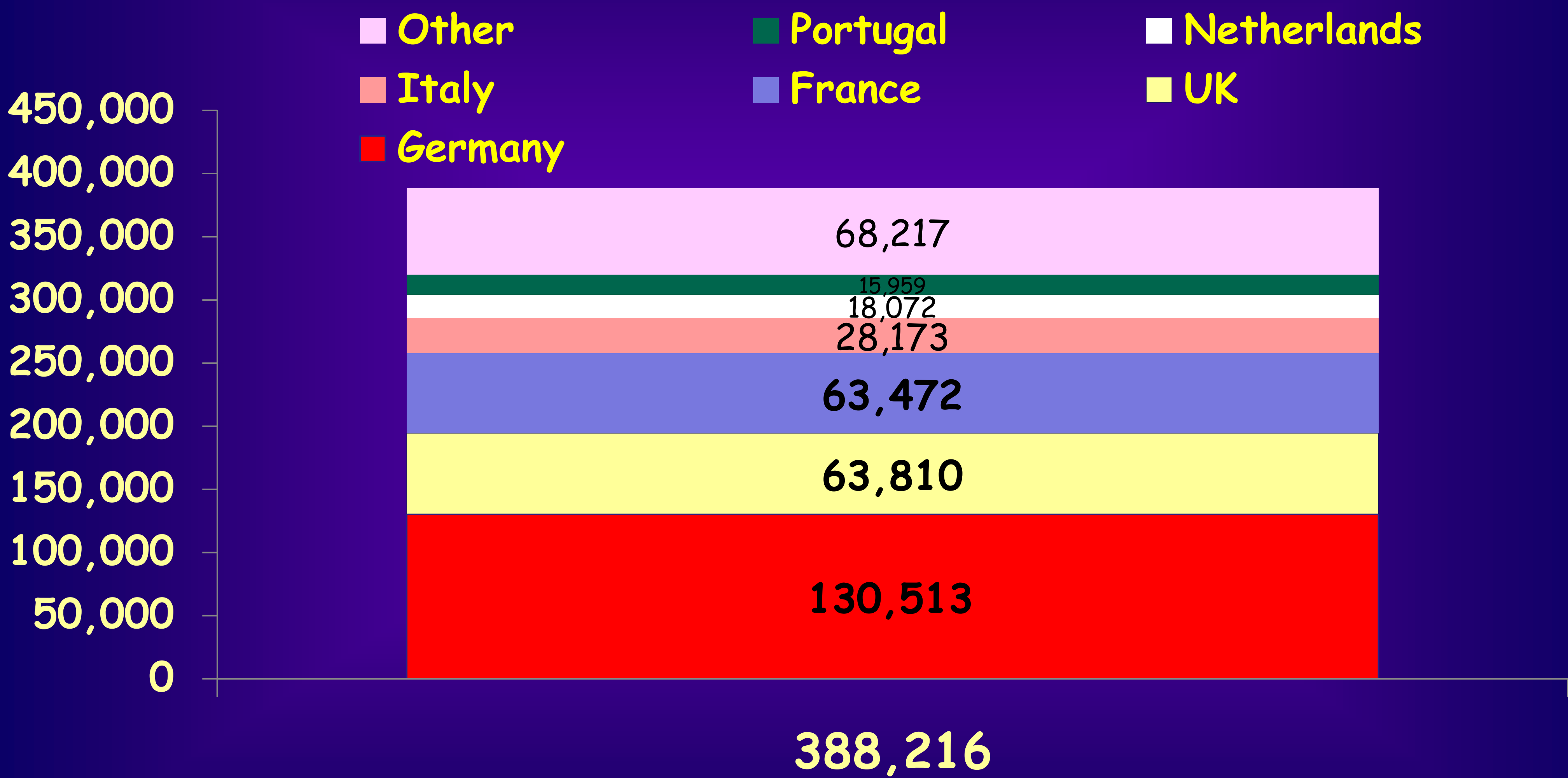
Source: Adapted by Roberta Cook from International Trade Centre data queries. Note: Poland is the largest producer (129,060 MT) but produces mainly for processing whereas the other countries are fresh-oriented, which is our focus here. There is also large production for processing in Serbia and Bosnia. UK estimated at 17,000 Mt, some sources lower.

Spanish Fresh Berry Exports, by Type, 2012-16, Metric Tons, (total exports: 388,216 MT in 2016)



Source: FEPEX

Spanish Fresh Berry Exports, by Key Destination, 2016, Metric Tons, (total exports: 388,216 MT)



Source: FEPEX
Note: 97% of exports go to the EU.

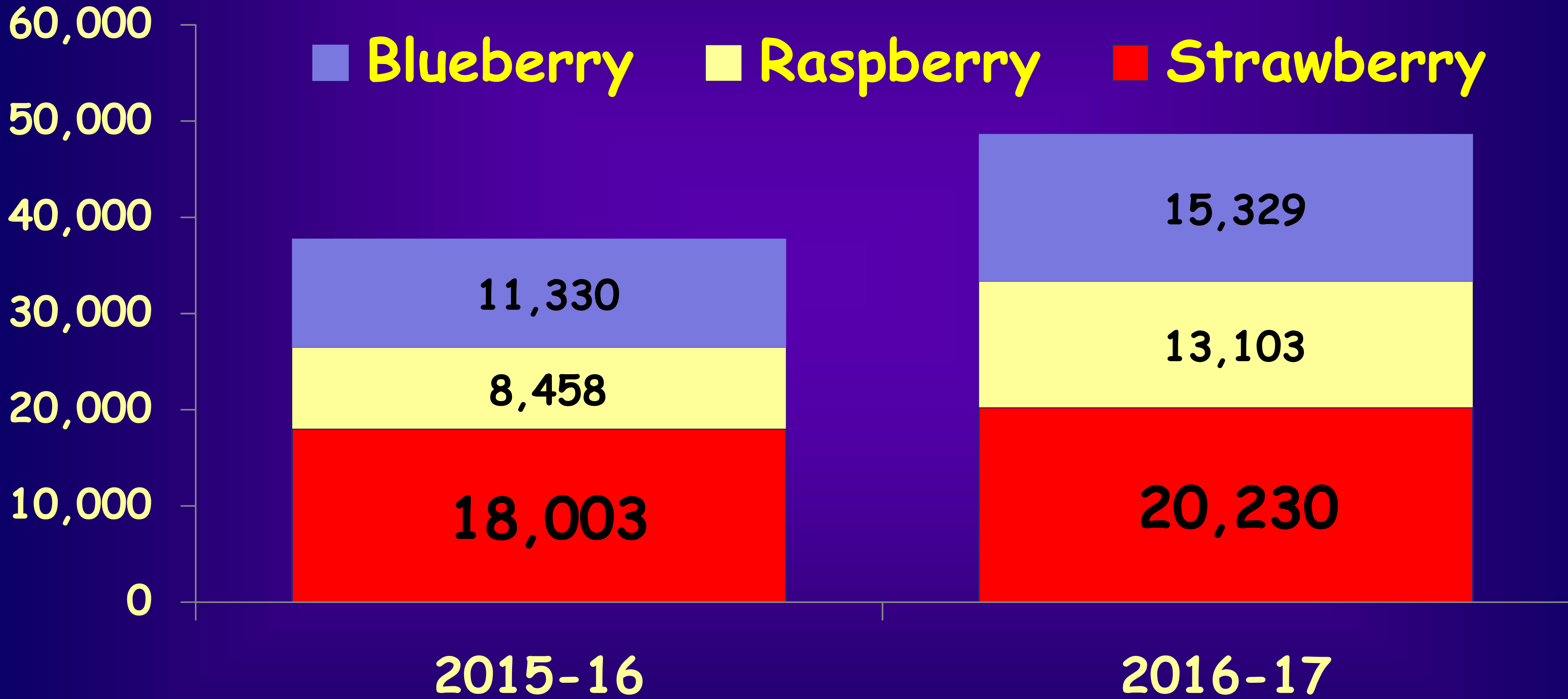
Spanish Berry Industry

- Spain has long been the main berry supplier to Europe, with almost all the production in Huelva.
- But, whereas Huelva used to be almost entirely a strawberry region it is morphing into a berry region.
- Total berry area planted (around 11,000 HA) is similar to several yrs ago but the strawberry share is declining due to market saturation.
- Experts say many growers have been production- and yield-driven vs market-driven & quality needs to improve.
- Innovation taking place in production methods, including substrate.

Spanish Berry Industry

- Some experts feel blues have grown too rapidly without marketing plans in place, and feel planting is pausing in Huelva due to expectations of lower prices. Volume will still grow as more of the plantings come into full production.
- Need to develop domestic market.
- Some producers have planted blues in N. Spain to extend the season into the summer. This will grow.
- Lower labor availability from E. Europe and higher labor costs are stimulating investment in Morocco, for all the berries.

Morocco Fresh Berry Exports, by Type, 2015-16 vs 2016-17 seasons*, Metric Tons, (total exports: 48,662 MT in 2016-17)



*Season Sept. 1-June 30th. Note that Morocco also exported 46,815 MT of frozen strawberries in 2016-17.
Source: Moroccan Ministry of Agriculture and Fisheries.

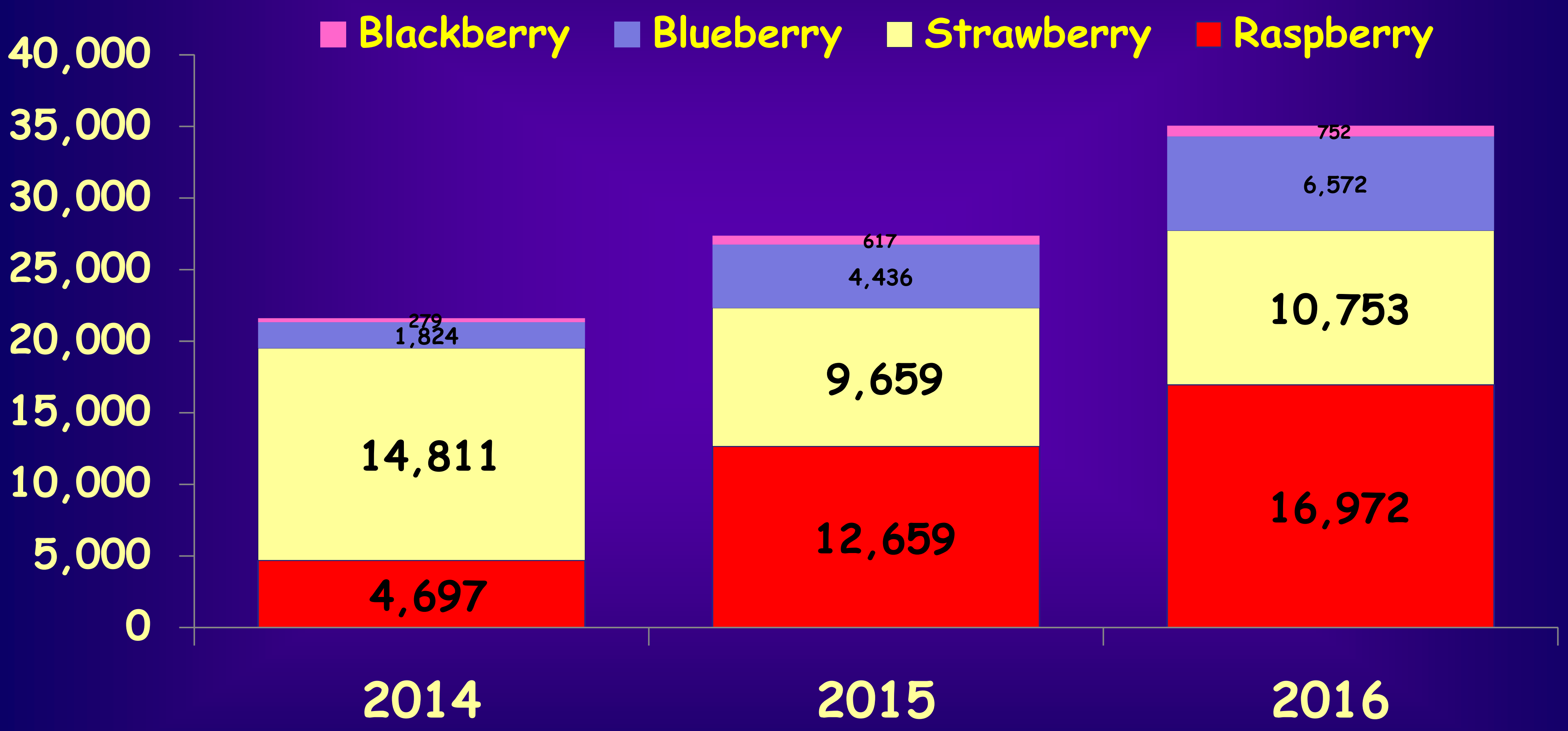
Moroccan Berry Industry

- Morocco is following the same evolution as the Spanish berry industry, morphing beyond straws and becoming a full-line berry producer. Rapid growth is expected!
- Morocco produces far more processed straws (46,815 MT) than fresh - escape valve. They have the capability to process other berries and are likely to do so.
- Aussie Costa Group just announced agreement boosting its ownership of African Blue JV to 90%. (253 HA +63 more in '18)

Moroccan Berry Industry

- If European D develops for blacks, Morocco will be a player.
- "Morocco is targeting the Mexican window and it is only a question of time before they will succeed… but again, we should not forget the limitations of water availability, labour and others that Agadir is and will be facing," says one industry expert."

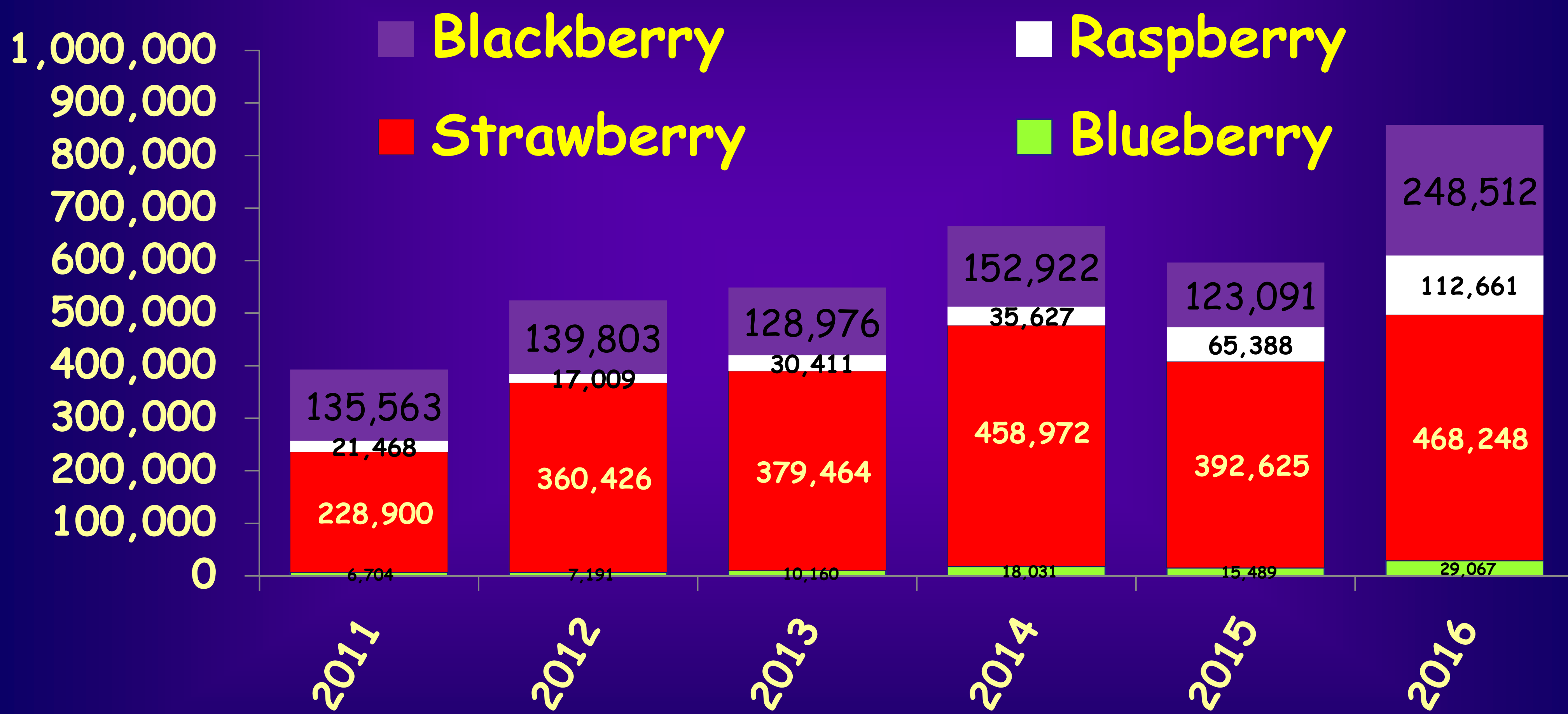
Portuguese Fresh Berry Production, by Type, 2014-16, Metric Tons (35,049 total MT in 2016)



Source: FRESHUELVA. Note: IBO reports substantially lower blue production for all yrs (4,150 MT in 2016).

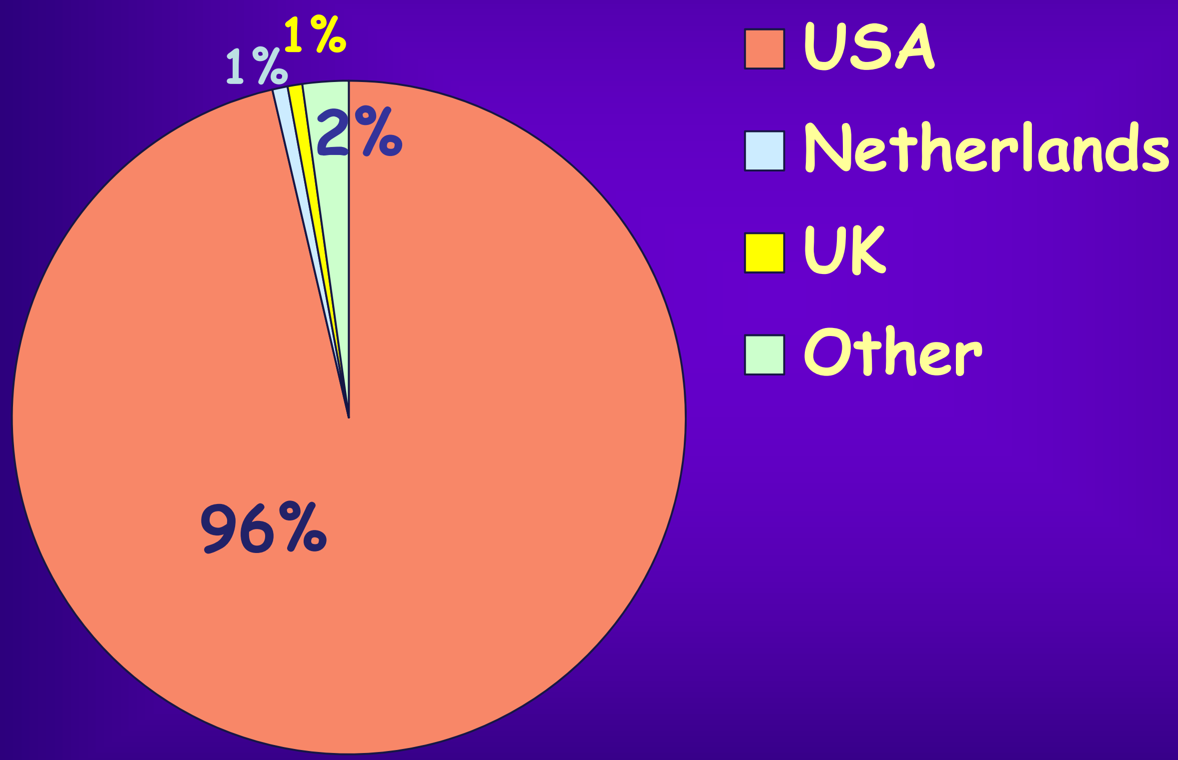
Mexican Fresh Berry Export Industry: A major economic cluster developed with the leadership of California and Chilean berry firms

Mexican Berry Production, 2011-16, Metric Tons, (total berry production: 858,488 MT in 2016!)



Source: Elaborated by Aneberries with data from SIAP 2011-15, Sagarpa 2016.
Note: Figures include processed and Mexico has a straw freezer industry. 2/3 of strawberry production is for the domestic market or processing, while most of the other berries are fresh export-oriented. Blueberry production may be lower.

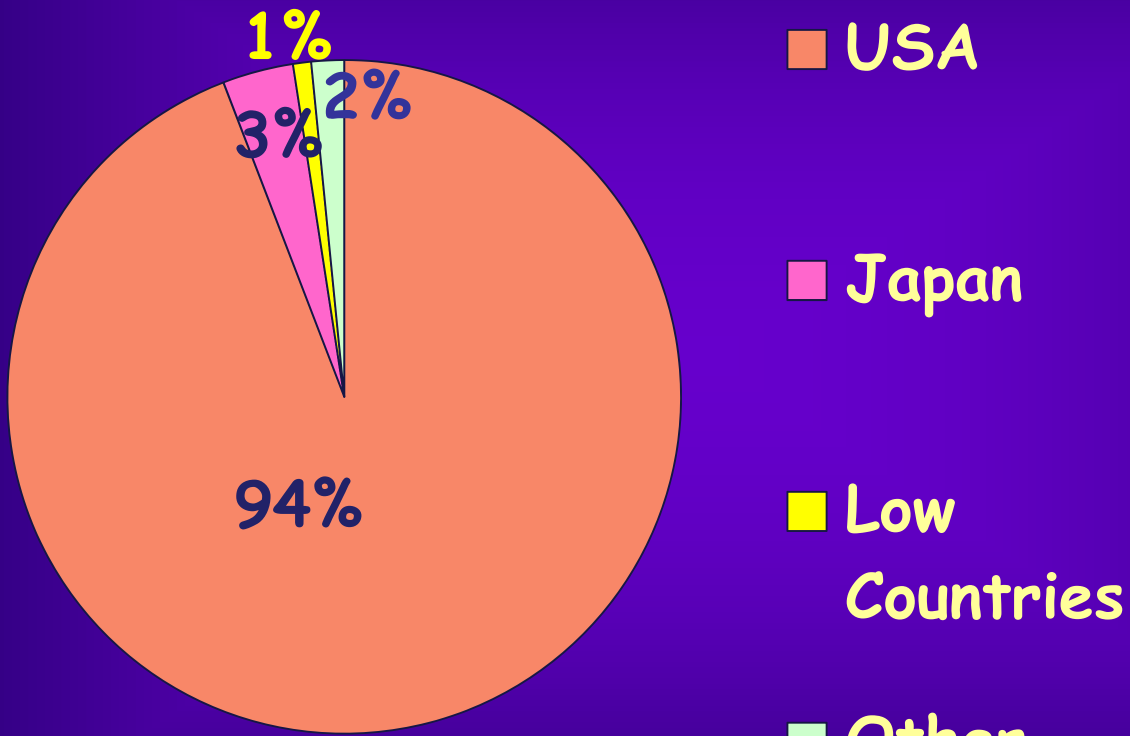
Mexican Fresh Raspberry and Blackberry Exports, by Key Destination Market, 2016, (130,507 MT total exports)



US$888 million total value

Source: Elaborated by Aneberries with data from SIAVI 2016.

Mexican Fresh Highbush Blueberry Exports, by Key Destination Market, 2016, (17,107 MT total exports)



US$187 million total value

Source: SIAVI 2016.

Mexico

Mexicali
Baja California
Sonora
Hermosillo
Chihuahua
Chihuahua
Isla Cedros
Baja California Sur
Coahuila
Nuevo Leon
Mexico
Sinaloa
Saltillo
Monterrey
Culiacan
Durango
Durango
La Paz
Cuidad Victoria
Zacatecas
San Luis Potosi
Tamaulipas
Zacatecas
Aguascalientes
San Luis Potosi
Islas Marias
Nayarit
Tepic
Guanajuato
Guanajuato
QUE
Queretaro
Guadalajara
Hidalgo
Yucatan
Merida
Jalisco
Pachuca
Morelia
MEX
Mexico City
Xalapa
Campeche
Quintana Roo
Colima
Toluca
Tlaxcala
Chetumal
Michoacan
Puebla
Tabasco
Colima
Cuernavaca
MOR
Puebla
Veracruz
Campeche
Villahermosa
Isla de Cozumel
Guerrero
Chilpancingo
Oaxaca
Oaxaca
Chiapas
Tuxtla Gutierrez

Protected culture production of raspberries in central Mexico

Tabletop production of strawberries in Mexico

Changing Role of Mexico

- Mexico one of few countries to offer the full berry line for fresh market, and has a long-standing straw freezer industry.
- It has a large domestic market for fresh straws and emerging domestic markets for the other berries.
- >90% of fresh berries go to the US and this will continue, although efforts are in place to diversify export markets where possible.
- In 2014, Mexico got market access to China for blackberries and raspberries; in 2017 for blues.
- Several flights/week from Guadalajara to Hong Kong.
- Matching fund export promo dollars from ProMexico.

Changing Role of Mexico

- Export volumes to China may reach around 5% of export value but the market is very challenging.
- Chile and Peru have duty-free access for blues while Mexico faces 12-16% duties for blues and around 20% for the other berries.
- Mexico has duty free access to the EU and more companies are developing export programs.
- Viewed by Europeans as a somewhat inconsistent supplier in blacks so despite the huge industry, some berry marketers are trialing in other areas. Flavor is a concern. Private genetics developing to address this.

Changing Role of Mexico

- According to one industry expert: "I believe that MX will remain as a key supplier during January-April period for the next few years, although many regional countries (north & south) are catching up… Morocco, Portugal, South Africa and Spain in the south plus BENELUX and Germany in the north are trying to catch up in volume and create yr-rd supply."
- The biggest black production area (Los Reyes) is facing some disease and other challenges. New varieties with better flavor, and the adoption of more sophisticated production methods, including producing in substrate, will help.

Changing Role of Mexico

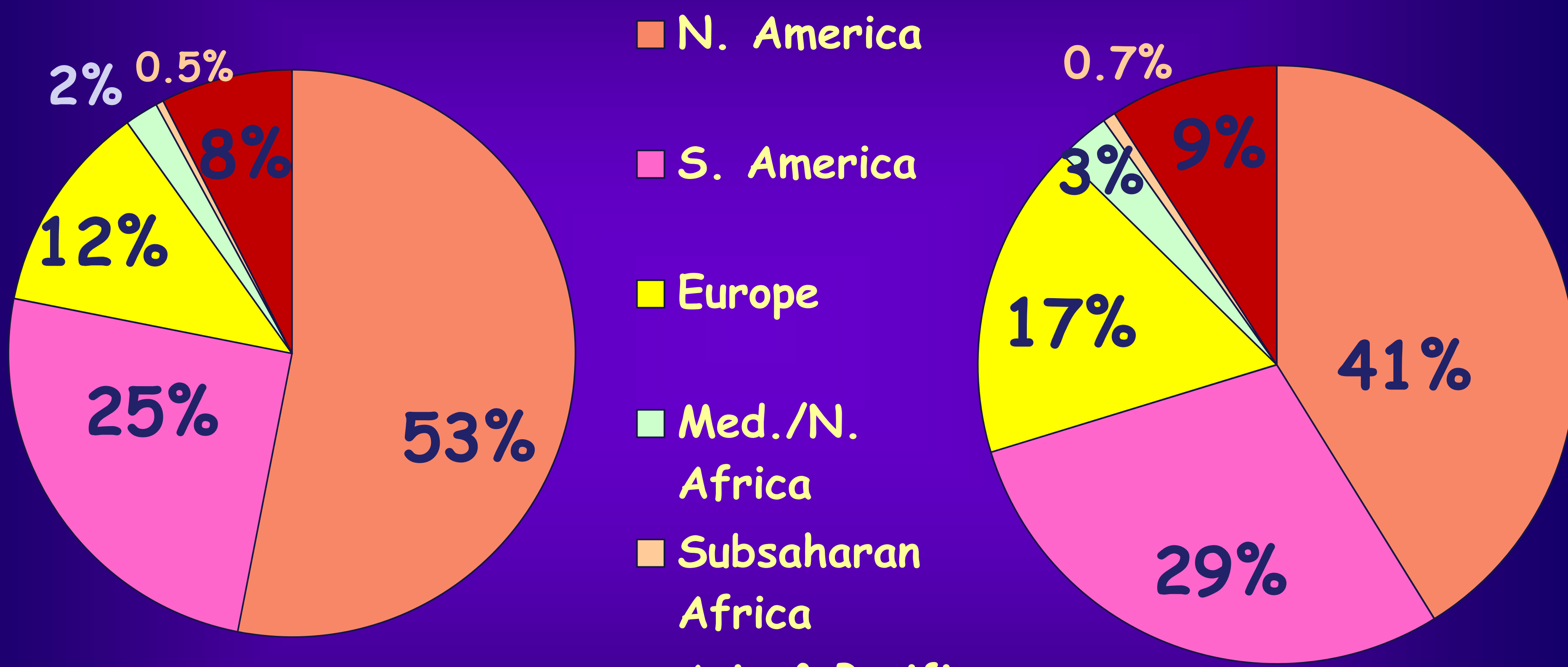
- As more advanced black production models develop, blacks may grow more rapidly than rasp.
- Mexico facing challenges in developing fresh straw exports, in part due to varieties & difficulty in extending central Mexico supply beyond March 15 – which is needed to offset lower CA spring volumes.
- Mexico replacing part of the fall blue volume from Argentina in the USA, but rain can impact quality.
- Michoacan and Jalisco most important berry states: Jalisco most important for blues; Mich. for straw & blacks; Jalisco for rasp; Baja plays a role in straws & rasp.

Changing Role of Mexico

- Mexico is targeting the US early spring blue market in March and April. This is during it's dry season and quality is more consistent.
- US domestic winter/early spring supply is insufficient but this will tighten the spring market windows of other early players, like Florida, Georgia & California.
- Experts expect Mexican blue volume to double in the next 5 yrs.
- The Mexican grower industry has a strong & innovative reputation. Most US berry shippers are active there across several berries in order to fill out yr-rd supply.

Trends in the Global Blueberry Industry

Global Highbush Blueberry Production, Shares by Region, 2016*, MT (425,379 fresh + 229,473 process = 654,852 total MT)

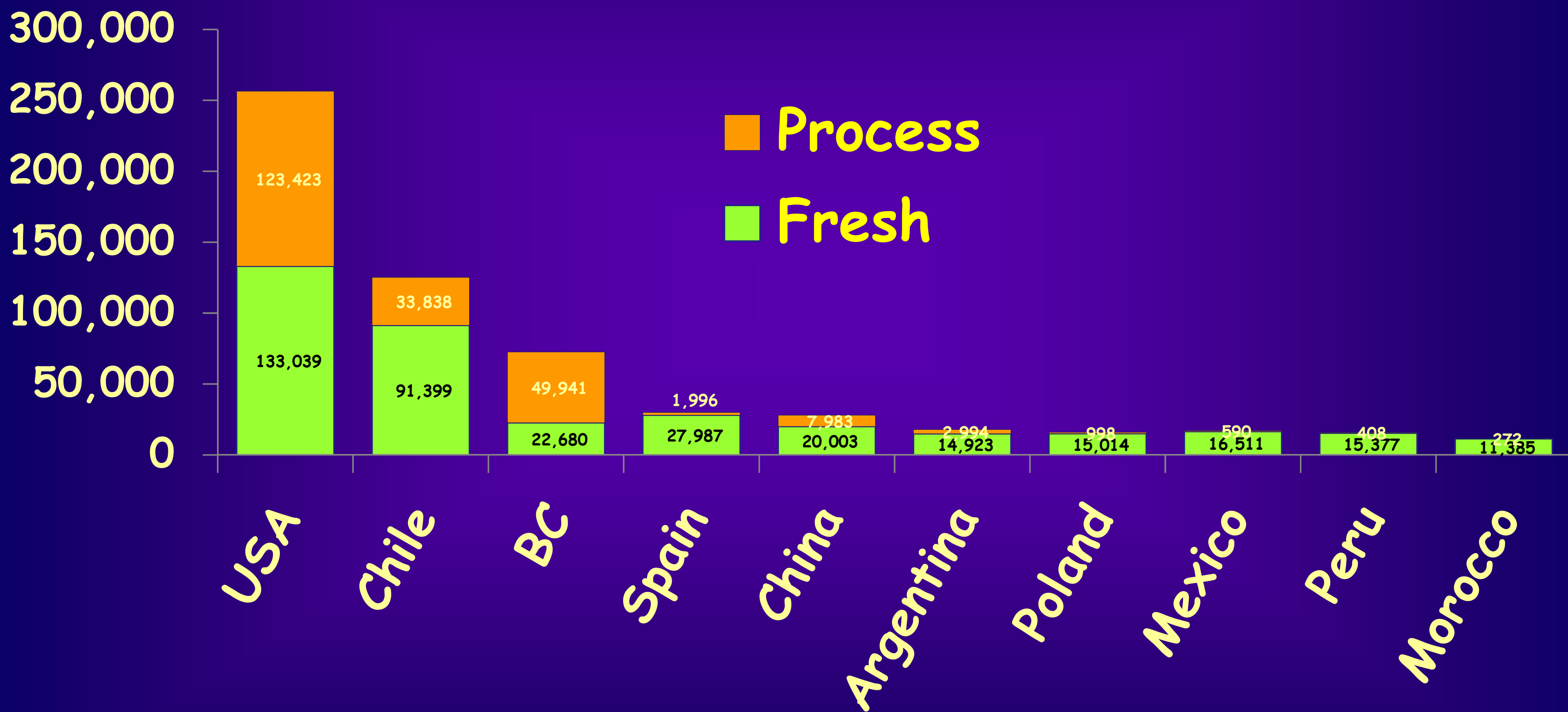


Total, Fresh and Process

Fresh Only

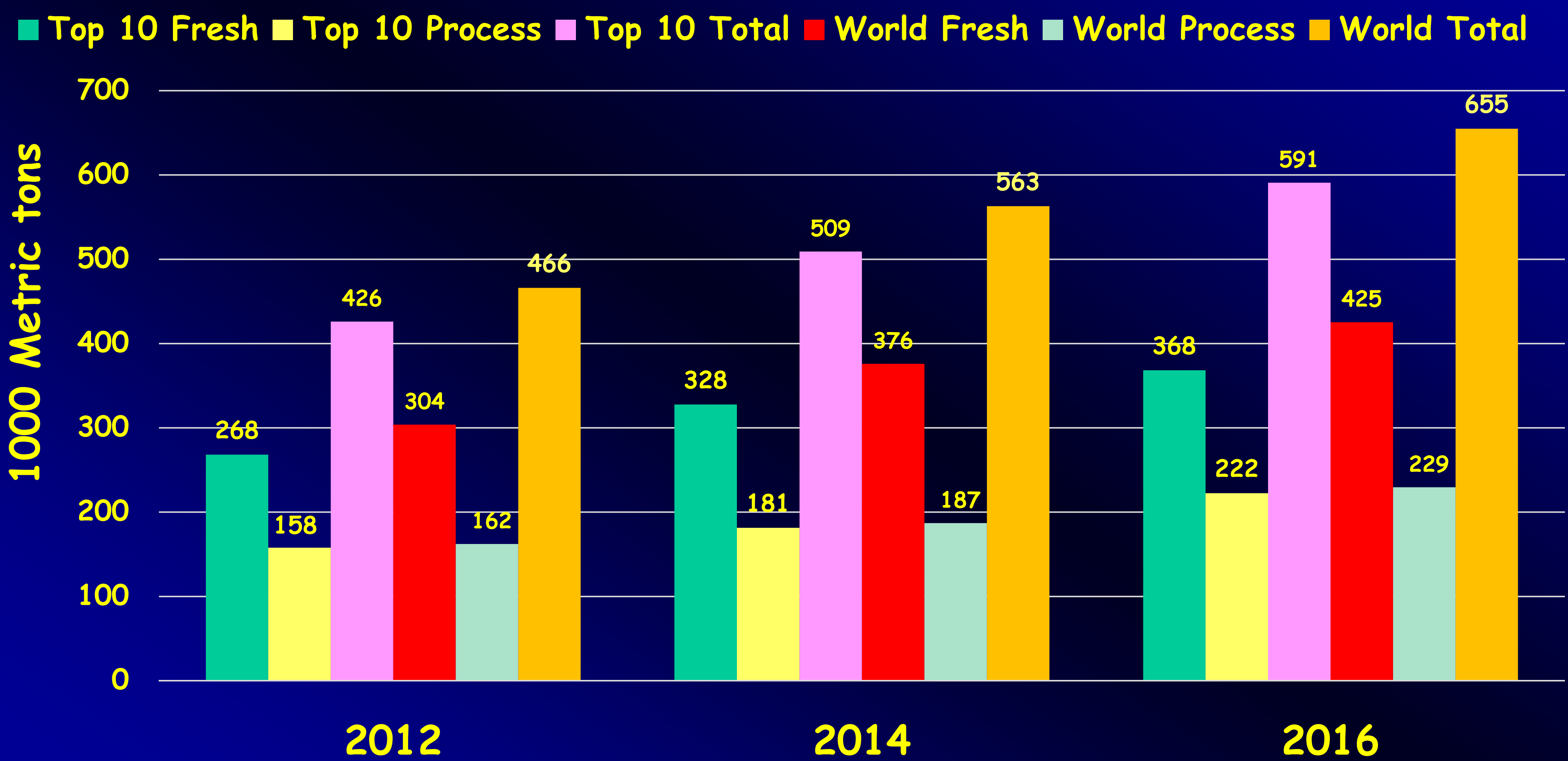
Source: Global Blueberry Statistics and Intelligence Report, International Blueberry Organization (IBO), April 2017. *Some MY15/16 other countries CY2016.

Top 10 Global Highbush Blueberry Producers, Fresh and Processed, 2016,* Metric Tons



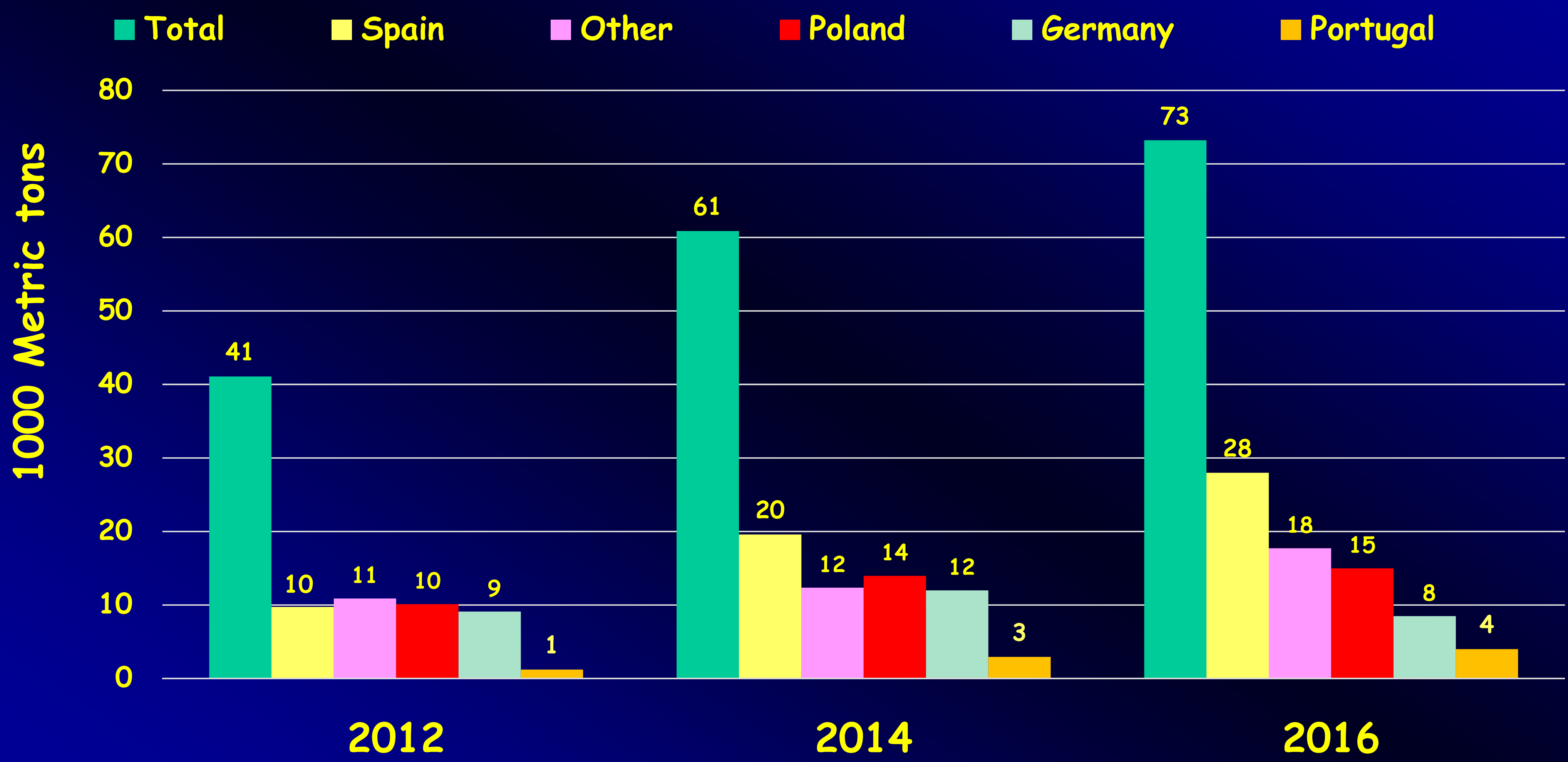
Source: Global Blueberry Statistics and Intelligence Report, International Blueberry Organization (IBO), April 2017. *Mix of MY and CY data.
Note: Other sources report 28,999 MT for 2016! Differences caused by MY issues and rapid growth.
https://arandanosperu.pe/2017/10/27/la-produccion-de-arandanos-en-peru-crecio-un-870-entre-2014-y-2016/

Fresh and Processed Highbush Blueberry Production, World Total and Top 10 Producers, 2012, 2014, 2016 (1000 metric tons)



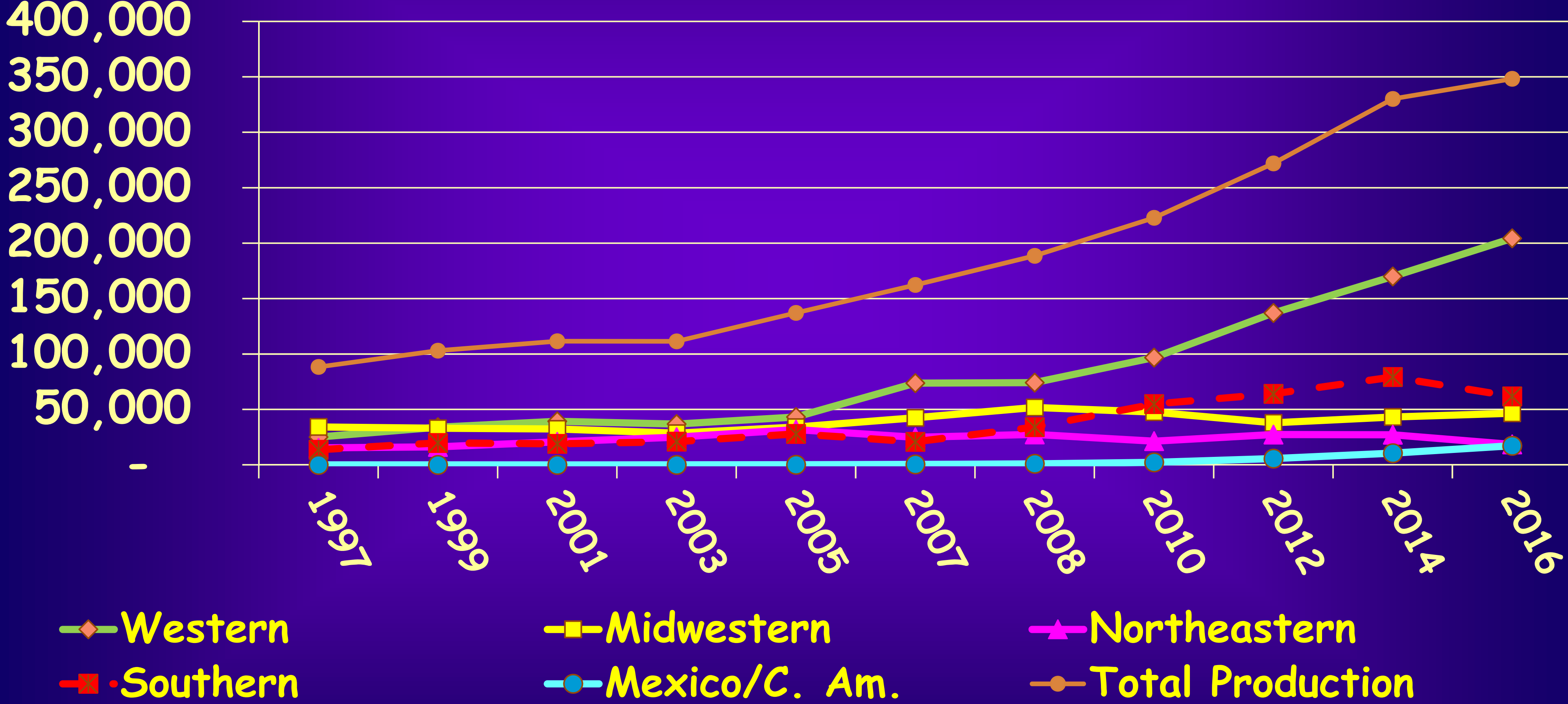
Source: Global Blueberry Statistics and Intelligence Report, International Blueberry Organization (IBO), April 2017.

Fresh Highbush Blueberry Production in Europe, By Top Country, and Total, 2012, 2014, 2016, 1000 MT, (total 72,210 MT in 2016)



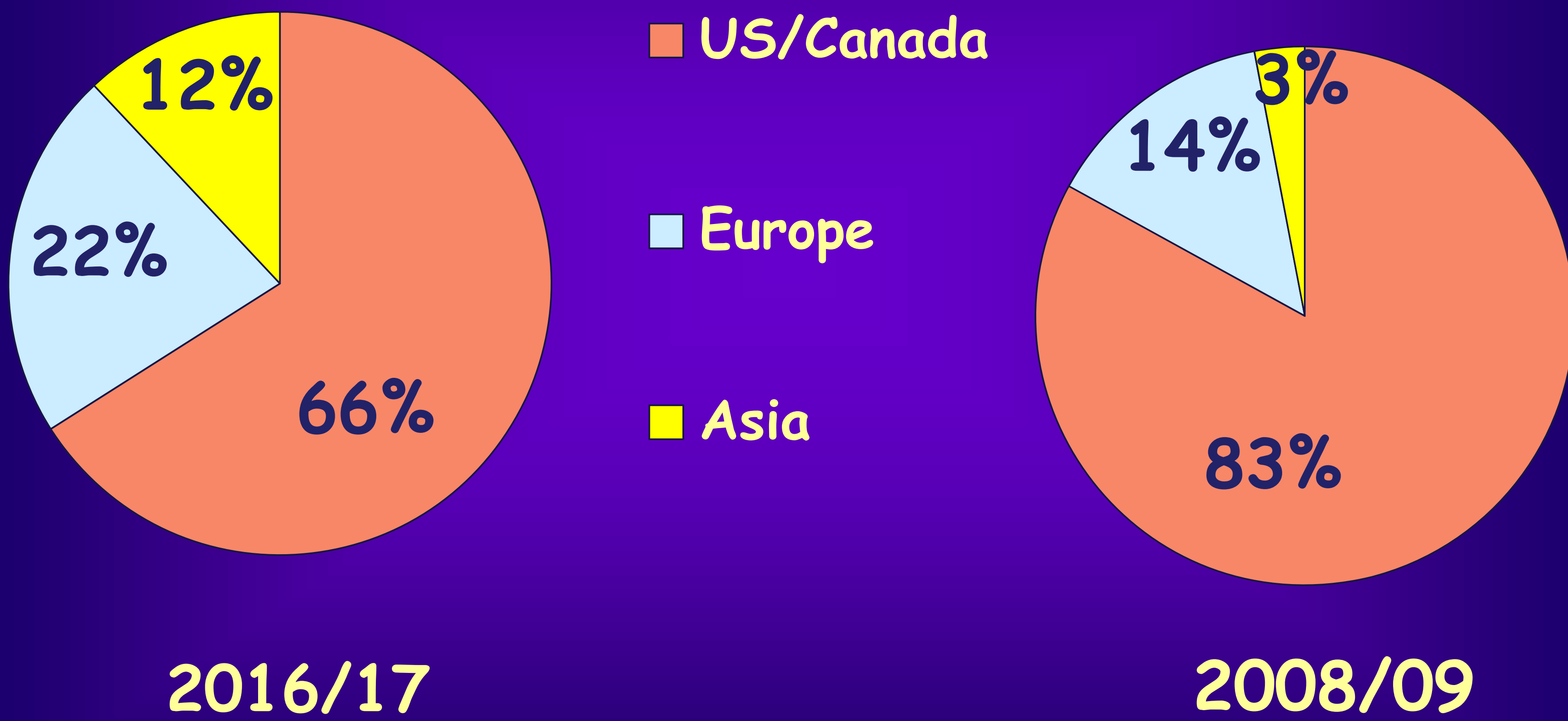
Source: Global Blueberry Statistics and Intelligence Report, International Blueberry Organization (IBO), April 2017.

N. American Highbush Blueberry Production, by Region, 1997-2016 (fresh and processed), Metric Tons, (in 2016 174,225 fresh + 173,998 process = 348,223 total MT)



Source: Global Blueberry Statistics and Intelligence Report, International Blueberry Organization (IBO), April 2017.

Chilean Fresh Highbush Blueberry Exports, by Key Destination Market, 2016/17, (103,432 MT total exports) vs 2008/09



Source: "Blueberries From Chile Statistical Information, Season 2016/17," Chilean Blueberry Committee and ASOEX.

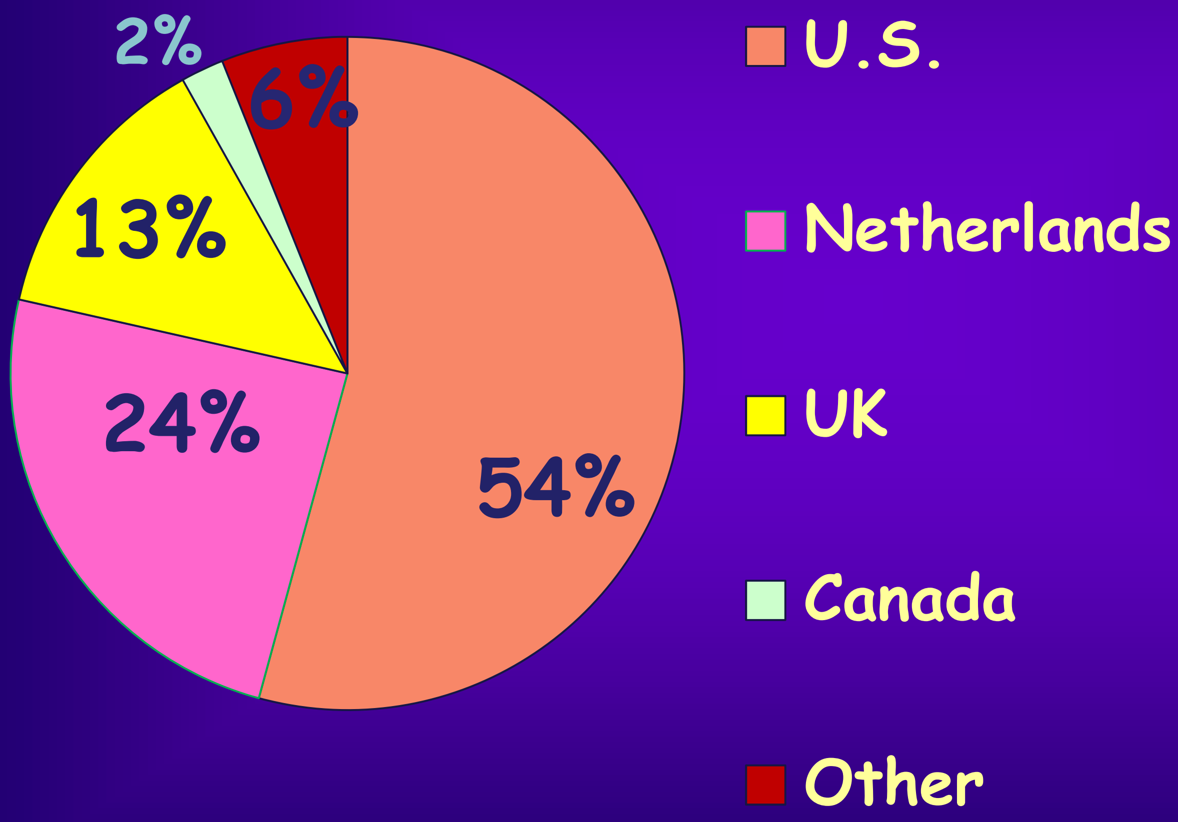
Chilean Blueberry Industry

- In MY 2016/17, Chile exported 103,432 MT of fresh blues, the first time >100,000 MT.
- Facing exploding volumes from Peru, in part driven by Chilean investment. Peru targeting fall window before Chile ramps up. Chile is the dominant global winter supplier of blues.
- According to one expert, for now, most competition with Peru will be with early Chilean season air shipments. But, if Peru extends into the winter season that is another matter.
- Also facing more post-peak competition.
- Fumigation a concern in US market.

Chilean Blueberry Industry

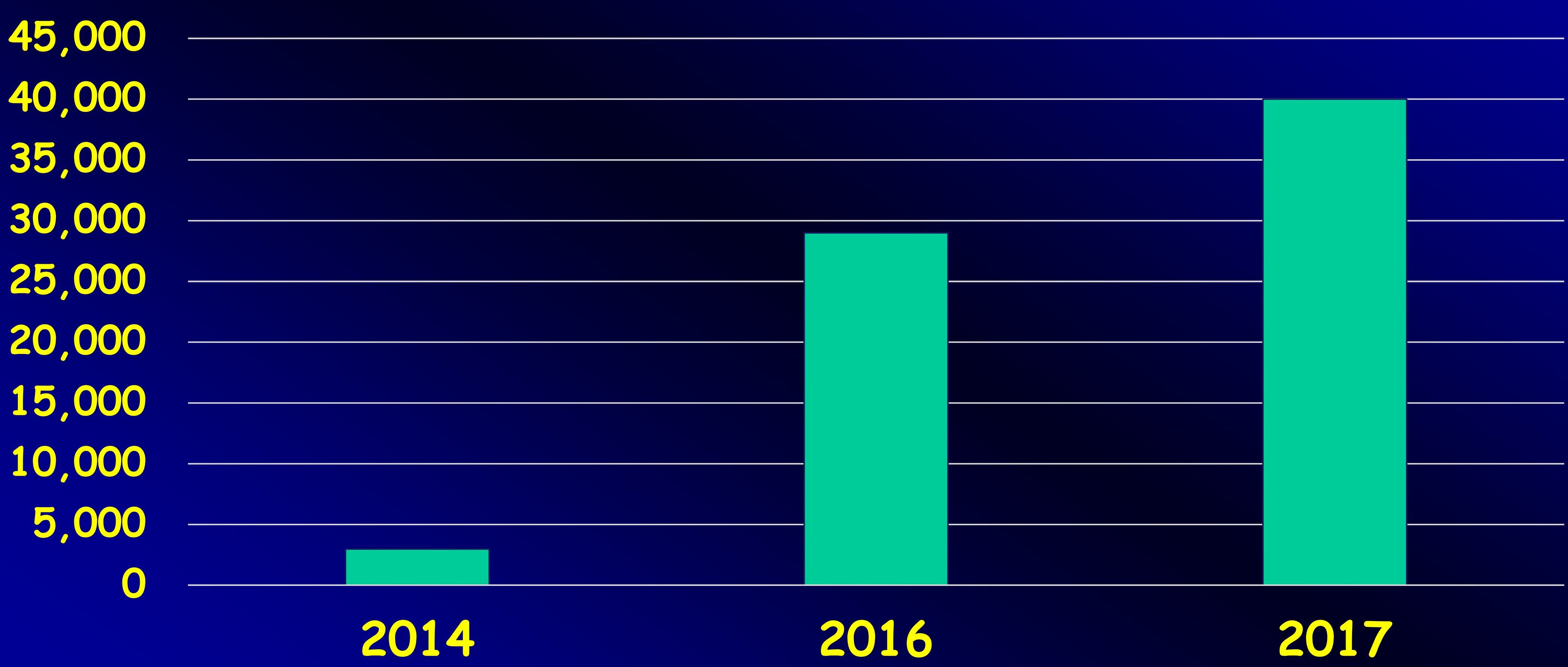
- Half of new plantings are proprietary genetics as growers seek to improve competitiveness.
- Has large processing industry (33.8 MMT in 15/16) which is an escape valve. Represents 20-30% of total production. US inventories impact pricing.
- Ahead of competitors in market access. Shipped 9500 MT of fresh blues to China in 16/17 vs 1000 in 10/11.
- Players investing in packinghouses & technology and focused on improving arrival quality and consistency.
- Industry supports promotions and benefits from being part of broader Chilean Summer Fruit umbrella.

Peruvian Fresh Highbush Blueberry Exports, by Key Destination Market, 2016, (28,139 MT total exports)



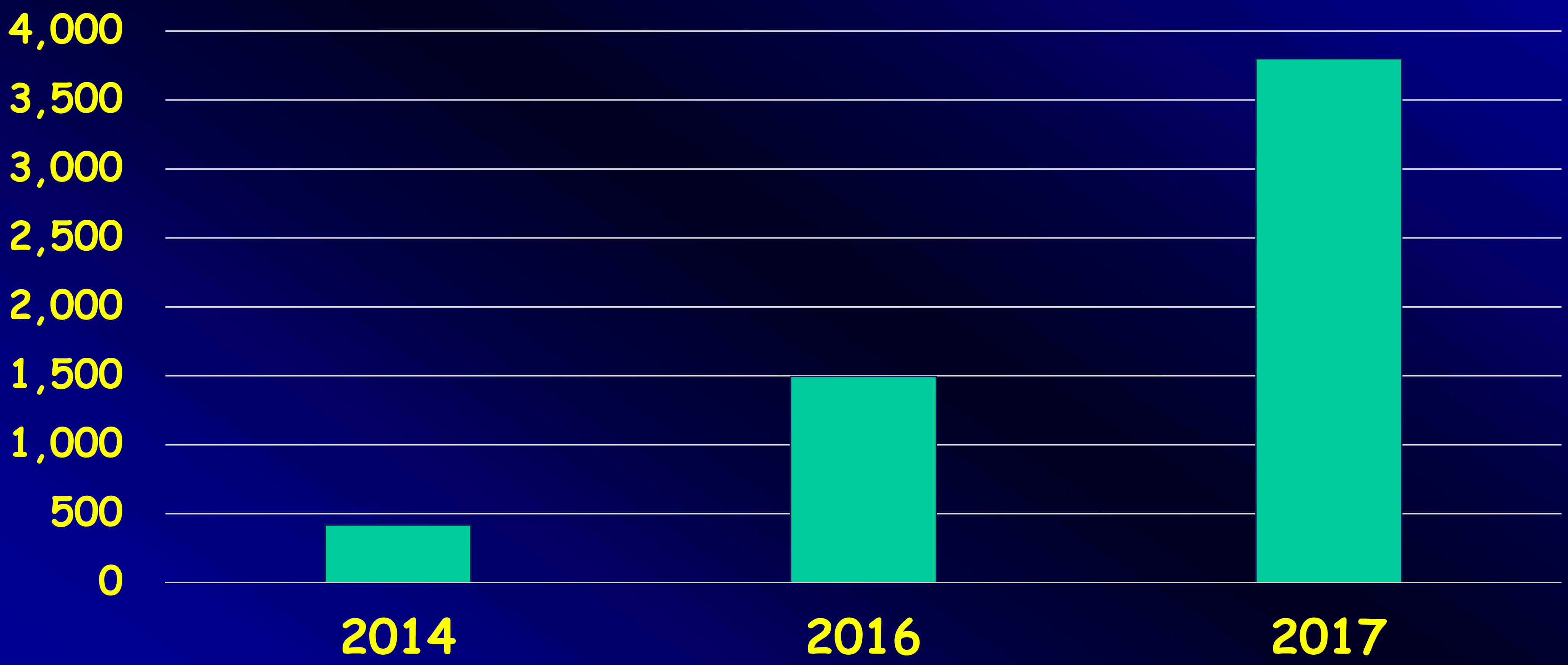
Source: Peruvian Blueberry Production Booming, GAIN Report, FAS/USDA, 7/21/17.

Peruvian Blueberry Exports, 2014, 2016, 2017F (Seasons/MY's), metric tons



Sources: Elaborated by AgroNegociosPeru; https://arandanosperu.pe/2017/10/27/la-produccion-de-arandanos-en-peru-crecio-un-870-entre-2014-y-2016/; and https://arandanosperu.pe/2017/06/15/los-principales-datos-sobre-el-arandano-en-el-peru/.

Peruvian Blueberry Planted Area, 2014, 2016, 2017^{E} (Seasons/MY's), hectares



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Peruvian Blueberry Industry

- In next 5 yrs Peru expected to surpass Chile in fresh exports.
- In 2017, Peru ranked 5th global exporter vs 9th in 15/16.
- This yr Peru's blue exports surpassed Argentina: Peru= 18% of S. American exports vs 12% Argentina.
- Compete with Chile early as targeting fall window, for now.
- Most production in north, led by La Libertad.
- Peru is going through a rapid learning curve on locations, varieties, cultural practices, postharvest handling, etc.

Source: www.ArandanosPeru.pe

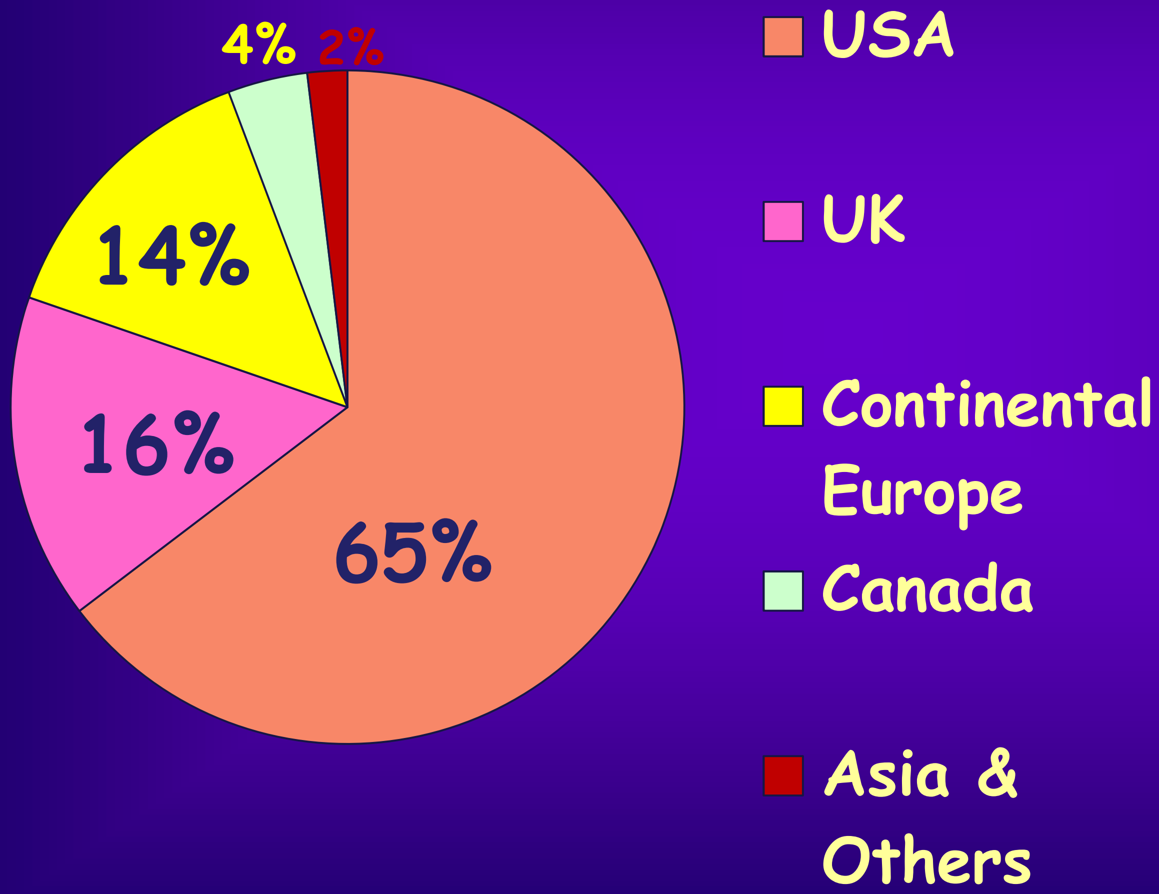
Peruvian Blueberry Industry

- Plants come into production quickly; fast paybacks.
- Plants can be pruned to produce almost any time of yr. Large growers can afford to pull out & plant new varieties if needed. With current pruning practices the same plants won't continue in production for many yrs, so expansion in total production must come from new plantings.
- Most new plantings are open varieties. Biloxi and Ventura are common.
- Land and water are abundant. However, labor is becoming a challenge. Housing is being built.
- Production has been dominated by few firms. Foreign investment growing.

Peruvian Blueberry Industry

- Camposol recently announced a special consumer slogan, "The berry that cares," showing it's growing focus on consumers. As of Sept 2017 in Camposol's Q3 2017 report, blue area planted was 1628 HA.
- In October 2017, Chilean blueberry grower-exporter Hortifrut and Talsa merged, now with 2200 hectares total.
- Peru can ship by boat to the USA using a cold treatment and avoid fumigation. It can land product in the US with prices below the Argentine cost of production (and still make money).
- Peru will challenge Argentina in the USA and European markets in the fall. Will face competition from S. Africa in Europe.
- Chile is ahead in servicing Asian markets but both have duty free access, an advantage relative to Mexico.

Argentine Fresh Highbush Blueberry Exports, by Key Destination Market, MY2015/2016, (14,921 MT total exports)



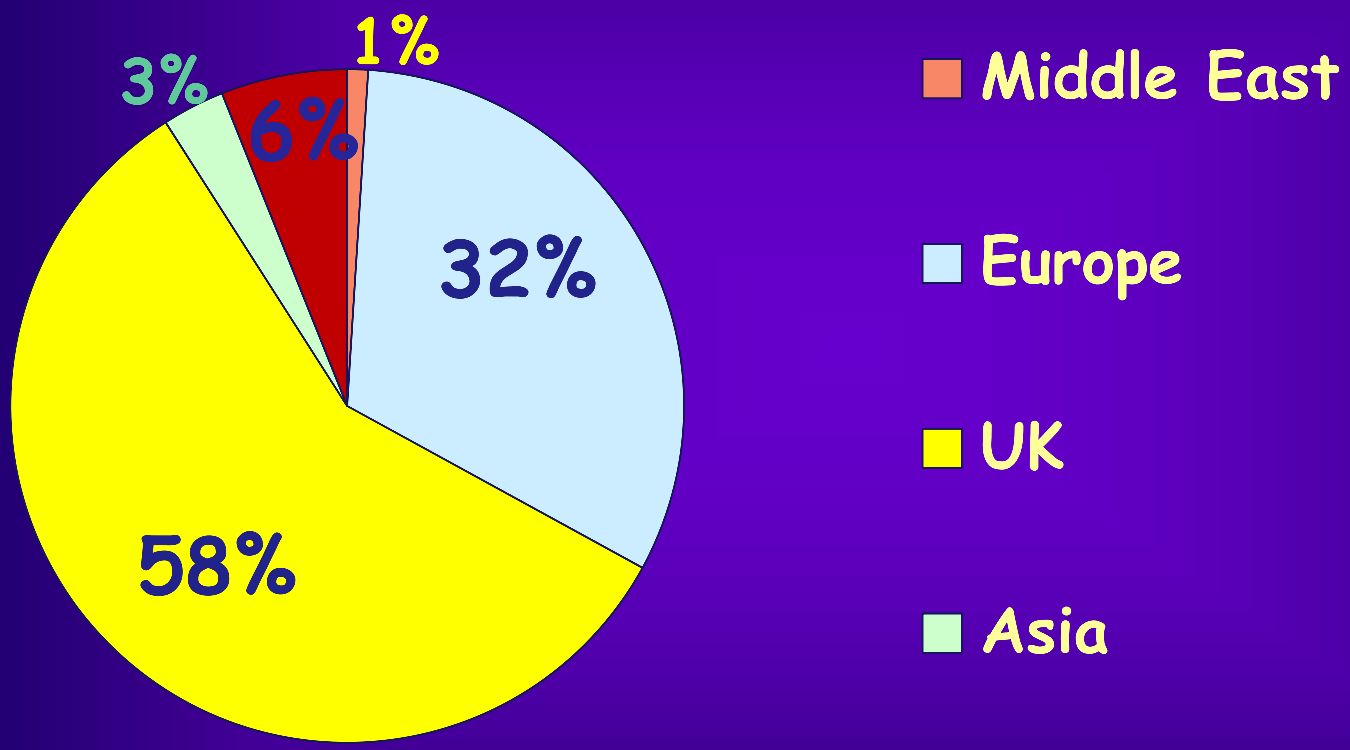
Source: Global Blueberry Statistics and Intelligence Report, International Blueberry Organization (IBO), April 2017.

Argentine Blueberry Industry

- Federico Baya, new president of the ABC: "the international market has changed and Argentina is preparing for a new global scenario."
- Changes include more maritime shipments to improve cost competitiveness. ABC forecast for 2017 indicates air shipments may decline to 80% vs almost all in 2015.
- Improvements in varieties, growing practices, logistics, postharvest handling, statistics, internal market, market promotion and buyer communications are underway.
- Int'l campaign "Taste the difference;" & local, "Mejor con arandanos."
- New market access expected, including China and Japan.

Sources: Argentine Blueberry Committee (ABC), including https://www.argblueberry.com/home/en/arandanos-argentinos-record-de-exportacion-por-via-maritima/

S. African Fresh Highbush Blueberry Exports, by Key Destination Market, 2016, (4,154 MT total exports)



Source: SABDA, October 2017.

South African Blueberry Industry

- European market focus and good logistics due to infrastructure from exports of other produce.
- Targets September-October but continues until wk 8.
- Exports expected to rise from 4,154 MT last season to around 8000 MT in 17/18.
- Area forecast to double by 2022 to>2000 HA. 69% of plantings <3 yrs old. Most plantings in W. Cape but most growth expected in north, Limpopo & Mpumalanga.
- Focus on high flavor genetics from California and Australia, licensed to growers by 3 leading exporters. Additional plant materials expected to enter market.

Source: SABPA

South African Blueberry Industry

- SABPA survey: 61% grown under shade netting, 14% in tunnels, 25% open field. 30% is grown in substrate.
- Close coordination between growers & exporters & European buyers will facilitate market-driven growth.
- Has less access to Asian markets than competitors.
- One expert predicts: "Argentina's European export presence will decline due to increased production in S. Africa/Zimbabwe managed by key suppliers. They have better quality and are more competitive in price. The varieties that Peru is growing are not the best."
- Rasp already produced there; experts expect growth.

Source: SABPA

Conclusions

- Berry supply & demand growing globally but rates of growth in supply and demand aren't always aligned.
- USA has the most developed berry market, but straws and blues no longer expanding as rapidly.
- N. America primarily supplied internally except for blues. Extra-NAFTA exports are declining.
- Europe largely supplied internally, except for blues.
- Moroccan production growing rapidly for straw, rasp & blue, driven by higher labor costs/issues in Spain.
- Egypt has a big straw industry but some investors looking more to Kenya for future growth, some to middle eastern countries to service a fall gap.

Conclusions

- S. Africa emerging in blues as a high quality fall supplier to Europe (not US), with mainly private genetics & consolidated marketing; will also grow in rasp.
- Argentina will be pressured in the European market by S. Africa and Peru; and by Mexico and Peru in the USA.
- The current fall "window" for blueberries both in the US and European markets may erode due to rapid production growth in various countries (i.e., price erosion).
- Peruvian blue industry will expand more rapidly than Mexico but Mexico remains natural supplier to US.
- Peru must focus on developing export markets in Asia & elsewhere, hand in hand with production, vs just capturing market share from competitors based on price.

Conclusions

- Experts predict attrition in the US blue industry as competition grows in the shoulder seasons and processing demand slows. There is room for improvement in quality via varieties and postharvest handling practices in some regions. Changes necessary to meet buyer requirements. Exporting to Europe requires special commitment.
- The presence of a few truly global berry producers are leading the way in R&D and the development of worldwide supply and demand of the entire berry category. Visionary players make a difference!
- Foodservice demand and new retail channels (gas stations, online) present opportunities.

Conclusions

- All players must improve arrival quality and consistency, with greater focus on flavor, which is increasing the role of private genetics.
- Blackberry demand is very low in Europe. Many feel that improvement in flavor will help, along with well designed consumer marketing campaigns.
- If market demand grows, Europe will develop its own production.
- But Mexico's black industry, the largest in the world, should be a winter player in the European market.
- Mexico will remain the primary foreign supplier of berries to the US market.

Conclusions

- Despite challenges facing California it will retain its leading role in the berry category.
- In Europe, dominance of retailer private labels may contribute to slower expansion in demand by limiting supplier promotions; and there is little generic promotion of berries in Europe.
- The growth of the US berry industry has benefited from shipper branding, and blues & straws have mandatory generic promotion.
- Labor challenges and new technology will transform the berry industry – how, when and where they are grown and harvested. Substrate and protected culture growing!

Conclusions

- Table top production of strawberries, long cane rasp/black and other changes in cultural practices aimed at making harvesting easier for workers.
- Mechanization seems a necessity and some expect that robotics will be a game changer. Experts differ on timelines.
- More technology-intensive growing practices will increase costs which may dampen demand.
- Even “super fruits” are no panacea. Global demand growth is a great opportunity but more competition means all must step up their game!
- Winners must be technology- data- and market-driven, and speed to market is imperative!