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“You cannot conduct a modern community except with an adequate supply of persons upon whose education, whether humane, technical, or scientific, much time and money have been spent.”



- Winston Churchill



Objectives

- **Brewing & Hop Industry Updates**
- **Annual BA Hop Usage Survey Results**
- **USDA-NASS Hop Stocks Report Analysis**
- **Public Breeding Update**
- **Federal Affairs Update**
- **Takeaways**

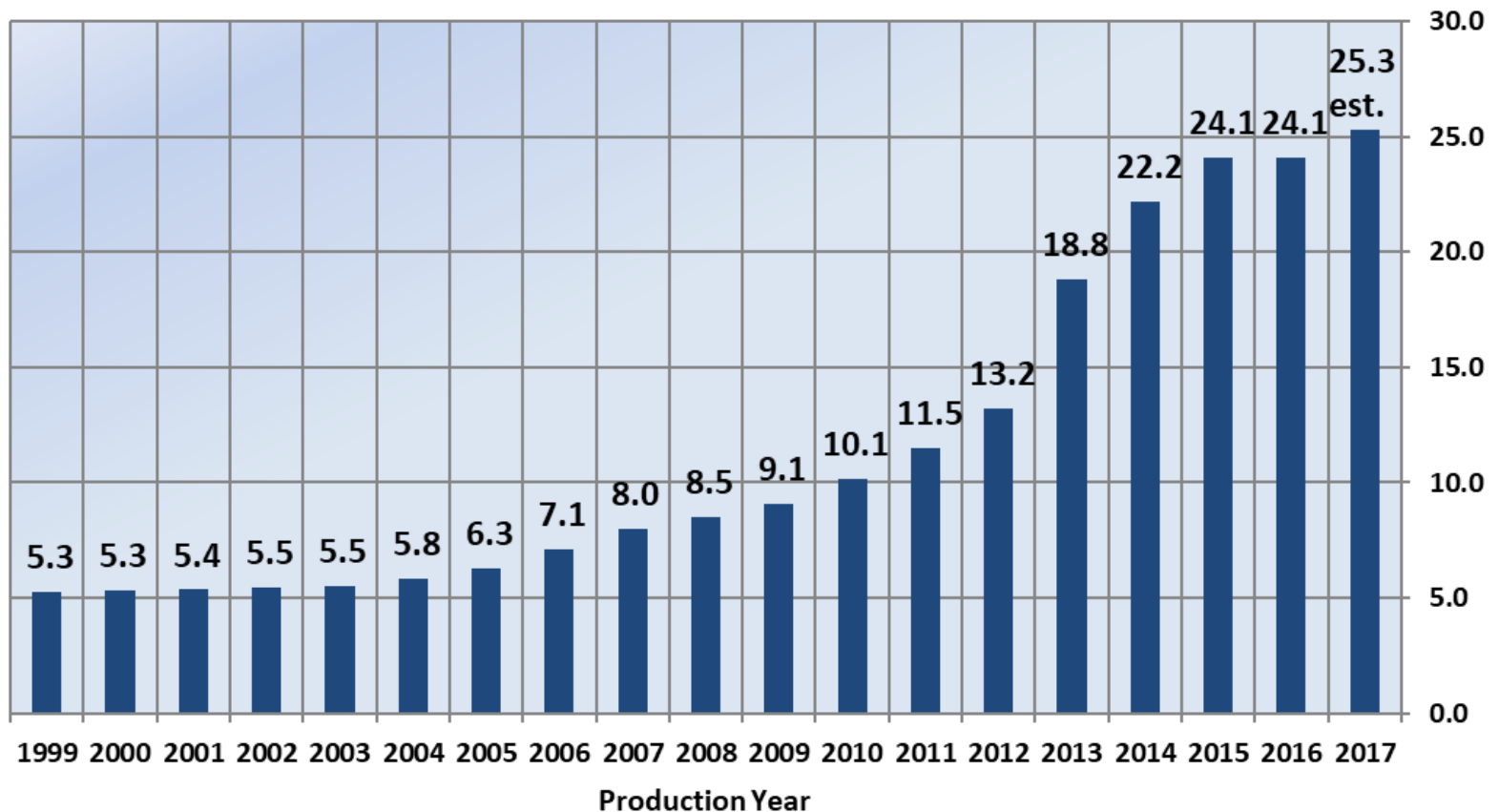
2017 U.S. Brewing Industry Update

- Total U.S. beer sales down **~0.5-1.0%**
- Imports grew, but U.S. domestic volume was off **~1.5-2%**
- Total number of U.S. breweries tops **6,000** for first time ever
- Craft volume growth rate likely decreased from 6.2% to **~5%**, to **~25.3** MM barrels ttl volume



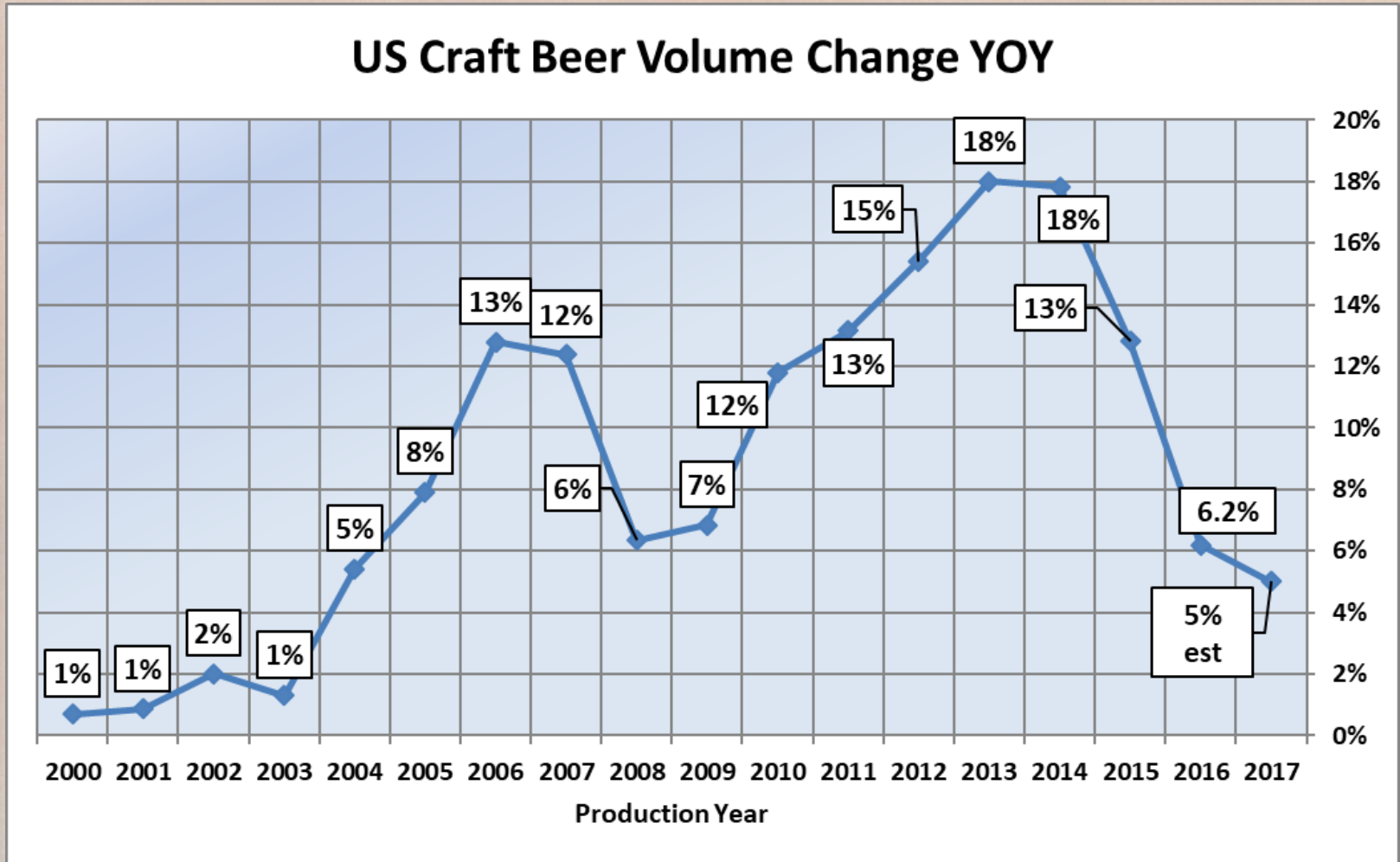
Craft Beer Production 1999 – 2017

US Craft Beer Production Volume (MM US BBL)





Craft Beer Production % Growth 2000 – 2017



2017 U.S. Hop Industry Update

- Ttl U.S. acres increased from 52,963 to 55,786 (+5.3%), an all-time high. Non-PACNW acres grew 19% to 2,500
- Ttl U.S. production increased from 88.6 MM to 106.2 MM pounds (19.8% vs CY2016: +10.7%). Non-PACNW production grew 25%.
- Total U.S. yield increased from 1713 to 1959 pounds per acre (14.4%)
- Idaho: ID production surpassed OR as the number 2 U.S. producing state; Mill 95 opened, the first processor and dealer in Idaho



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BA Member Hop Usage Survey

- Annual Survey in July & August
- Ten Years of Data collected 2008 - 2017
- Look back to production years 2007 – 2016
- **Only includes craft volume as defined**
- A SURVEY, so the results shown are NOT totals:
“Actual Mileage May Vary”

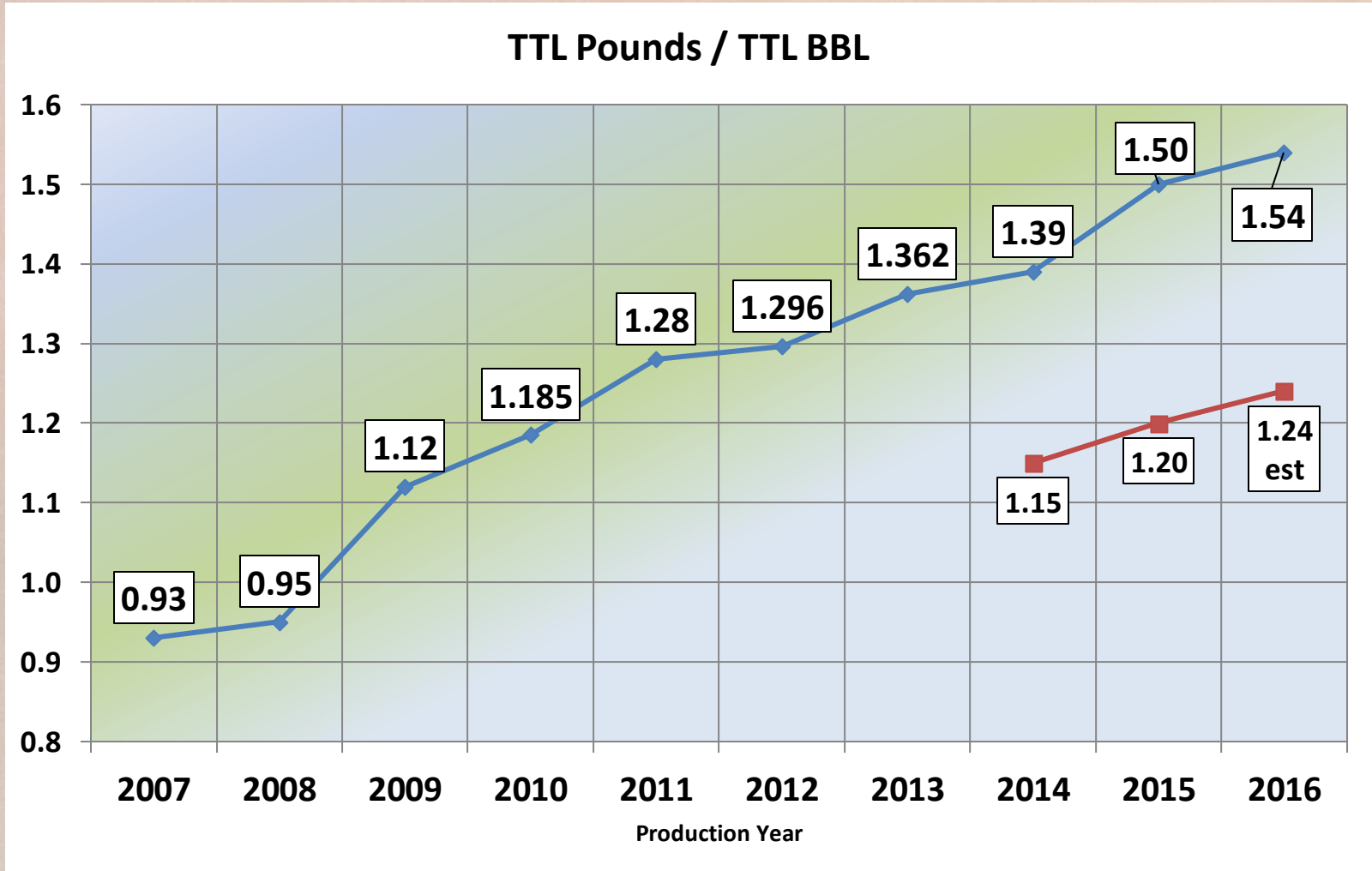
BA Annual Hop Survey + USDA National Hop Reports + BA BIPS Survey + USDA NASS Hop Stocks Reports => This presentation

US Brewing & Hop Usage Summary

- Hop usage rates measured in '17 survey increased **+2.7%** over '16 surveyed rates from **1.50 to 1.54 PPB** (2016 beer production year)
- Contracting rates remain high, although they decreased from 96% to **89%** overall, and from 89% to **71%** among brewers under 2,500 bbls
- Shifts in top ten varieties and ttl varieties
- Shortfalls measured In 2017 in different varieties from 2016
- Measured variety “Impact” for the first time

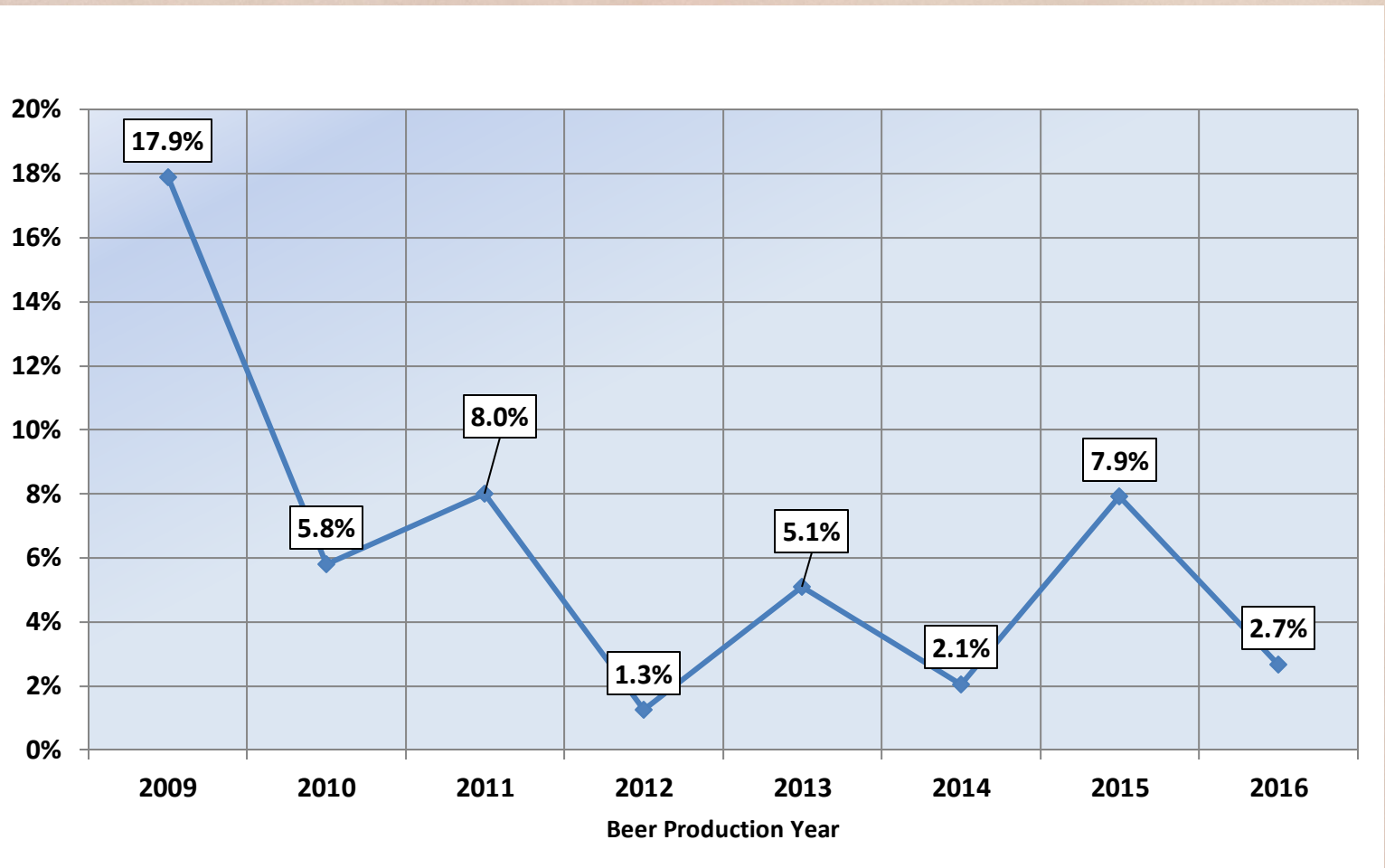


U.S. Craft Beer Hopping Rates



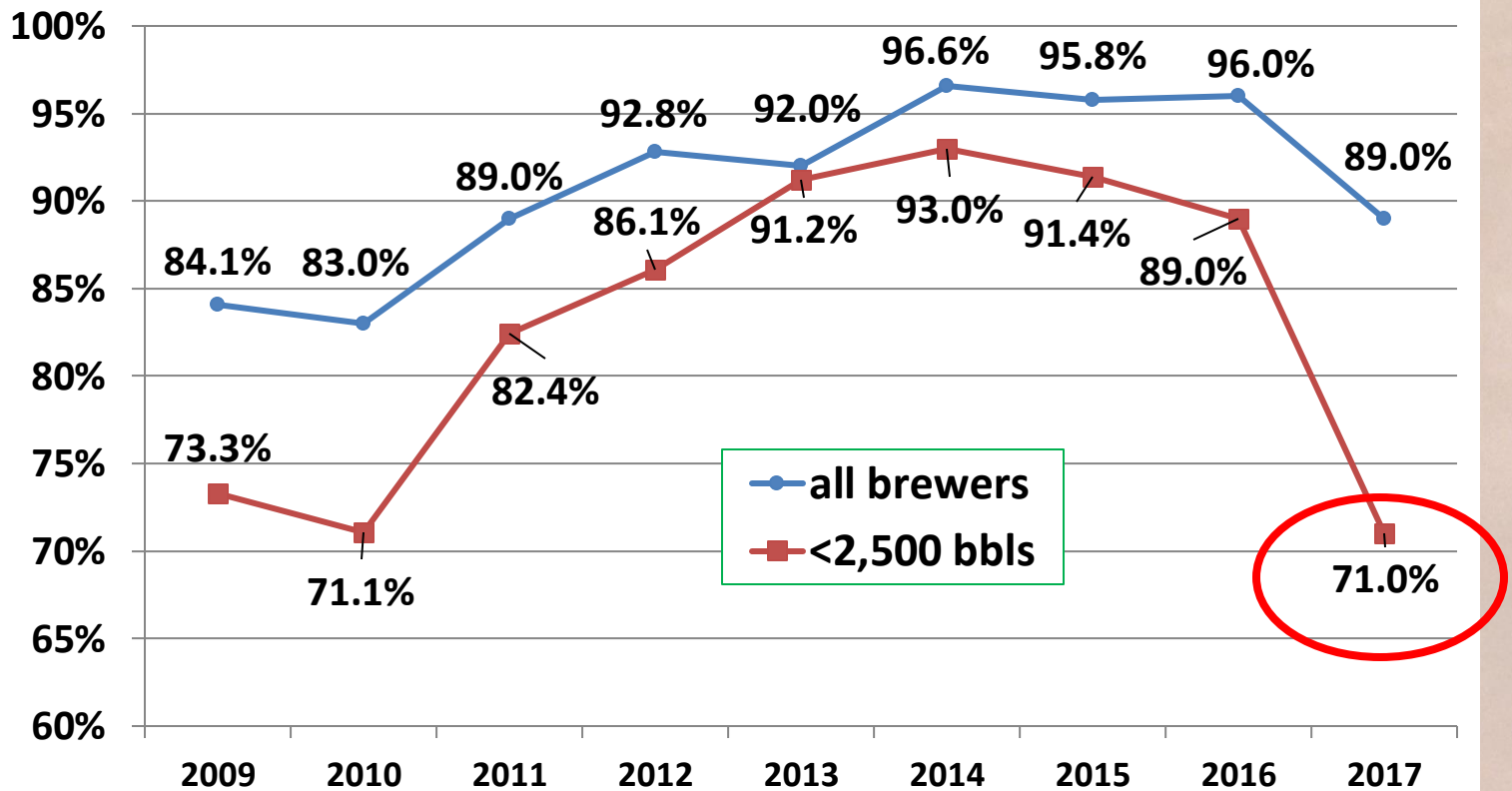


YOY Change in Hop Usage Rates (pounds per bbl)





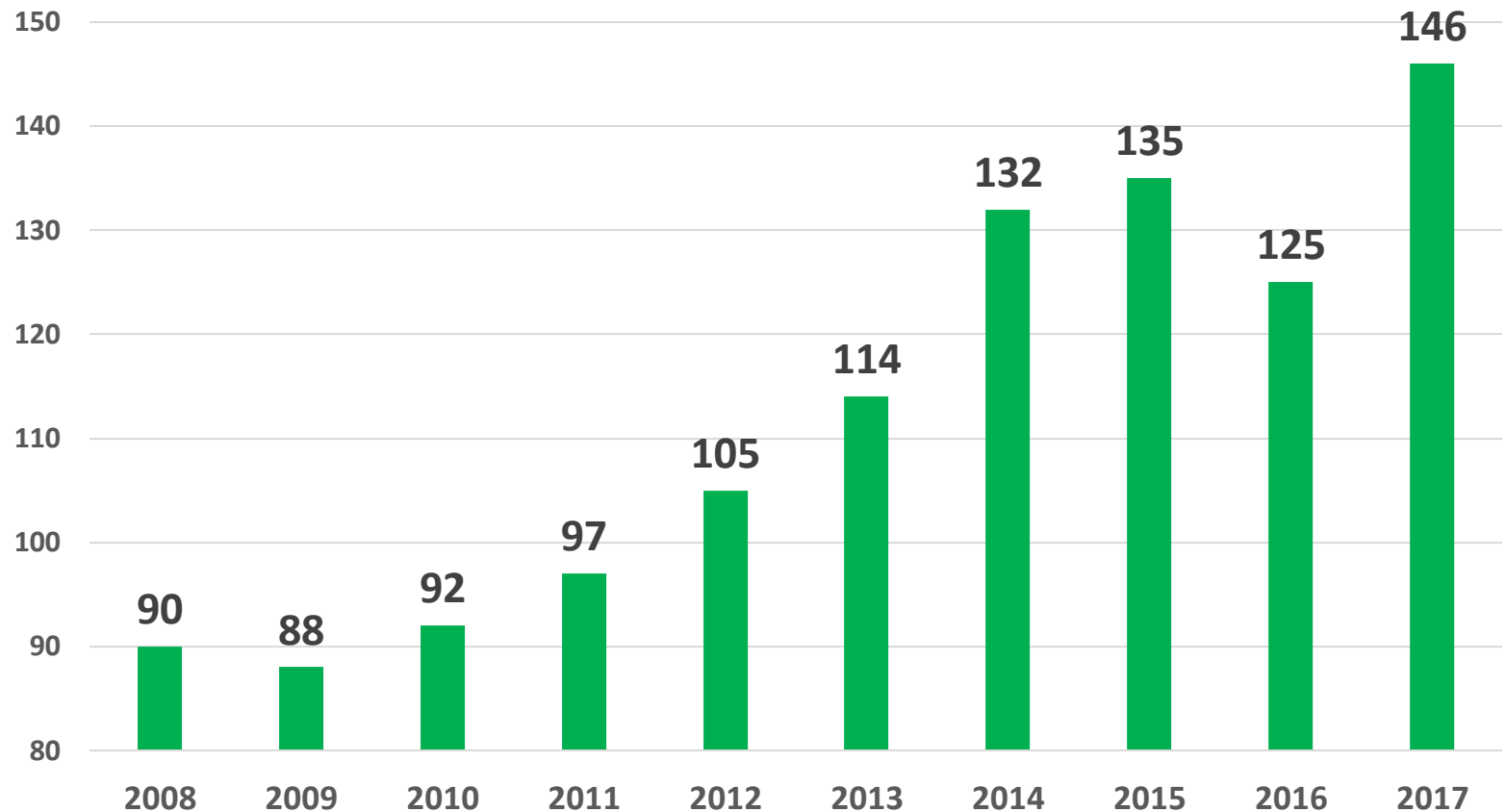
Contracting Rates By Brewer Volume





Varieties Drive Volume Growth

Total Number of Varieties Used By U.S. Craft Brewers
(Survey Year)



Craft Brewer Hop Usage

Top Ten Varieties

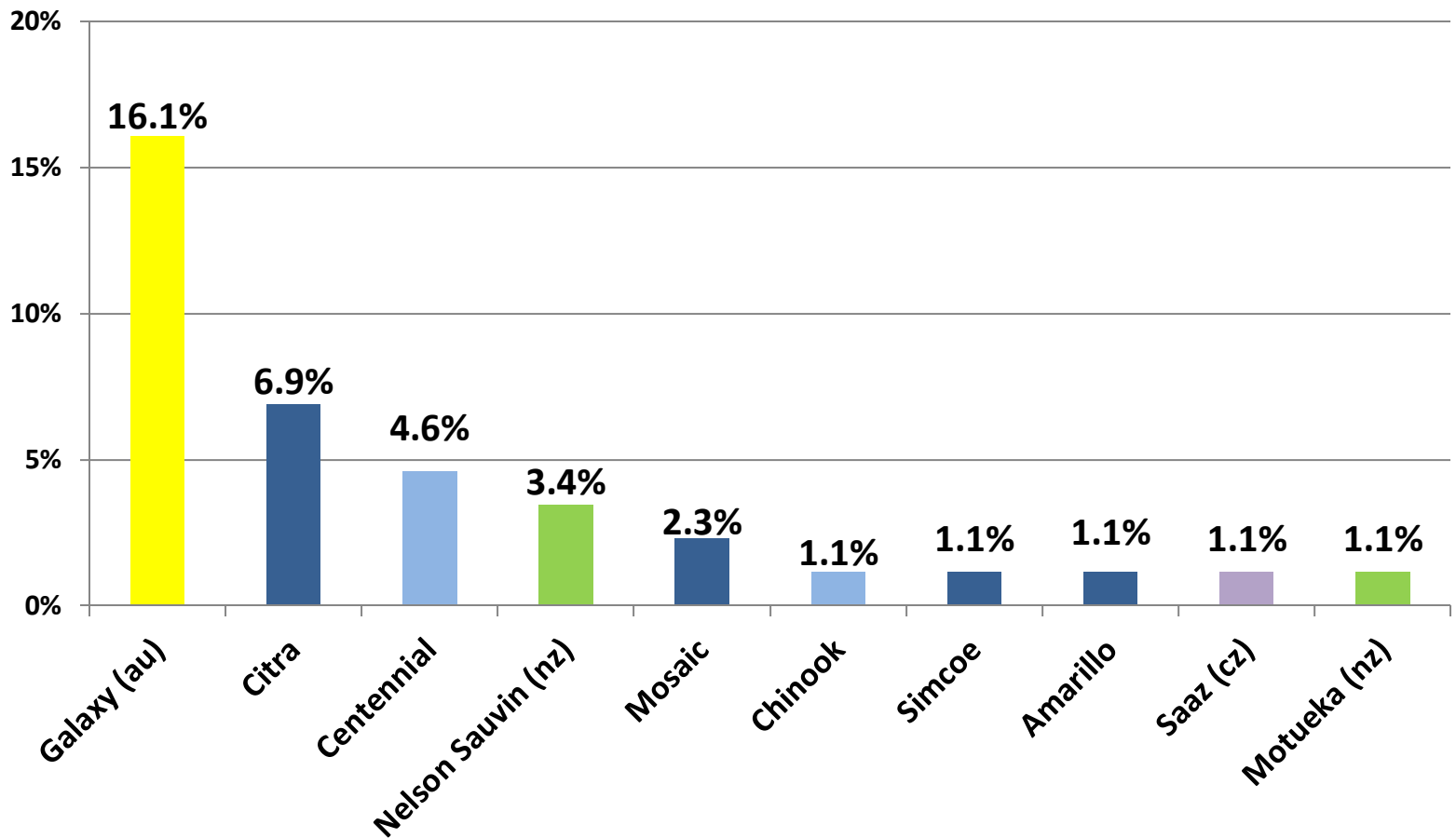
| 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|------------|------------|------------|-----------------|-----------------|--------------|
| 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Cascade | Cascade | Cascade | Cascade | Cascade | Cascade |
| Centennial | Centennial | Centennial | Centennial | Centennial | Centennial |
| Chinook | Chinook | Simcoe | Chinook | Chinook | Chinook |
| Willamette | CTZ | Chinook | Simcoe | Simcoe | Simcoe |
| Simcoe | Simcoe | CTZ | Citra | Citra | Crystal |
| CTZ | Amarillo | Amarillo | Hall Mitt (Ger) | Amarillo | Citra |
| US Golding | Crystal | Crystal | Amarillo | Mosaic | Nugget |
| Crystal | Willamette | Willamette | Crystal | Crystal | Amarillo |
| Amarillo | Saaz (CZ) | Citra | Magnum (Ger) | Hall Mitt (Ger) | Mosaic |
| Ahtanum | US Golding | Saaz (CZ) | CTZ | CTZ | Magnum (Ger) |



Shortfall By Brewers

2016 Beer Production Year

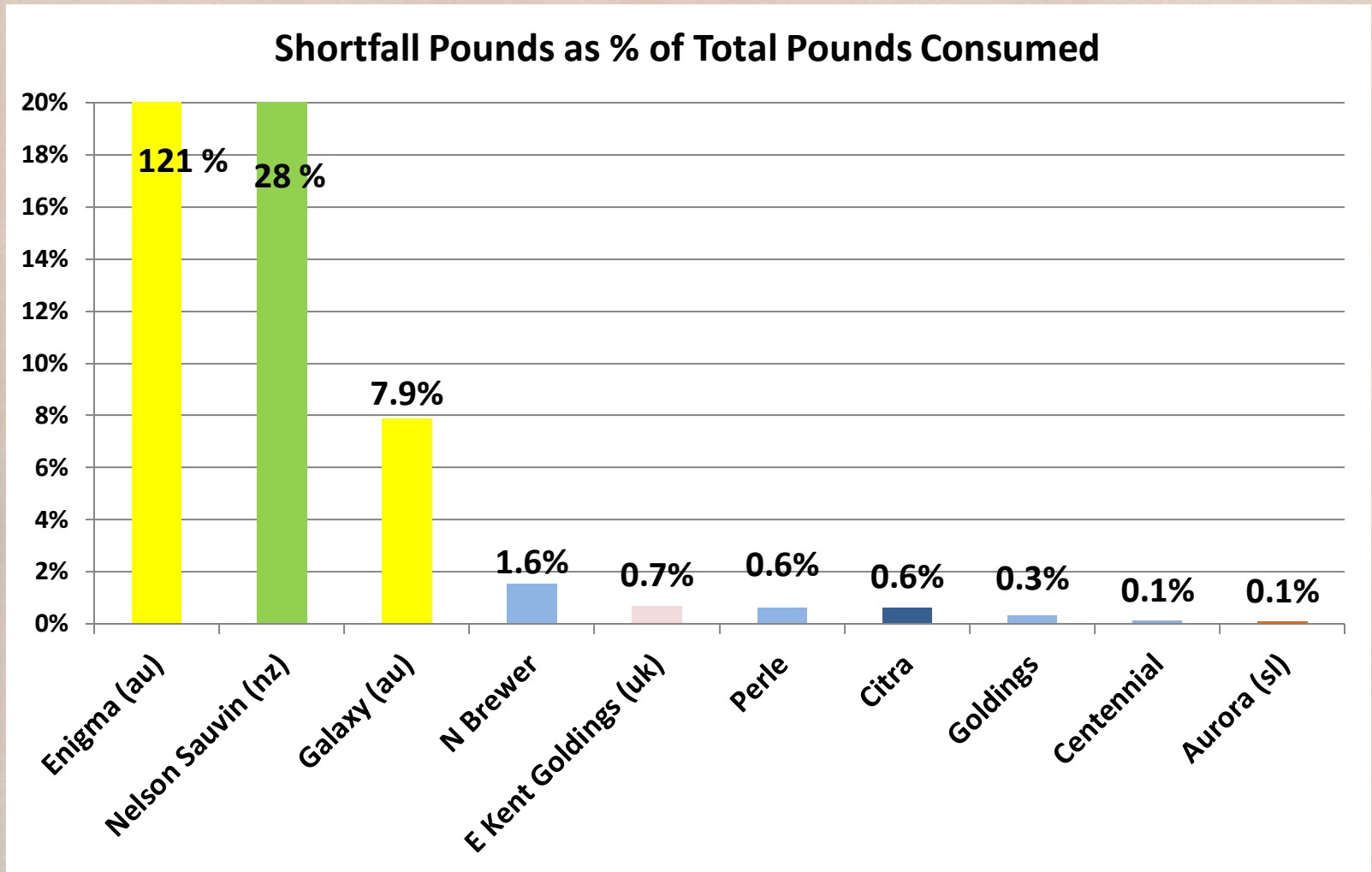
% of Respondents Reporting Shortfall in Variety 2016





Shortfall By Gap Size

2016 Beer Production Year

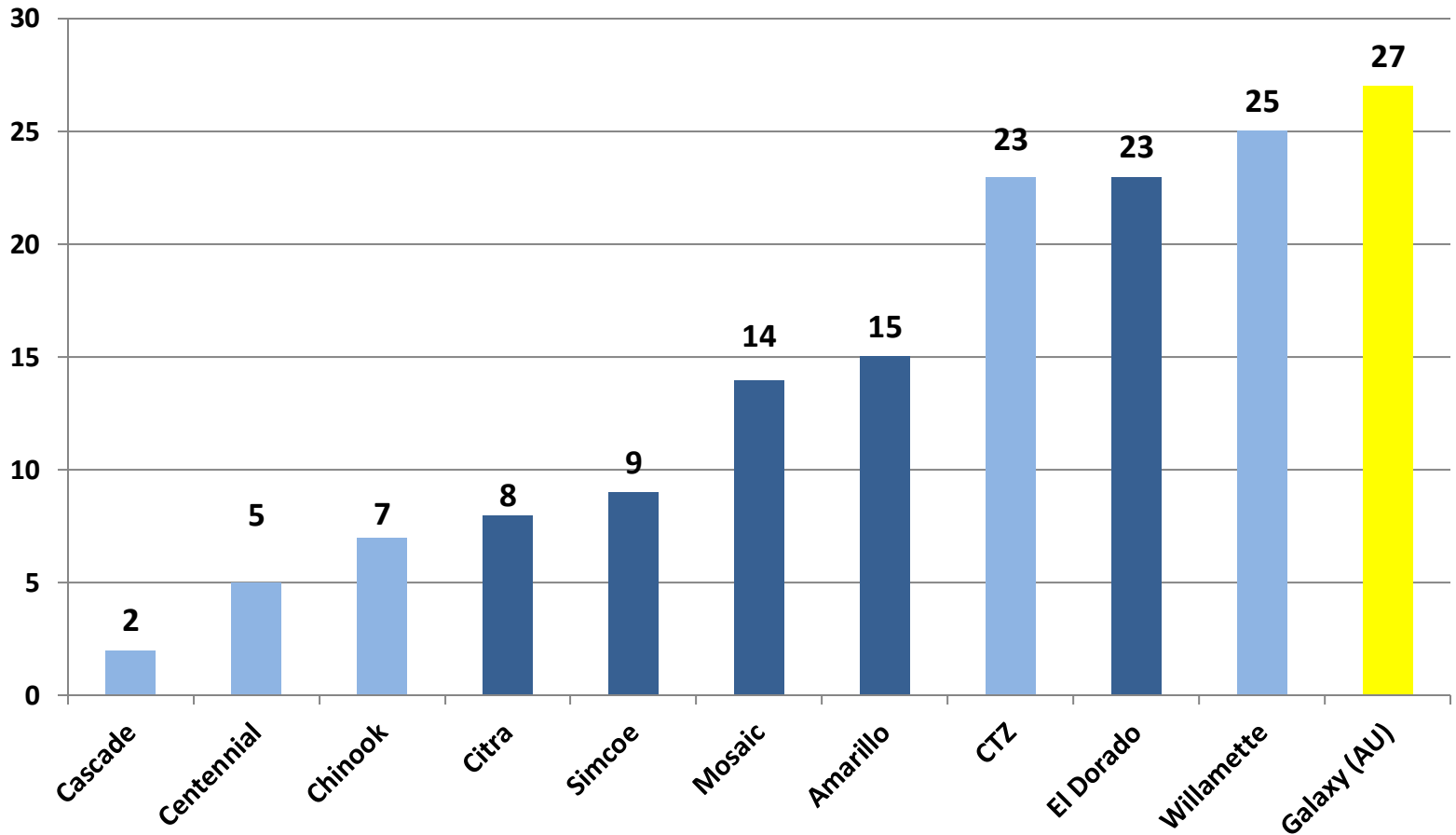




Impact By Variety

2016 Beer Production Year

Impact = pounds rank + use frequency rank





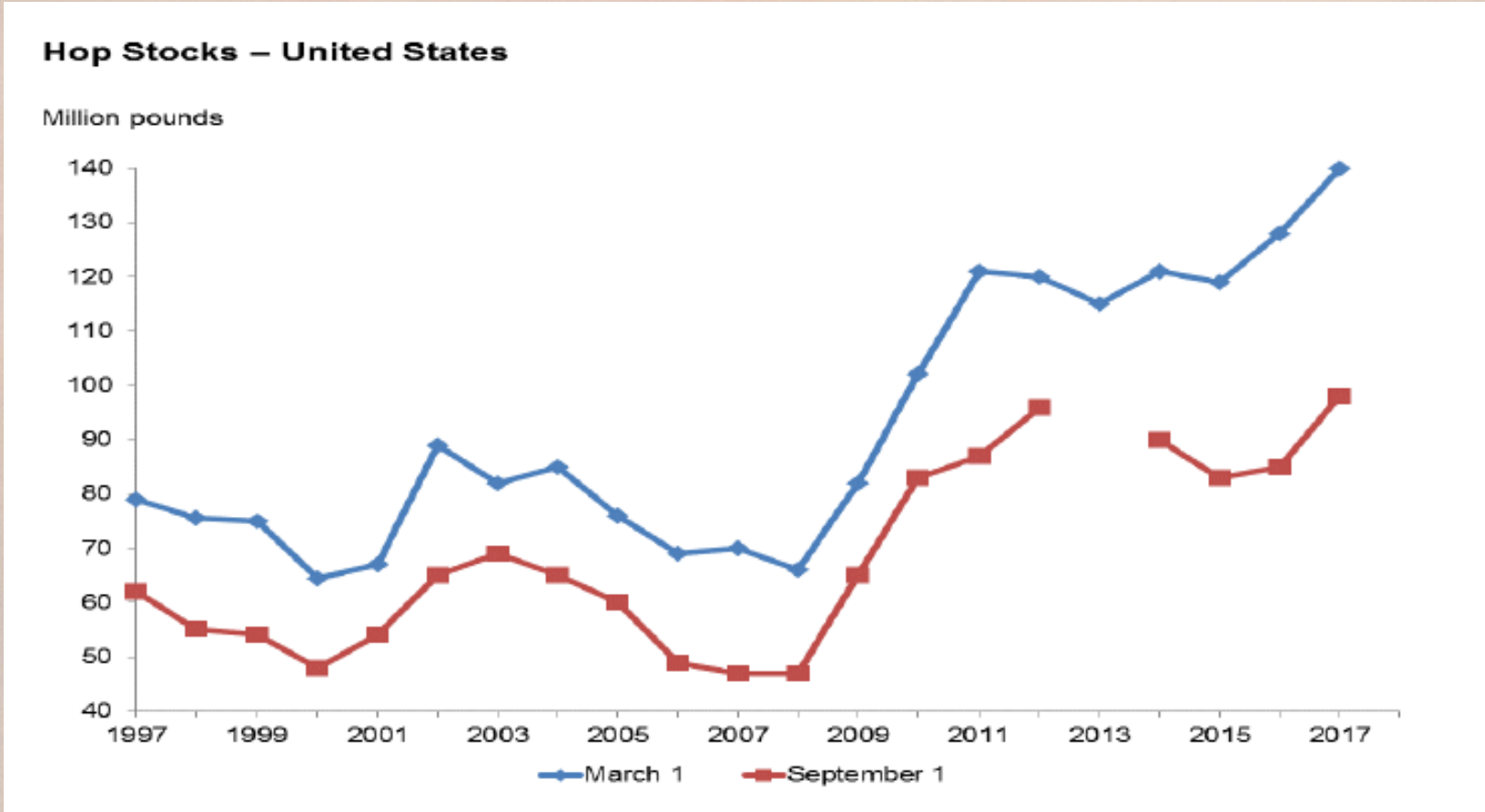
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Definitions and Assumptions

- **Each Crop lasts one year, starting in September and ending at the end of the following August**
- **September stocks represent “Carryout” of previous year crop**
- **Treat inventories on an accrual or running basis**
- **Controlling stocks for crop size is crucial**

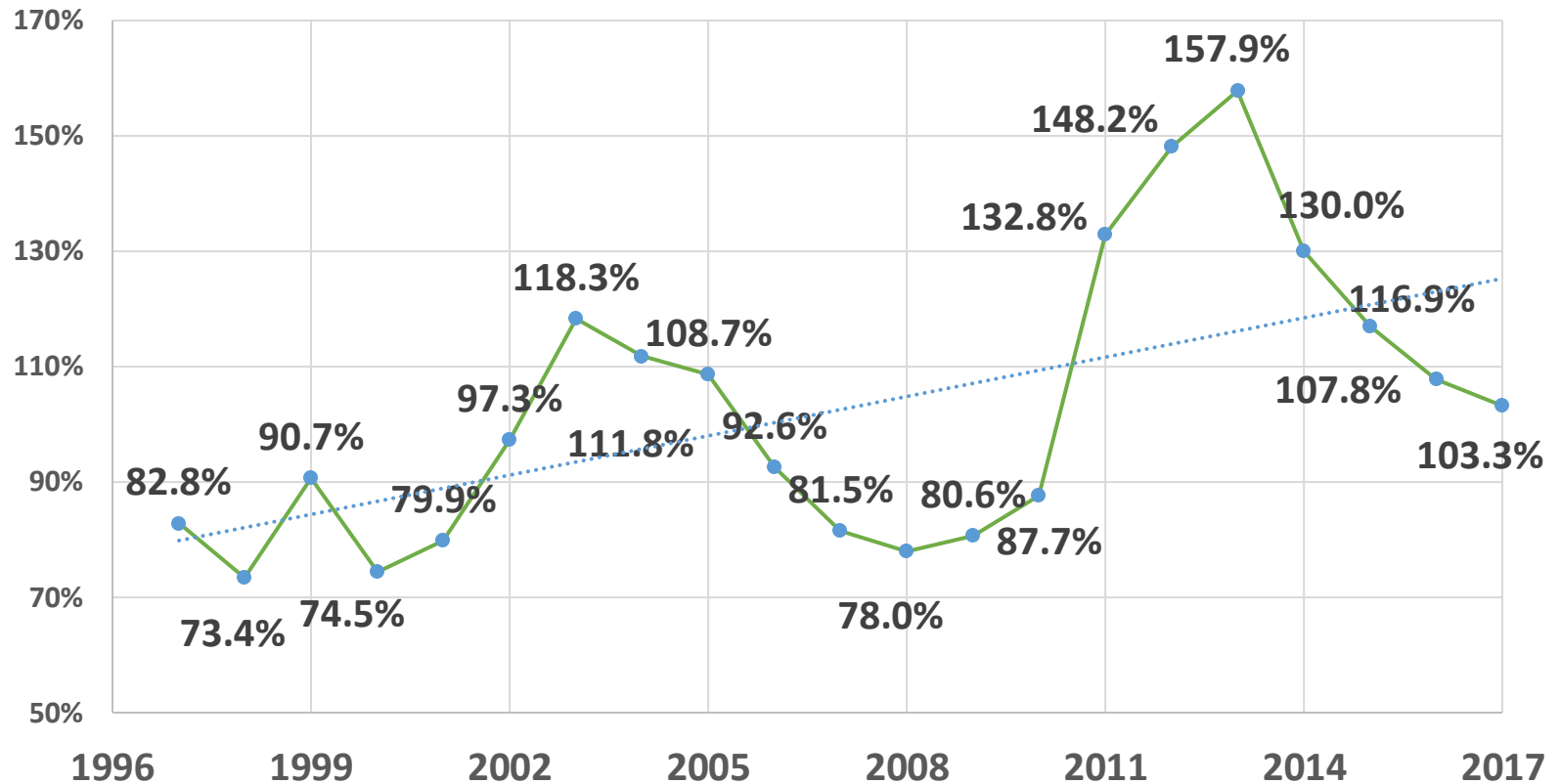
U.S. Hop Stocks Analysis



USDA-NASS September 2017 Hop Stocks Report

U.S. Hop Stocks Analysis

September Total Stocks as Proportion of Prior Year Crop Pounds

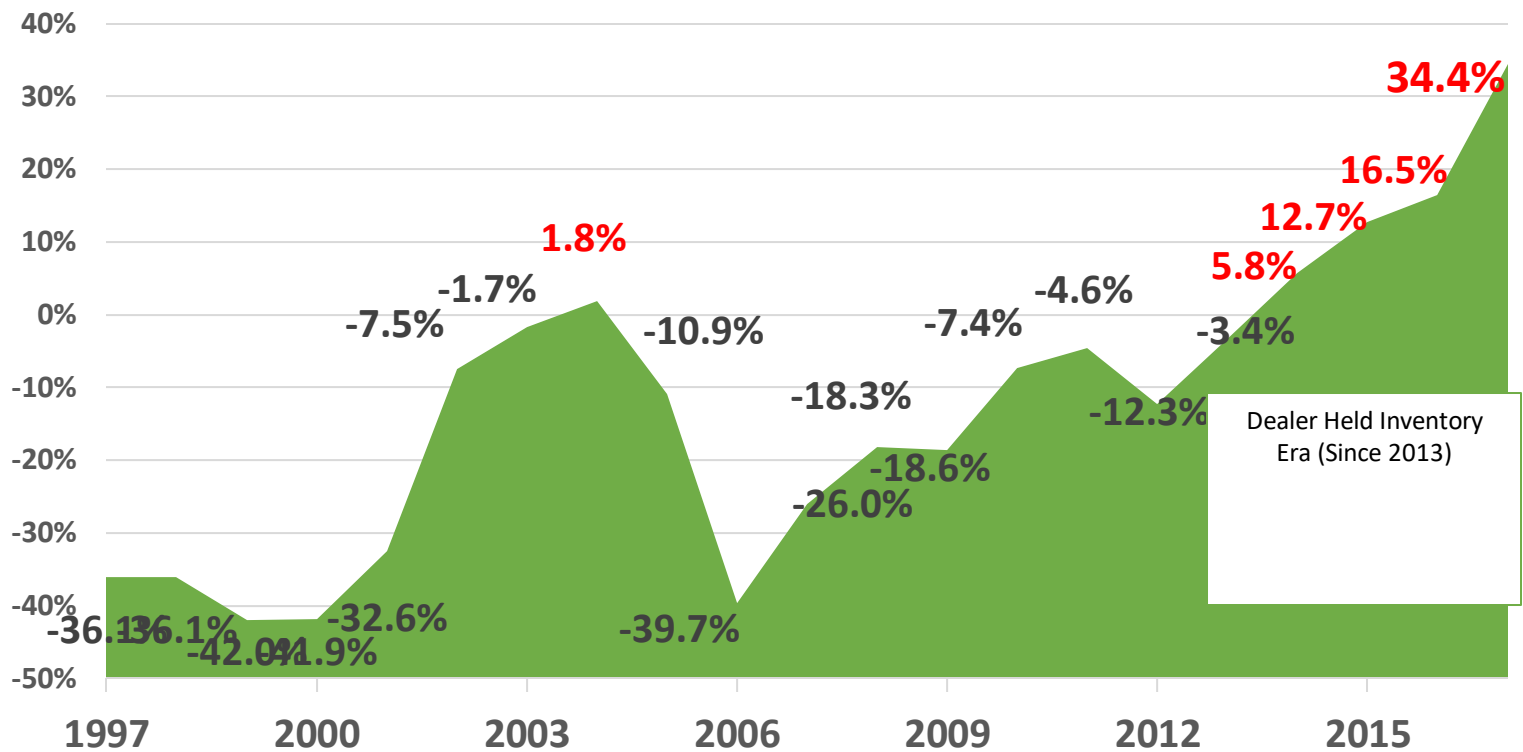


Data from USDA-NASS September 2017 Hop Stocks Report



U.S. Hop Stocks Analysis

September Dealer & Grower Stocks Less Brewer Stocks As A Proportion of Prior Year Crop



Data from USDA-NASS September 2017 Hop Stocks Report



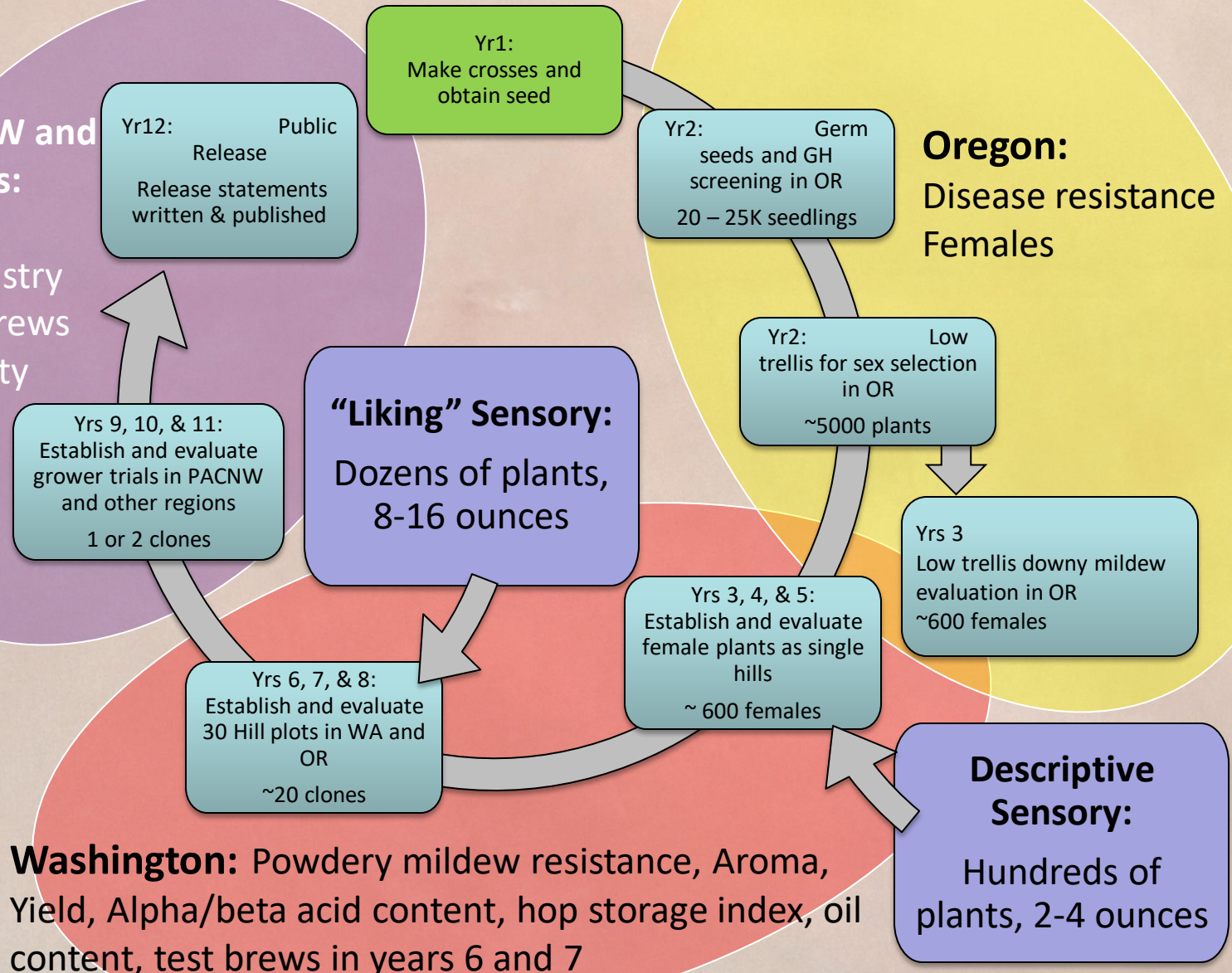
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USDA Public Breeding

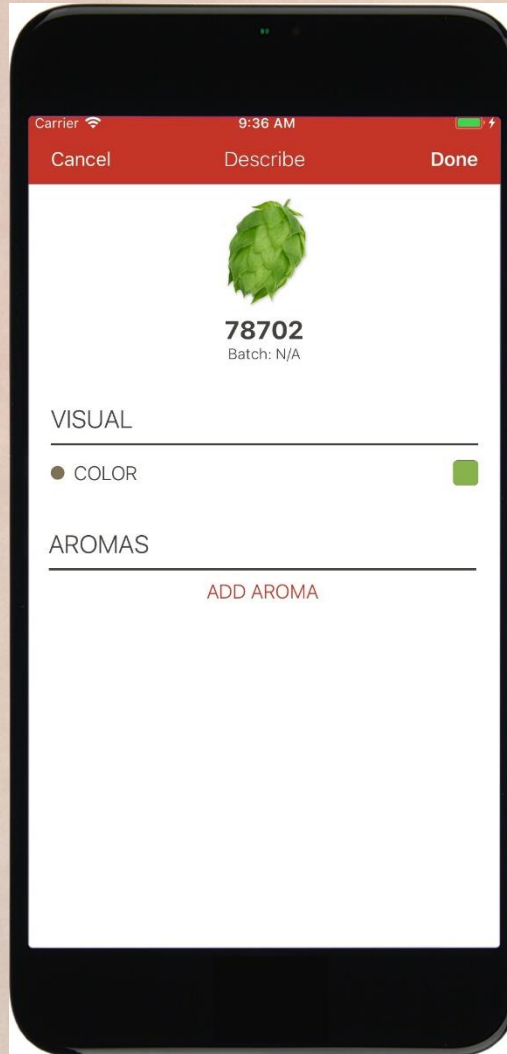
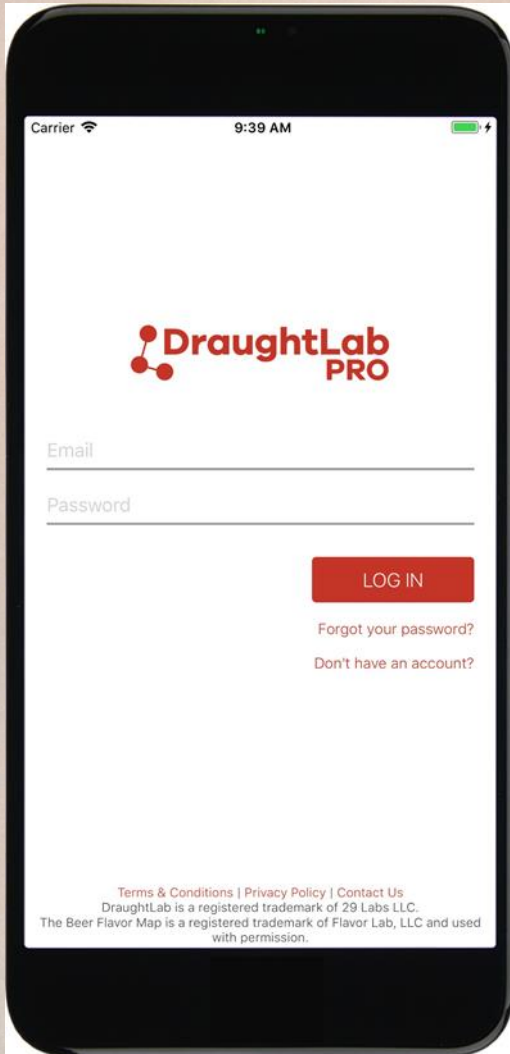
PACNW and Others:
Yield
Chemistry
Test brews
Stability

Oregon:
Disease resistance
Females

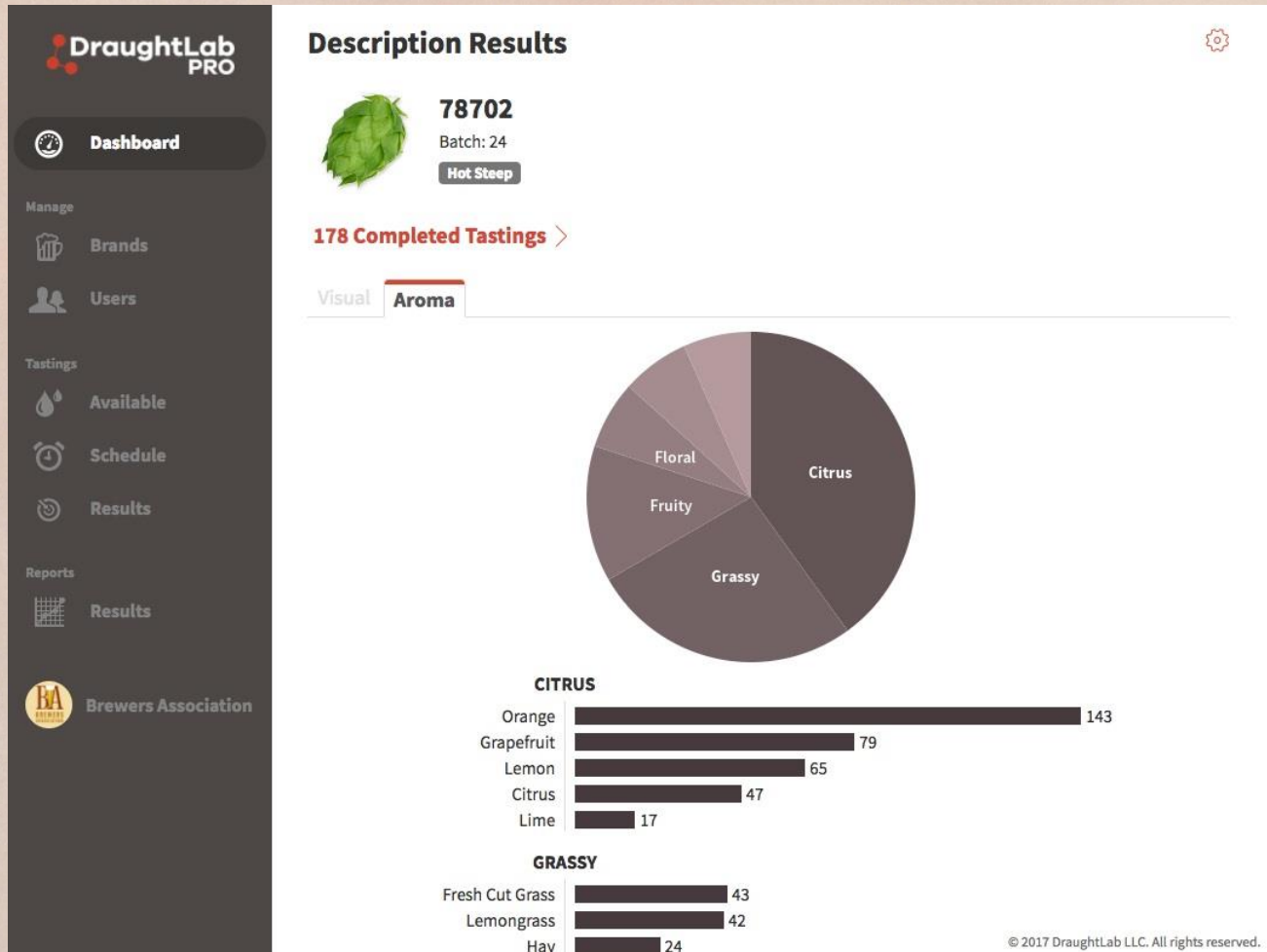




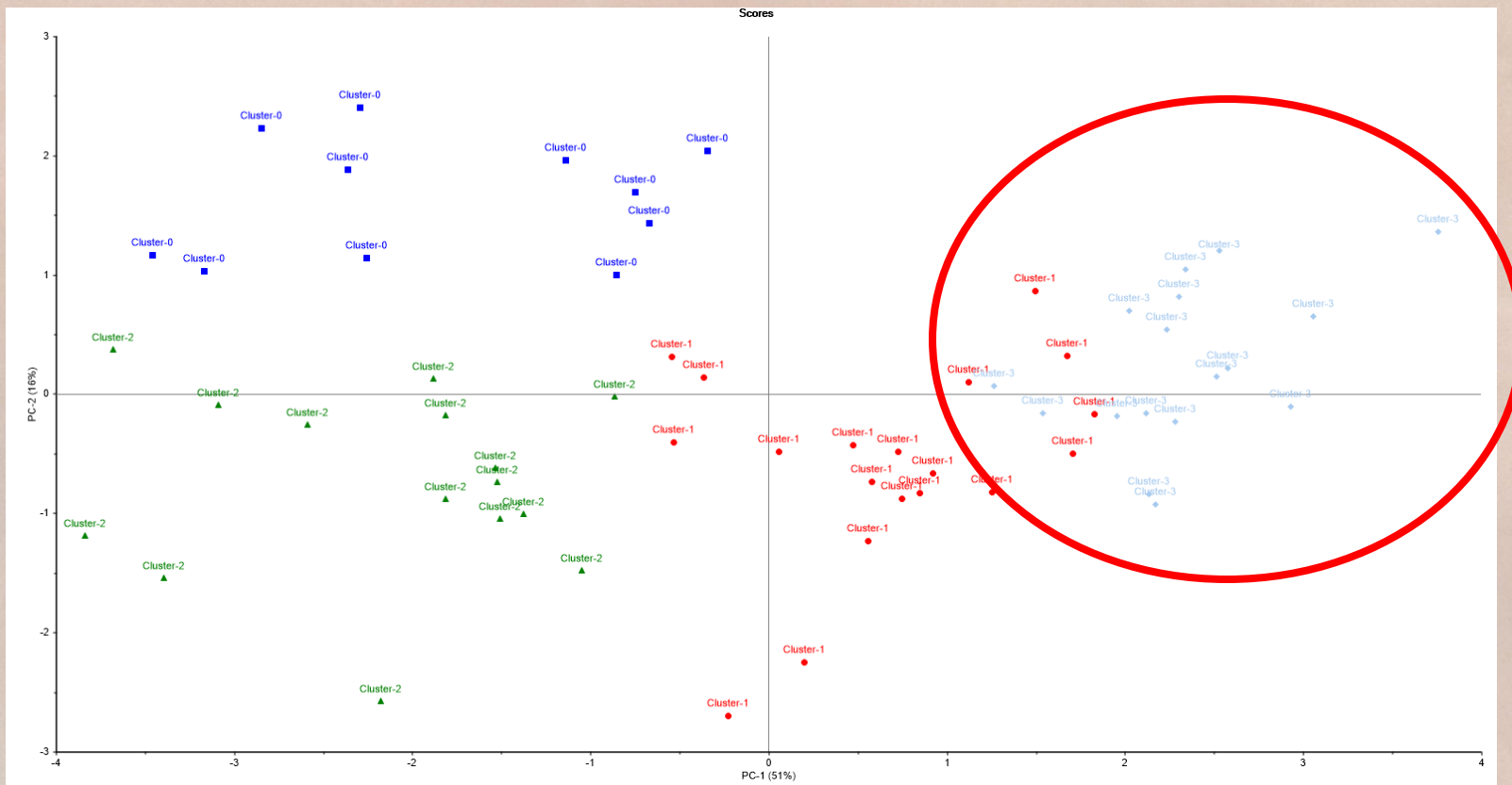
Public Breeding Sensory Evaluation: September 24-28, Yakima



Sensory Tools: Descriptive Single Hill Lines => Advanced Lines

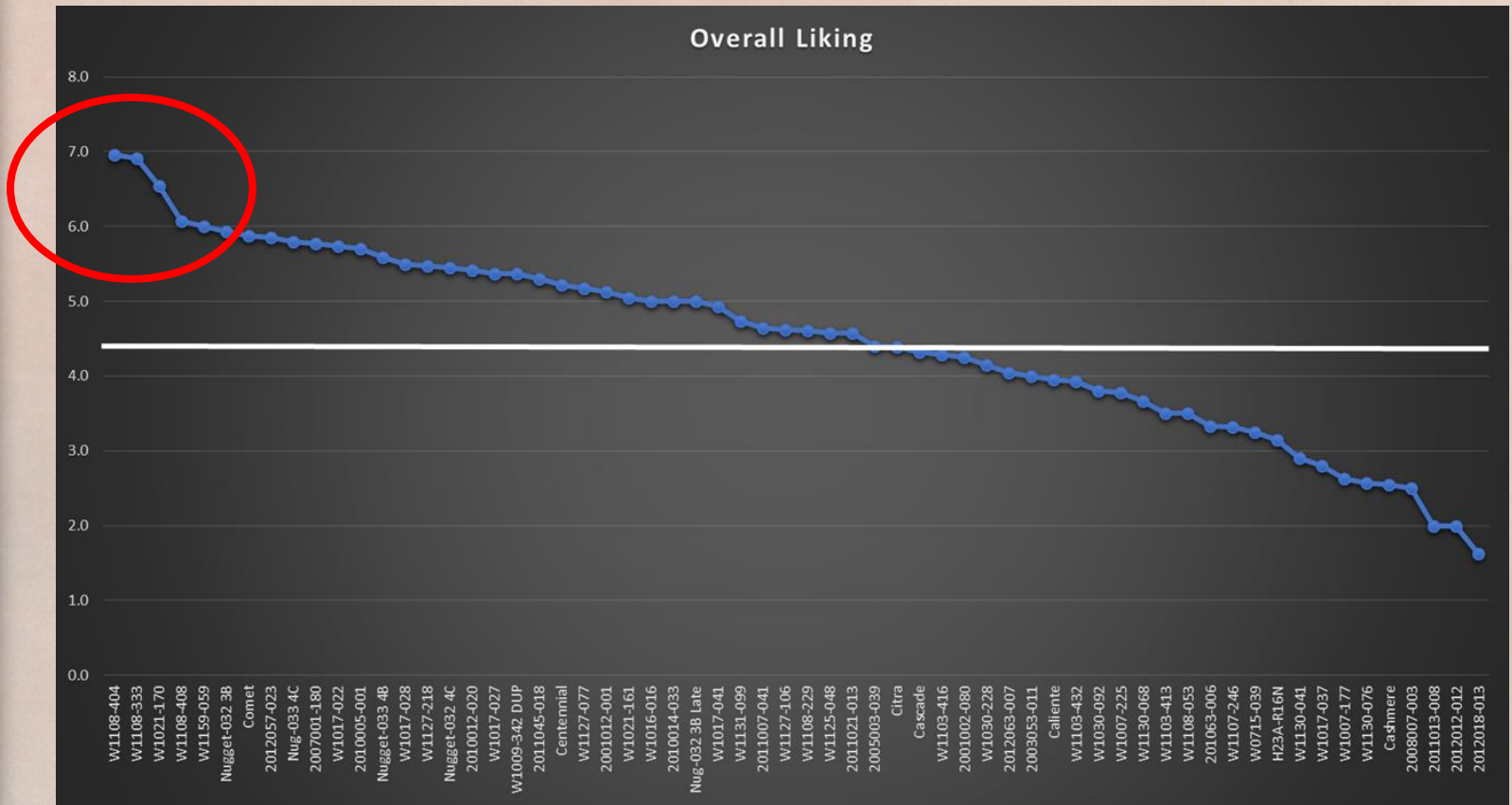


Sensory Tools: Descriptive Sensory PC => Liking



Sensory Evaluation: Brewer Liking

Advanced Lines => Elite Lines





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Hop Industry Federal Affairs 2017



Diane Gooding (ID) at U.S. Capital



**Alex Barth and BA Fed Affairs Manager
Katie Marisic rubbing hops at Small
Brewers Caucus event**



Hop Industry Federal Affairs 2017

Congress of the United States

Washington, DC 20515

April 4, 2017

The Honorable Robert Aderholt
Chairman
Subcommittee on Agriculture, Rural Development, Food and Drug Administration and Related Agencies
2362-A Rayburn House Office Building
Washington, D.C. 20515-6016

The Honorable Sanford Bishop
Ranking Member
Subcommittee on Agriculture, Rural Development, Food and Drug Administration and Related Agencies
2407 Rayburn House Office Building
Washington, DC 20515-6016

Dear Chairman Aderholt and Ranking Member Bishop:

As you consider the Fiscal Year 2018 Agriculture Appropriations bill, we write to express our strong support for an additional \$1,000,000 to the current \$802,219 appropriated amount for hops-related research in the United States Department of Agriculture's Agricultural Research Service (ARS).

The brewing industry has been a model of U.S. economic growth over the past decade. Sustaining nearly 2 million U.S. jobs, it represents an American manufacturing success story that is fueled by farms. The industry has boosted domestic sales and exports, and supports a growing supply chain of U.S. farmers, manufacturers, wholesalers and retailers – specifically through the emergence of craft brewing. **U.S. hop cultivation is central to this success story and we request support for increased funding for USDA-ARS hop-related research.**



Hop Industry Federal Affairs 2018

Dates: March 7 – 9, 2018

Participants self-funded:

- **Brewers Large & Small**
- **Dealers**
- **Growers / Commissions**

Activities:

- **Small Brewers Caucus Event**
- **Office Visits to Secure Funding,
Ag & Regulatory Policy**

Conclusions and Looking Ahead

- **2017 Craft volume rose ~5-6% to ~25 MM bbls**
- **Craft hopping rates rates grew 2.7% to 1.54 ppb in 2016**
- **U.S. craft brewers use 83% U.S. grown hops**
- **Innovation in varieties continues to drive beer sales**
- **Galaxy (AU) is very important to U.S. craft brewers**
- **USDA public breeding will get a boost in 2018 and beyond, will need additional funders**
- **Hop Industry investing effort to achieve favorable federal outcomes**



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