BREWERS ASSOCIATION

www.brewersassociation.org

Words To Live By For 2017

"I just listened to that inner voice. By the way, it's always a good move to listen to that inner voice... if it doesn't lead to a crime."

- Lisa Kudrow

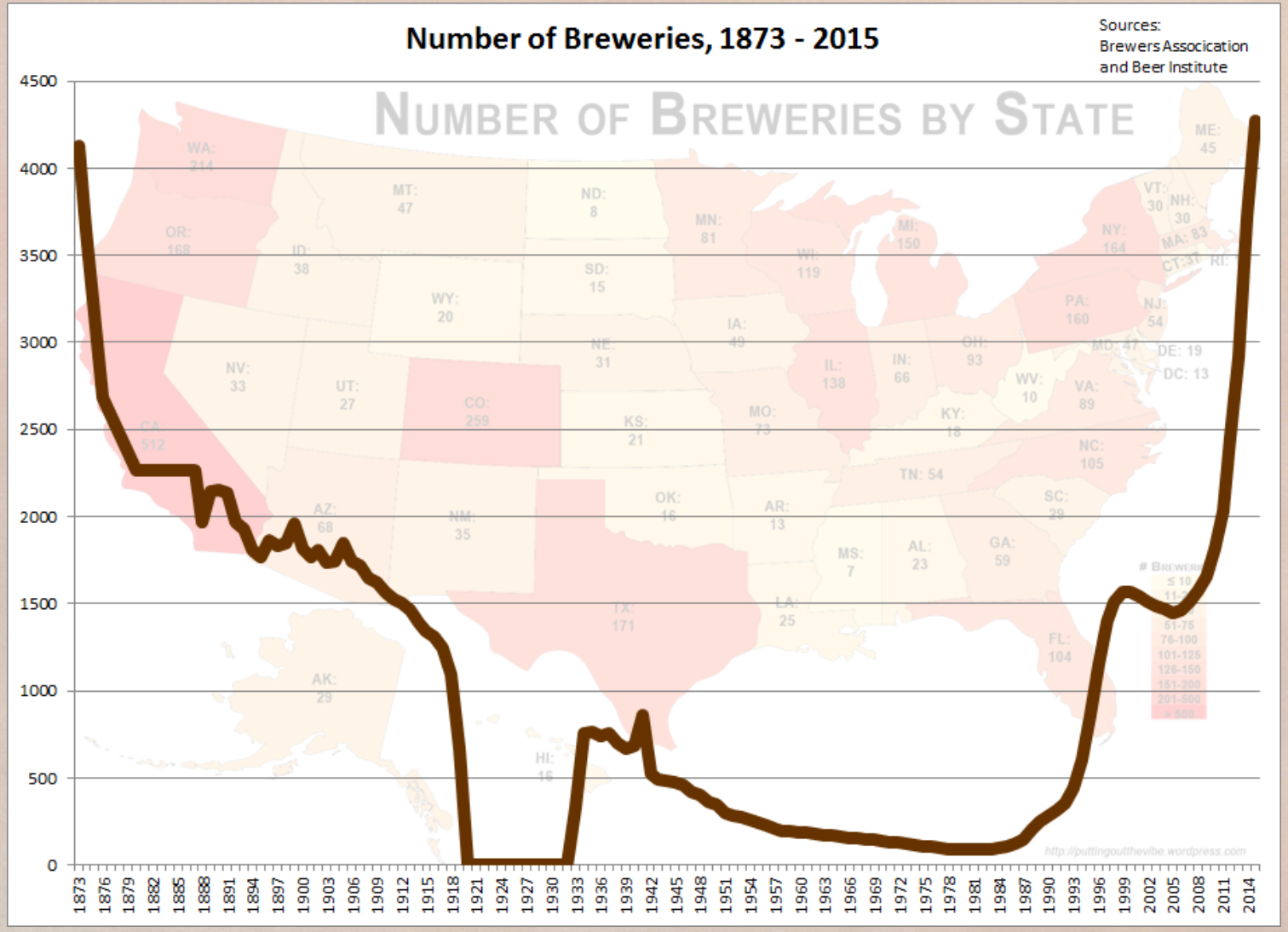
Objectives

- Brewing & Hop Industry Updates
- Annual BA Hop Survey Results
- Hop Stocks Reports Analysis (new for 2017)
- Review 2016 pound and acre forecasts & project 2017 pound and acre needs relative to inventory and net exports

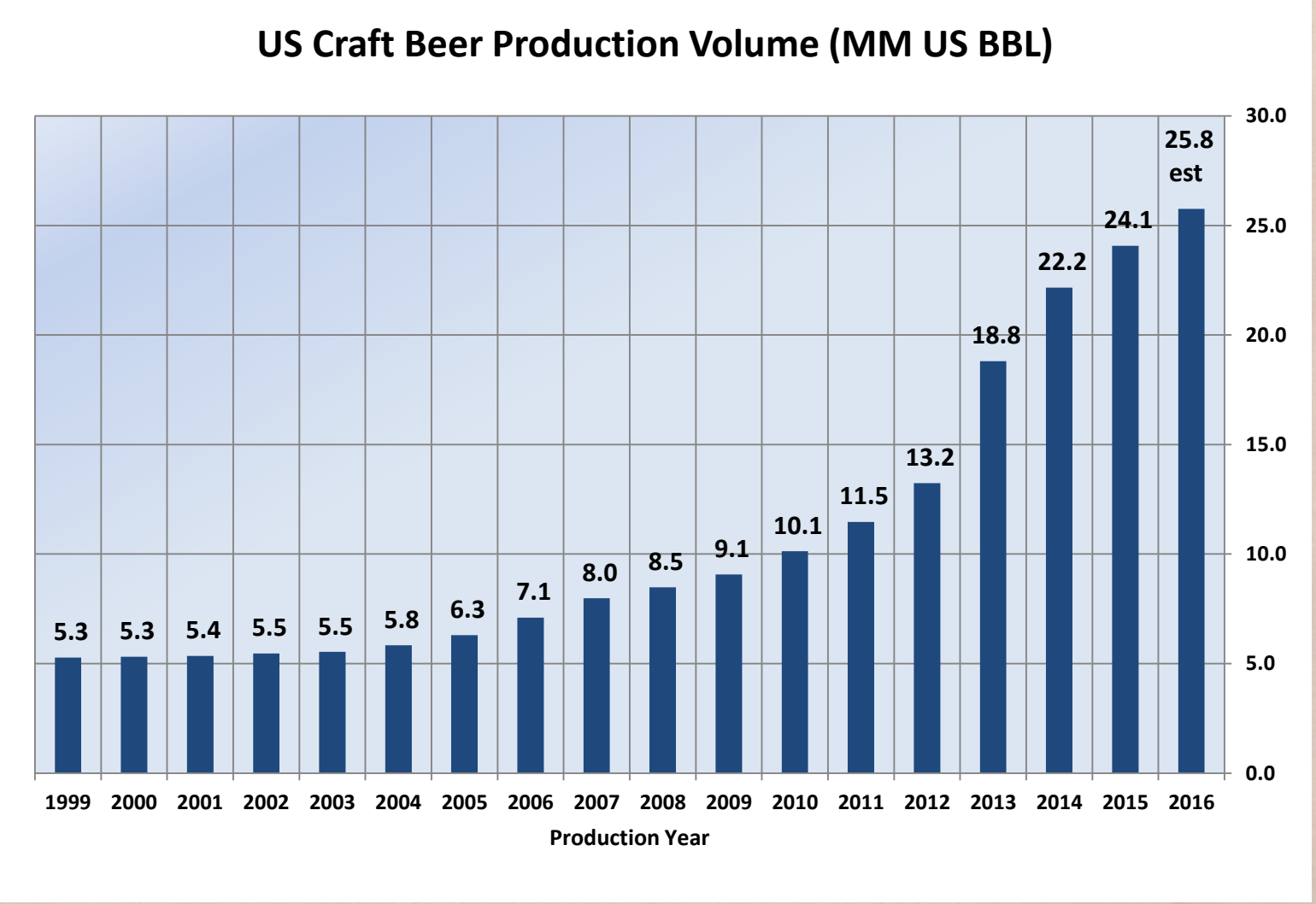
2016 U.S. Brewing Industry Update

- Total U.S. beer production volume down ~0.5-1.0%
- Total number of U.S. breweries tops 5,000 for first time ever
- Craft volume growth slowed further to ~<10% to ~25-27 MM barrels total volume
- Craft brewer PPB hopping rates (2015 beer production year) increased significantly from 1.39 to 1.50 pounds per barrel (+7.9%)
- Medium hopping rate brewer rate nudged up from 0.42 to 0.43 pounds per barrel

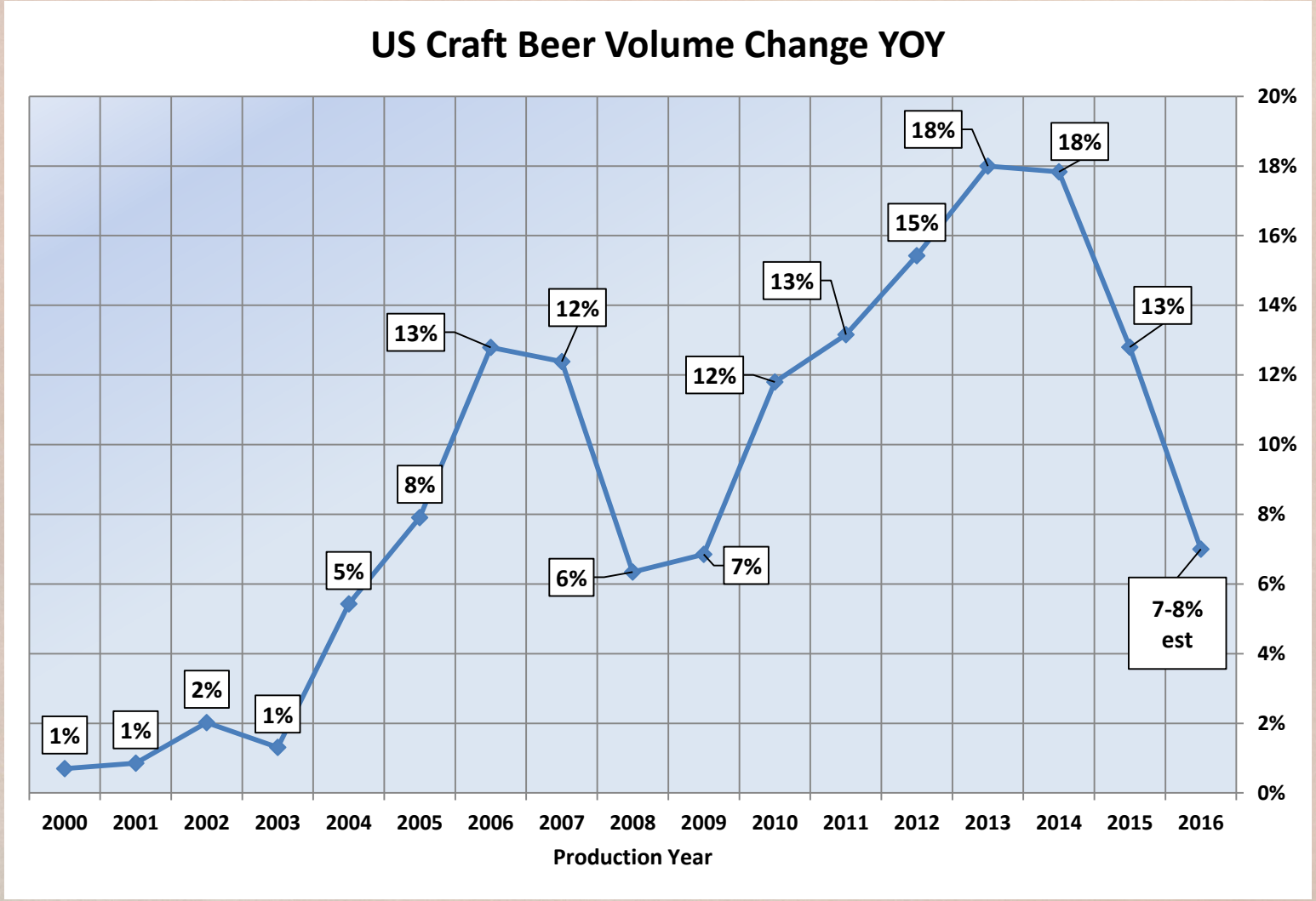
U.S. Brewery Count



Craft Beer Production 2001 - 2016



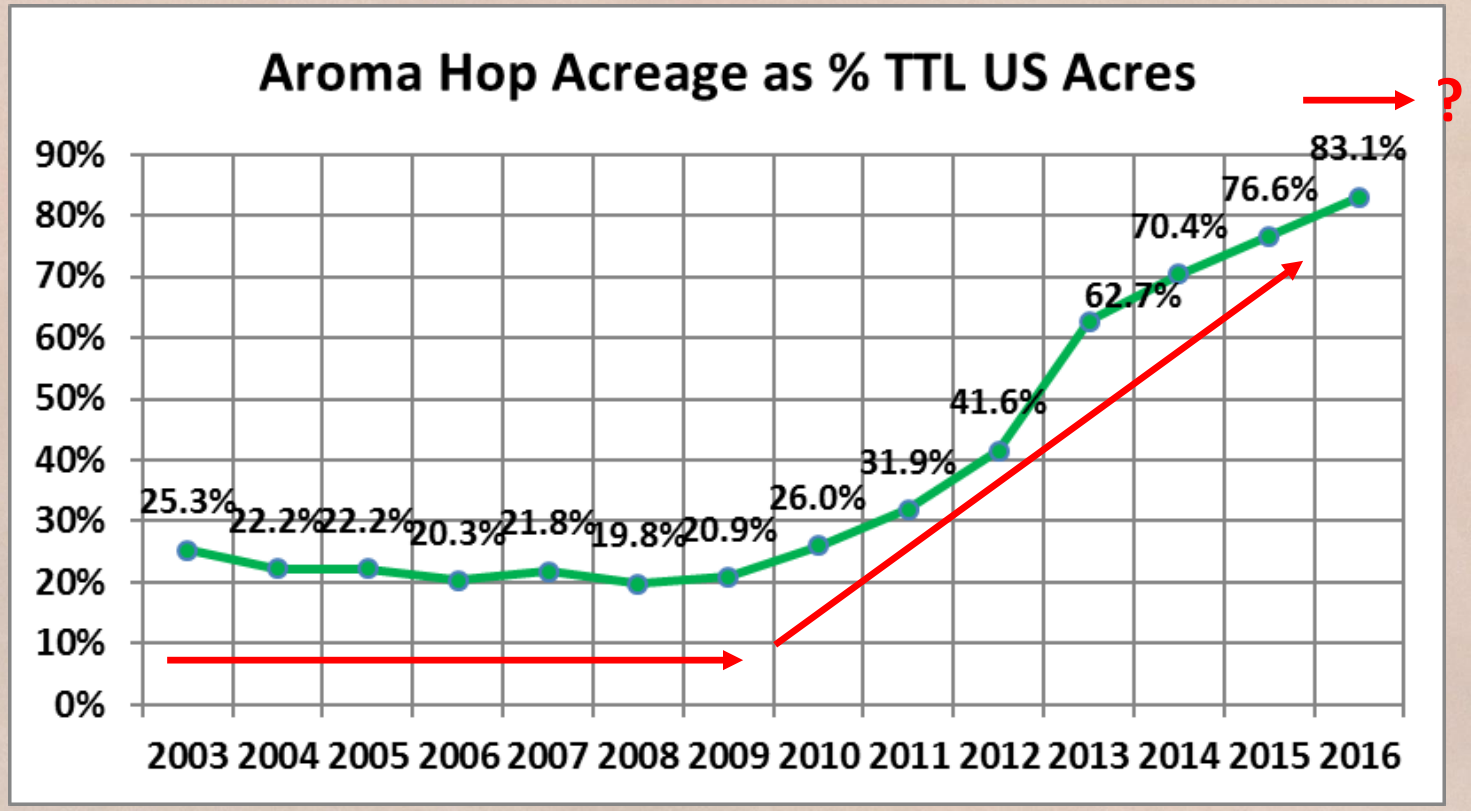
Craft Beer Production % Growth 2002 - 2016



2016 U.S. Hop Industry Update

- Total PacNW (WA, OR, ID) acres increased from 44,900 to 52,100 (+16%)
- Total U.S. production increased from 80.4 MM to 89.0 MM pounds (+10.7%)
- Total U.S. yield decreased from 1810 to 1710 pounds per acre (-5.2%)
- Licensed acres increased from ~9,300 (21% of total ac) to ~13,000 (25% of total ac)

Aroma Hop Acreage



Objectives

- Brewing & Hop Industry Updates
- **Annual BA Hop Survey Results**
- Hop Stocks Reports Analysis (new for 2017)
- Review 2016 pound and acre forecasts & project 2017 pound and acre needs relative to inventory and net exports

BA Member Hop Usage Survey

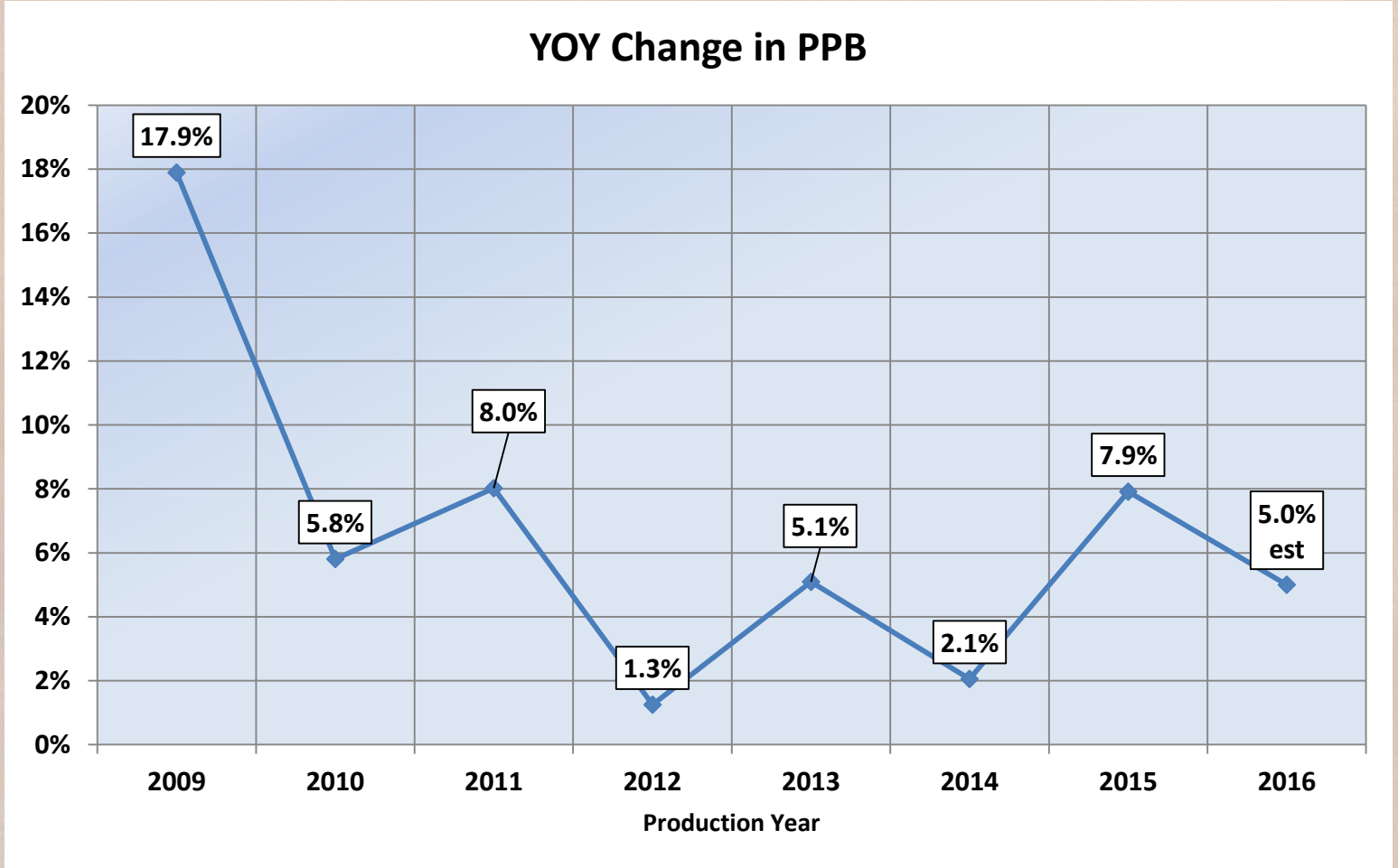
- Annual Survey in July
- Nine Years of Data collected 2008 - 2016
- Look back to production years 2007 – 2015
- Only includes craft volume as defined
- A SURVEY, so the results shown are NOT totals: "Actual Mileage May Vary"

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

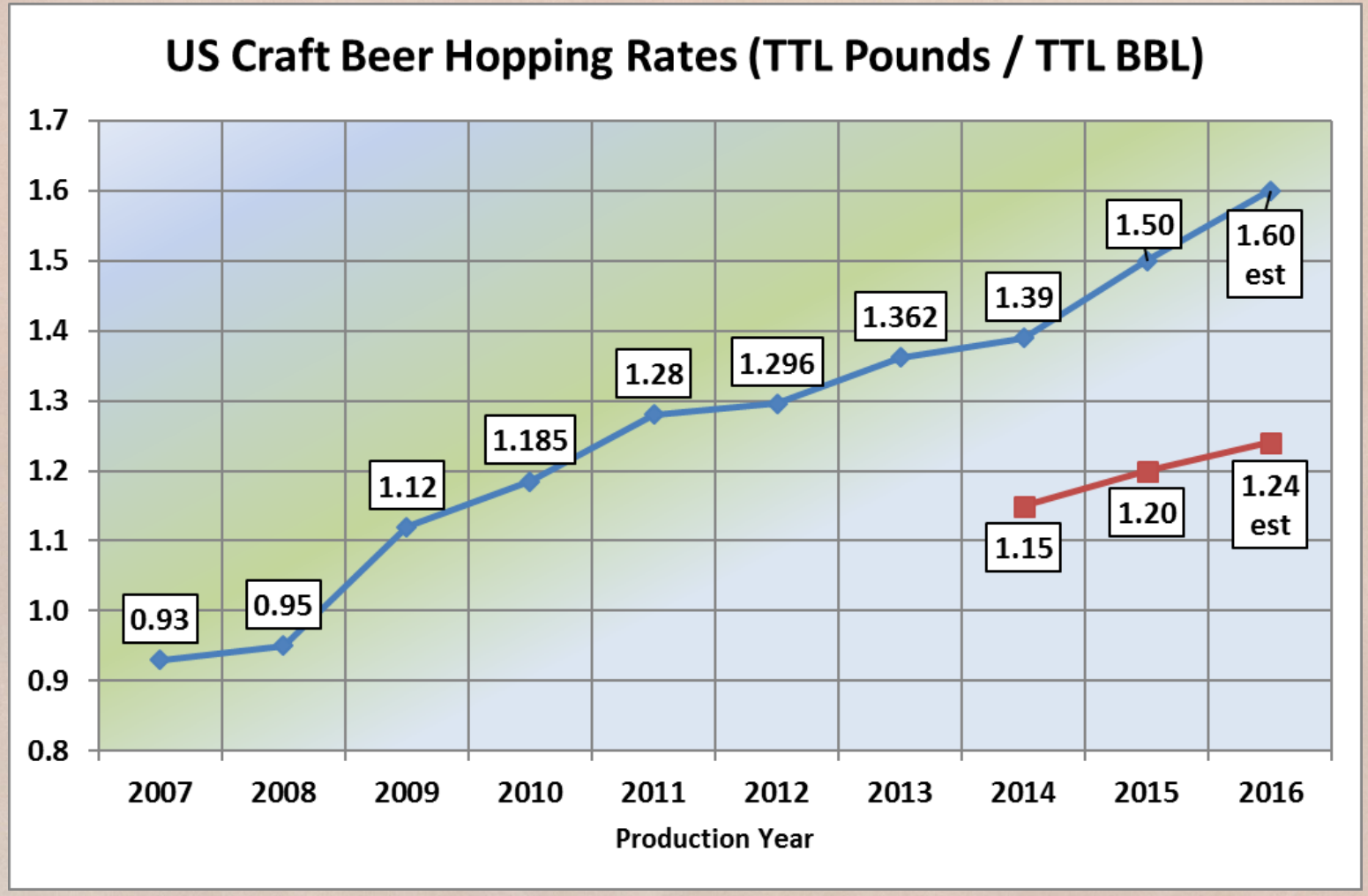
US Brewing & Hop Usage Summary

- Hopping rates measured in ‘16 survey increased +7.9% over ‘15 surveyed rates from 1.39 to 1.50 PPB
- 2016 shortfalls in different varieties from 2015

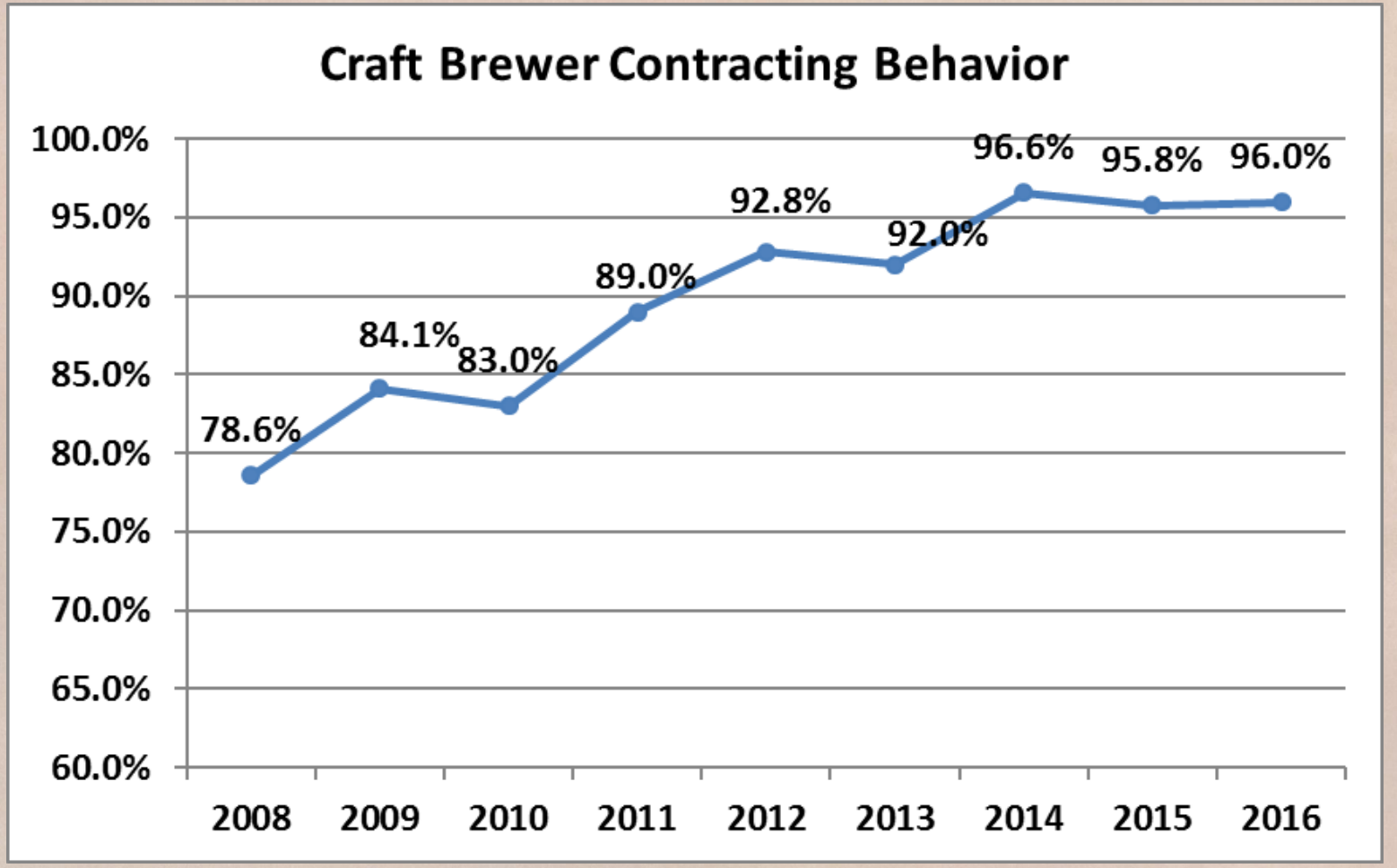
Hopping Rate PPB Change YOY



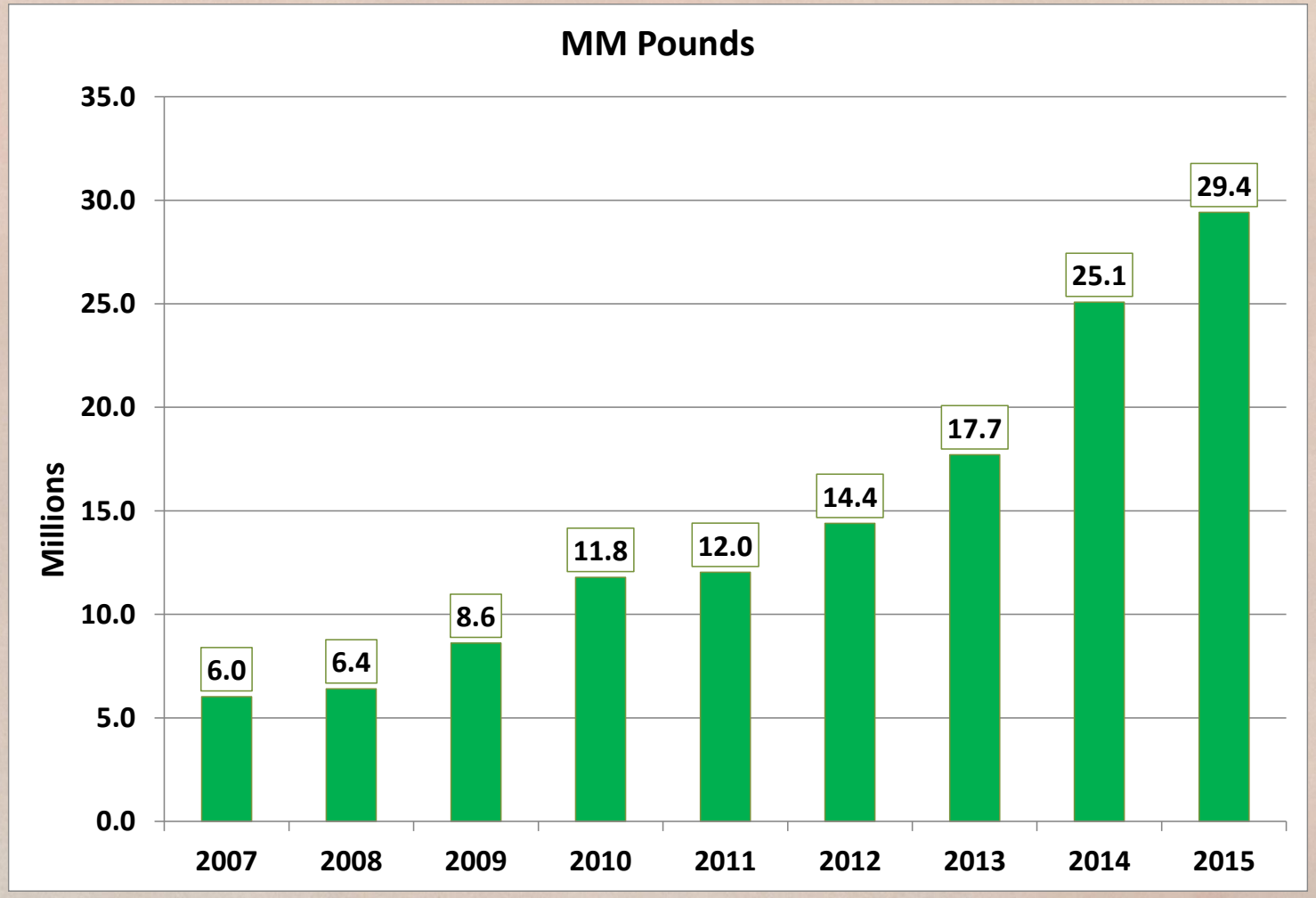
Hopping Rates



Contract Or Die



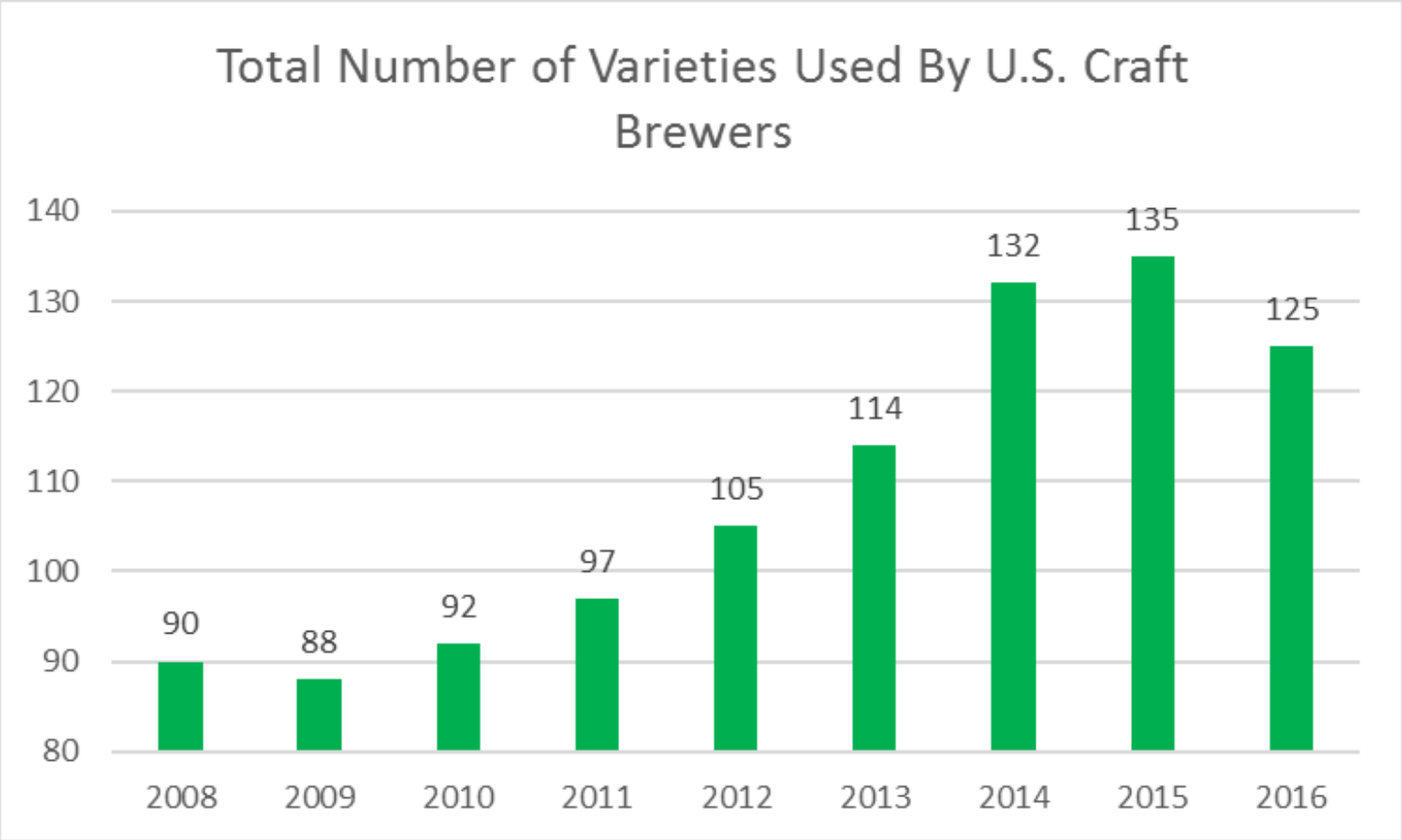
Craft Brewer Hop Usage By Beer Production Year



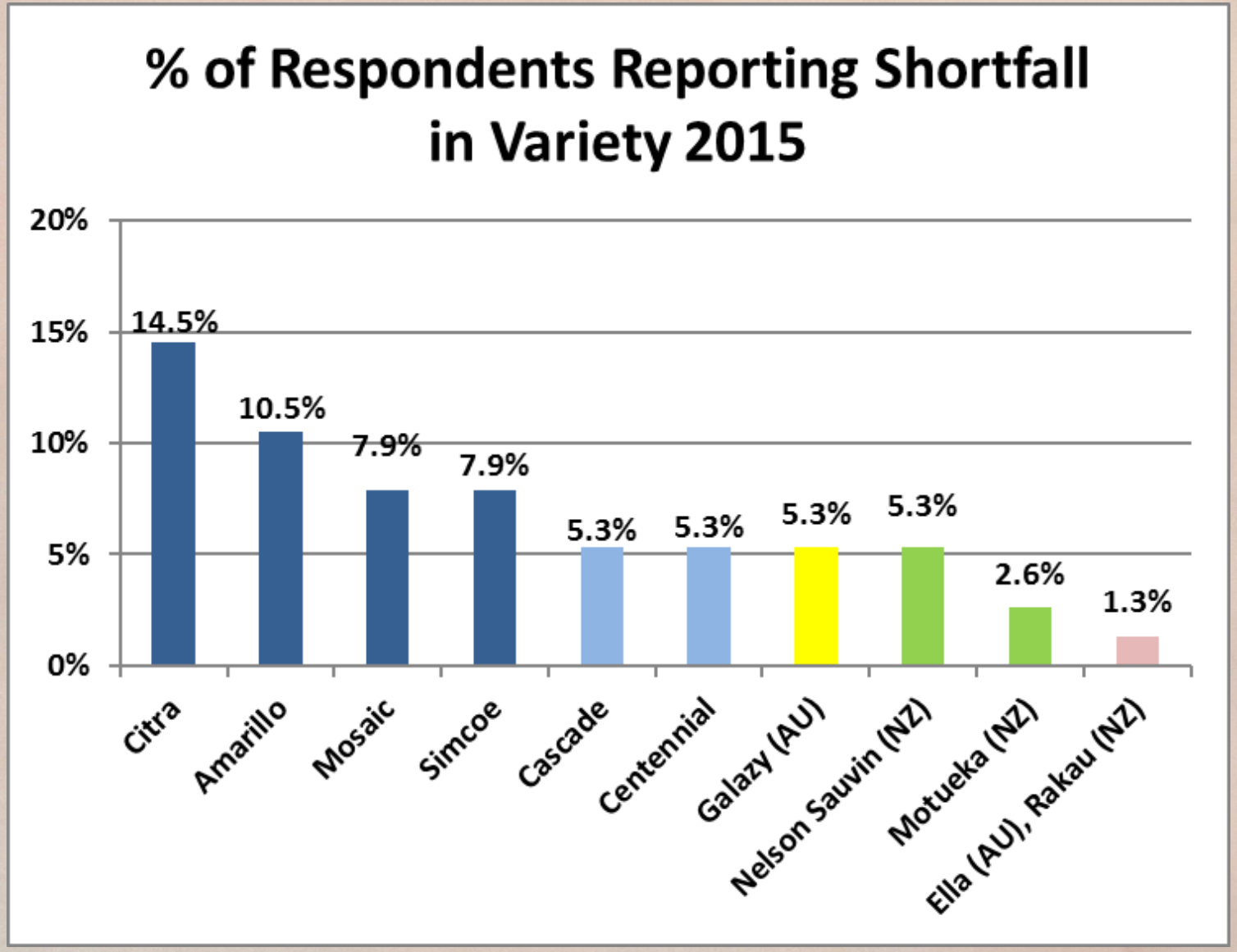
Craft Brewer Hop Usage
Top Ten Varieties

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

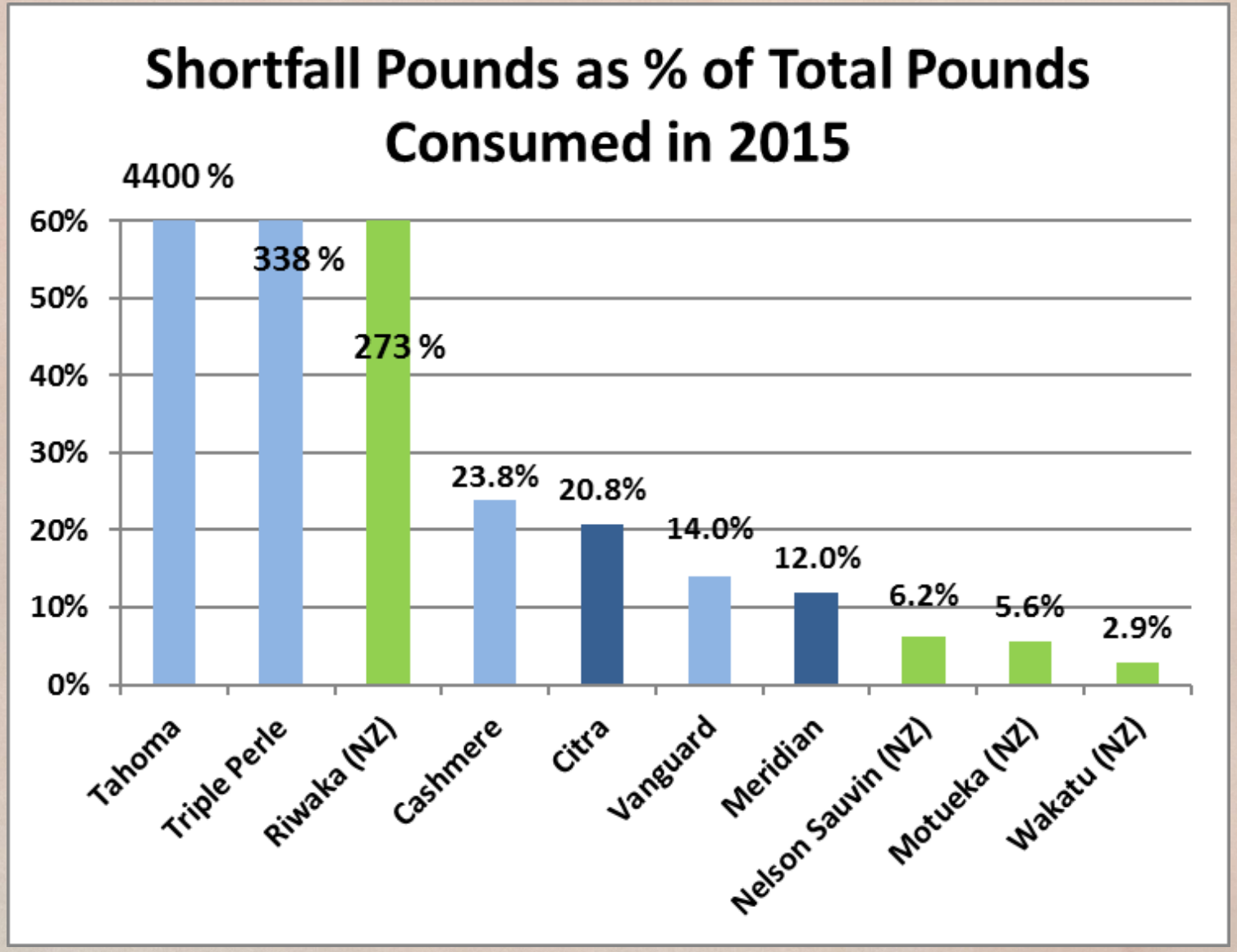
Varieties Drive Volume Growth



Shortfall By Brewers



Shortfall By Gap Size



High & Medium Hopping Rate Users Defined

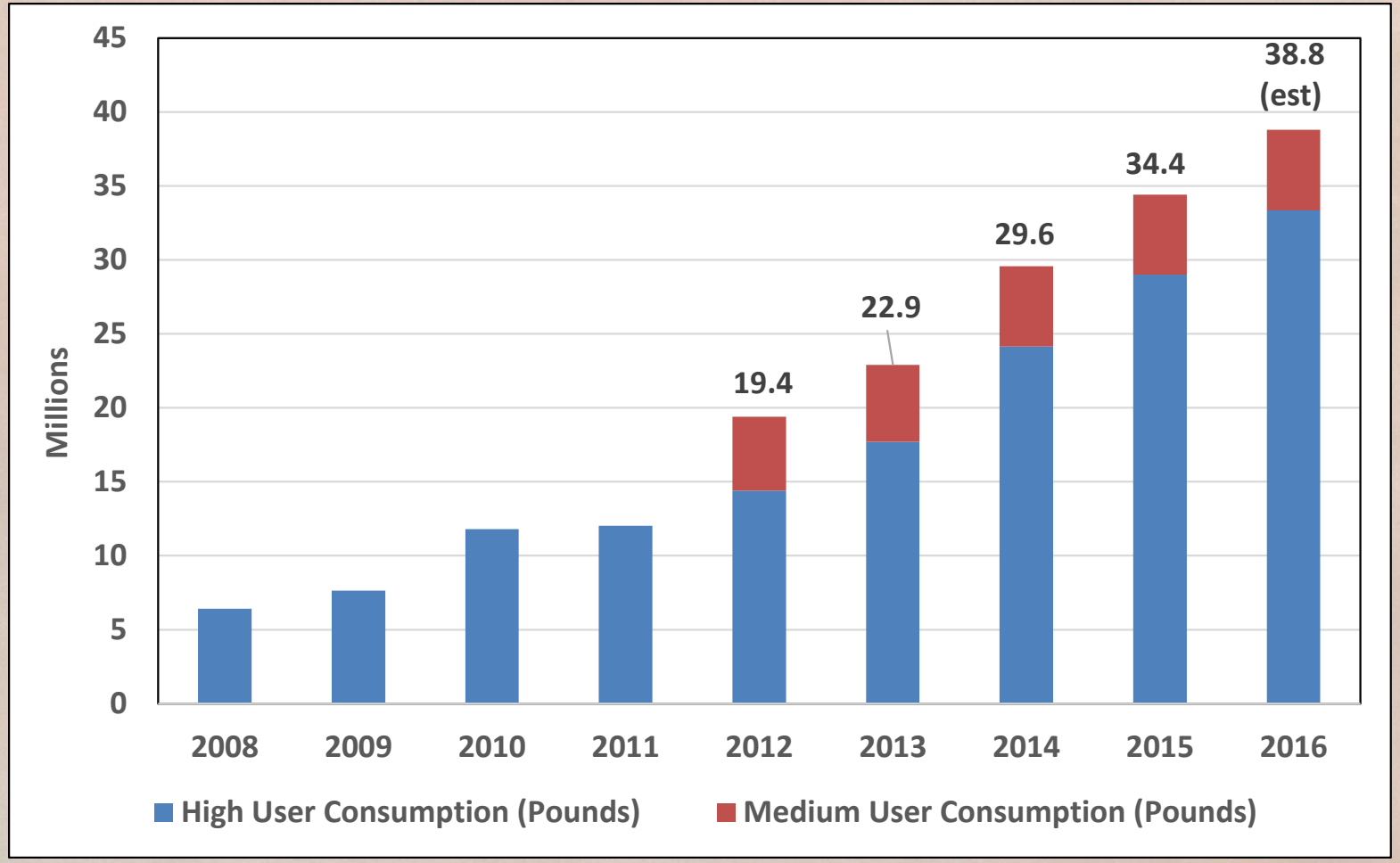
High Hopping Rate Users (1.50 pounds per bbl):

- All Brewpubs
- All Microbreweries (craft or otherwise)
- Craft Regional breweries
- Breweries owned by larger companies (Goose Island, 10 Barrel, Elysian, St Archer, etc)

Medium Hopping Rate Users (0.43 pounds per bbl):

- 10th and Blake
- Shock Top
- Boston Beer, Yuengling, Minhas, other craft
- Regional Breweries such as N Am Breweries, August Schell, etc

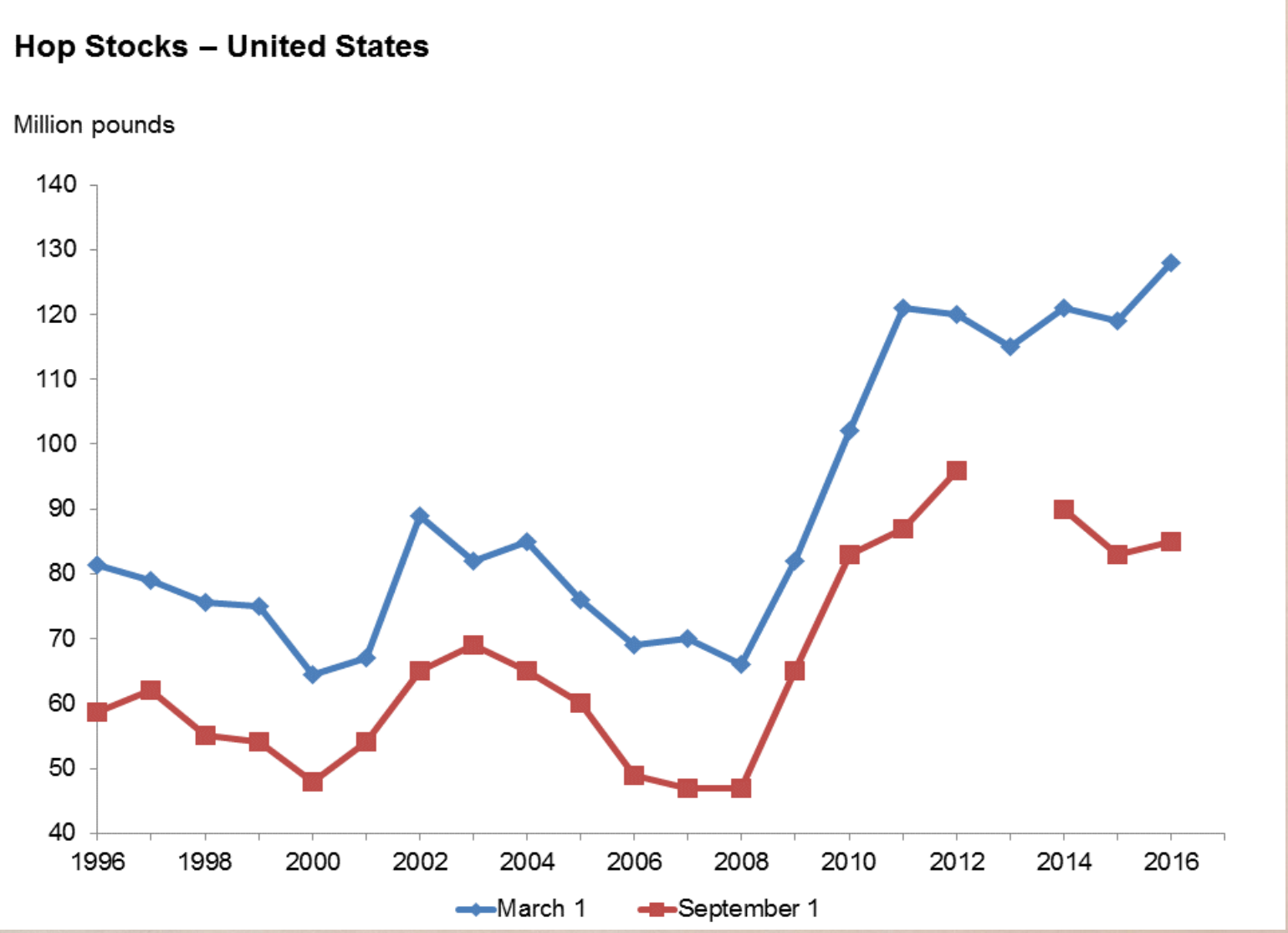
High & Medium Rate Hop User Consumption (Beer Production Year)



Objectives

- Brewing & Hop Industry Updates
- Annual BA Hop Survey Results
- **Hop Stocks Reports Analysis (new for 2017)**
- Review 2016 pound and acre forecasts & project 2017 pound and acre needs relative to inventory and net exports

U.S. Hop Stocks Analysis



USDA-NASS September 2016 Hop Stocks Report

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

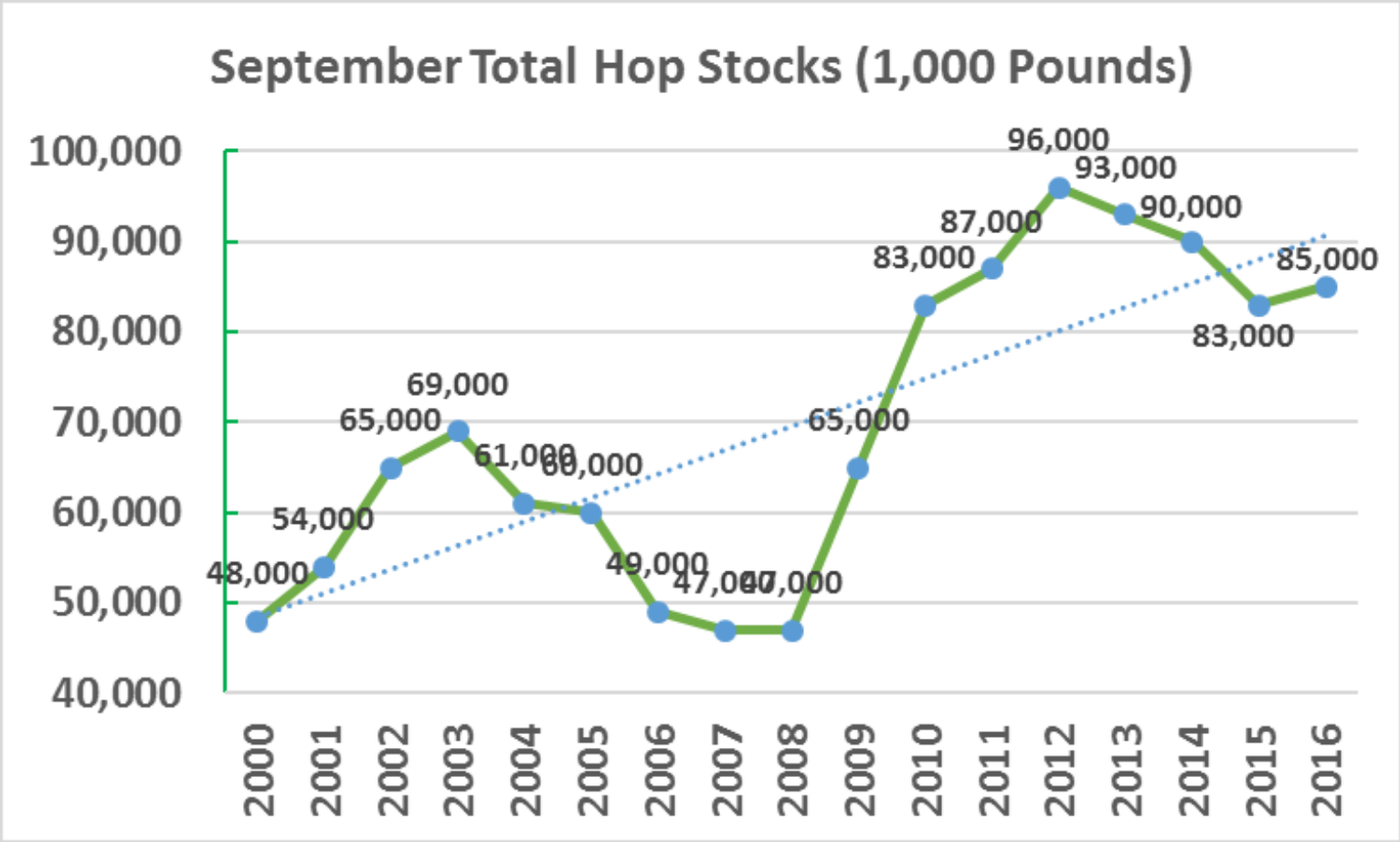
Thinking About Stocks

Additions: Growers - September-October

Removals: Brewing, Net Exports - All Year

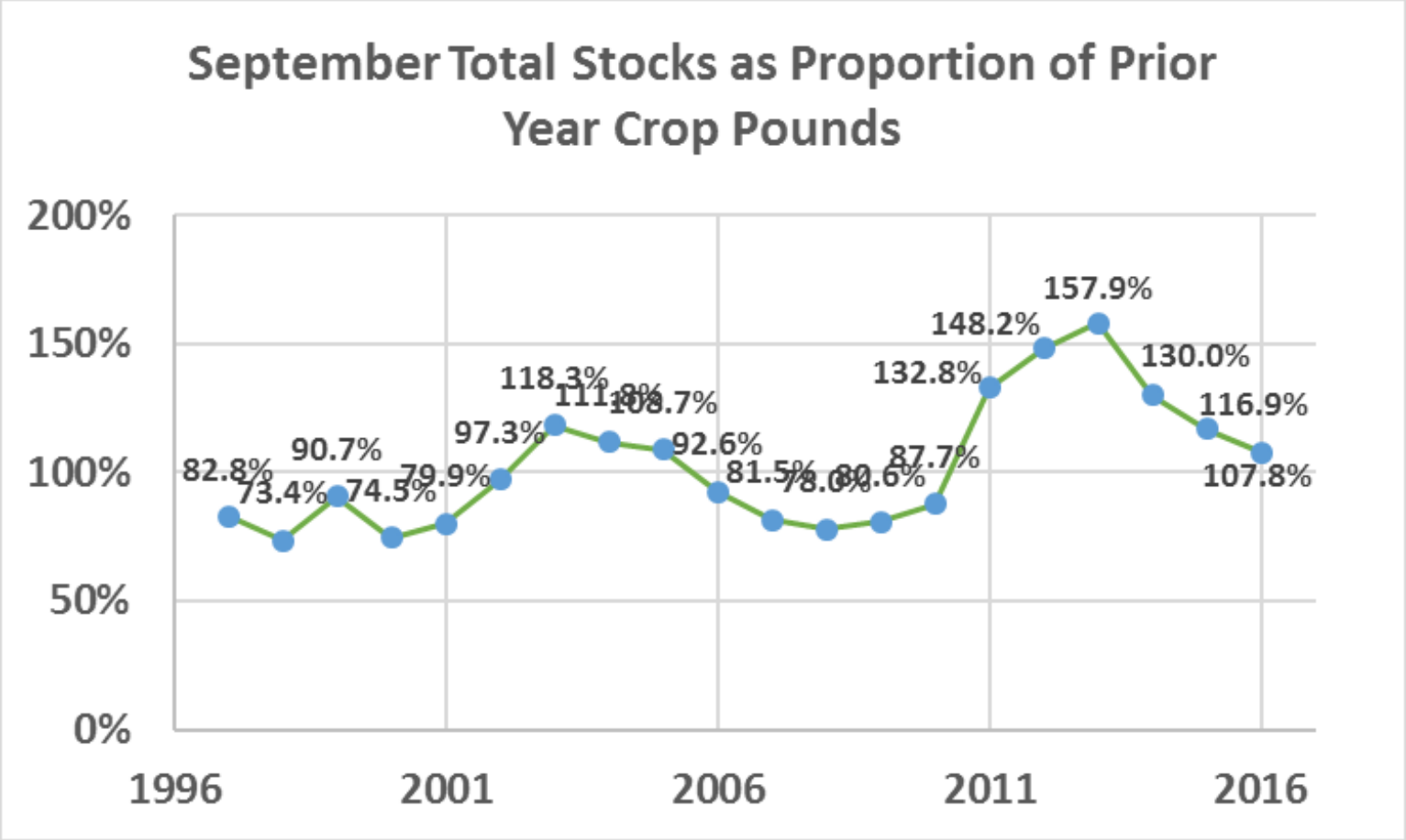
Thinking About Stocks

U.S. Hop Stocks Analysis



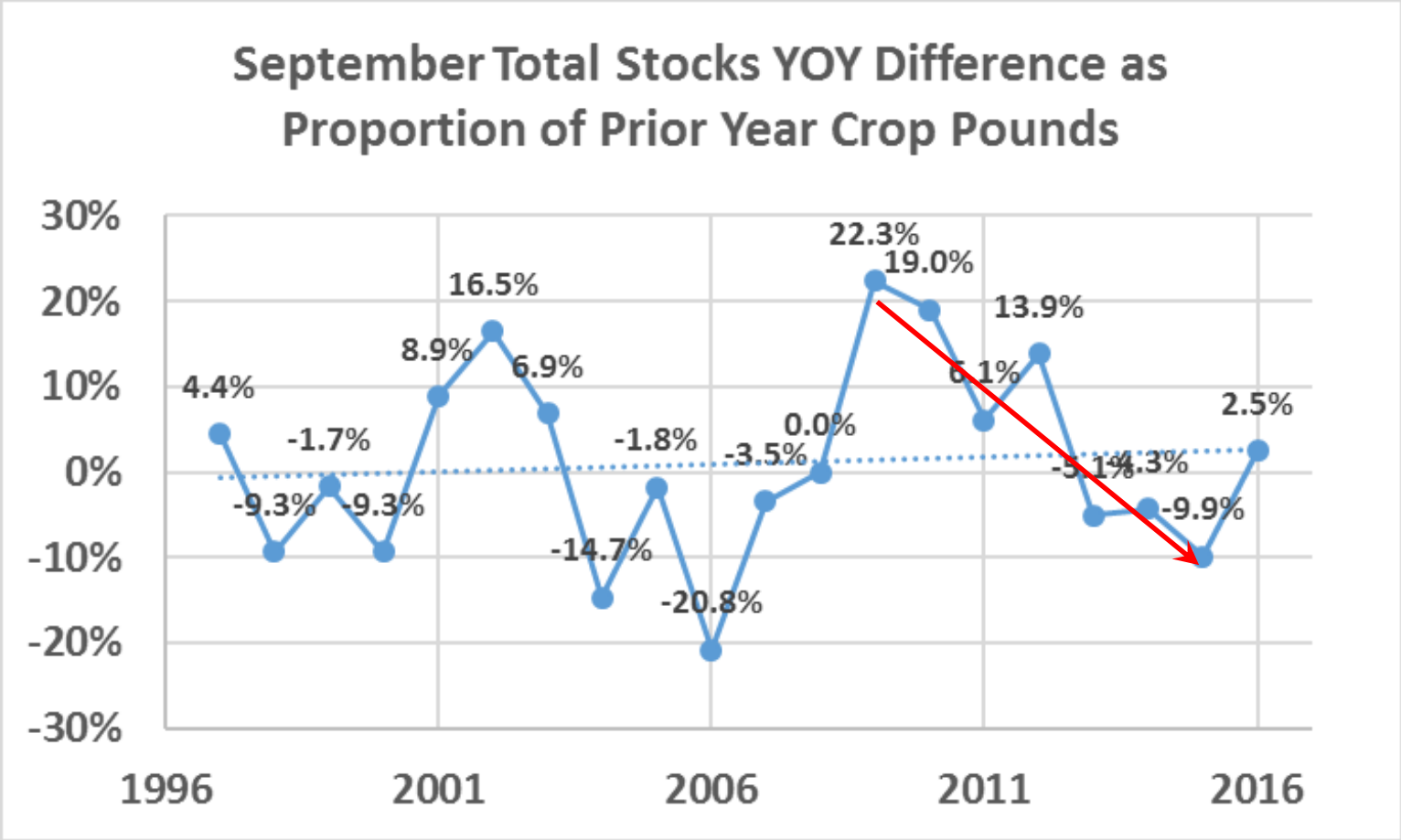
USDA-NASS September 2016 Hop Stocks Report

U.S. Hop Stocks Analysis: The Size of the Bucket



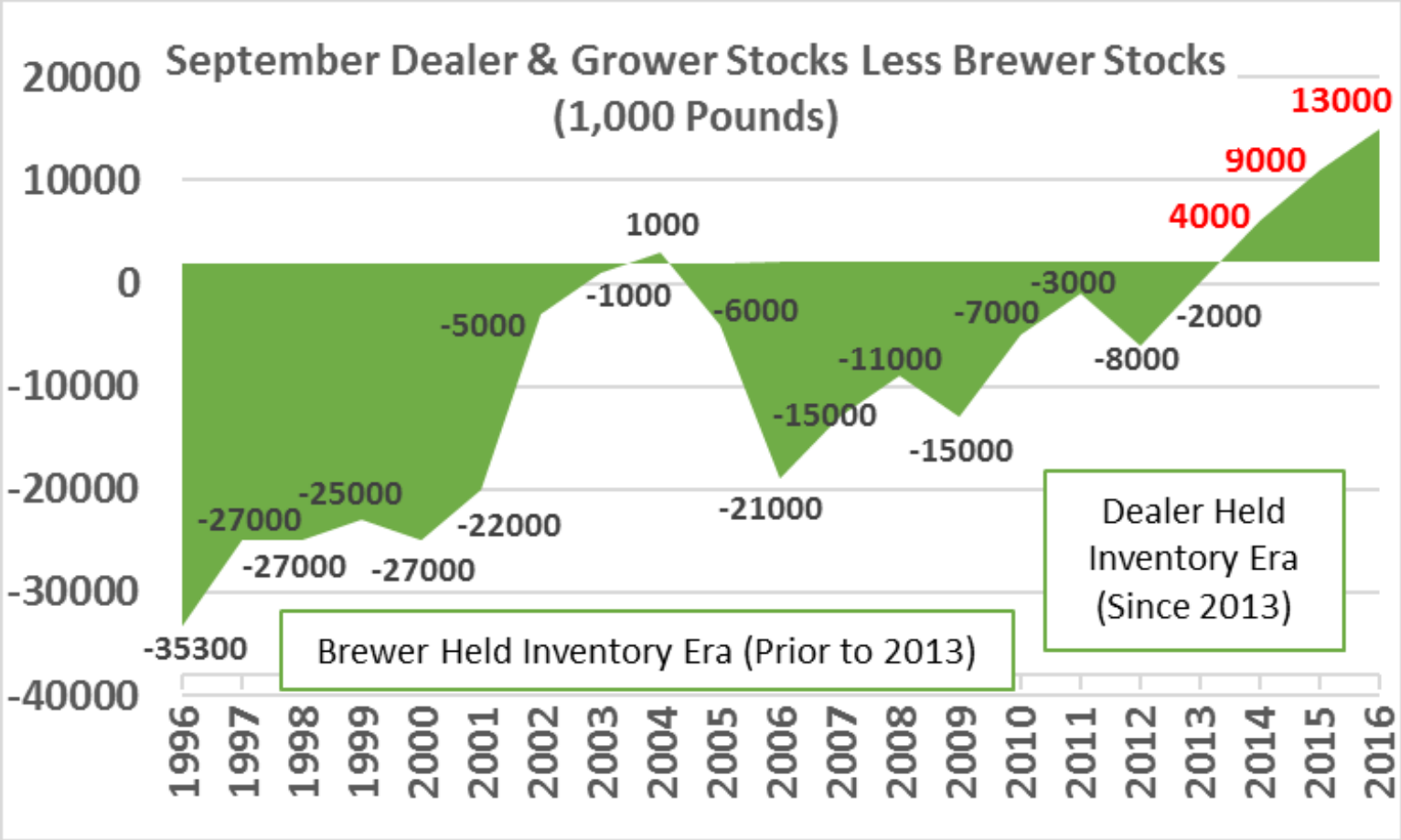
USDA-NASS September 2016 Hop Stocks Report

U.S. Hop Stocks Analysis: How Full Is the Bucket



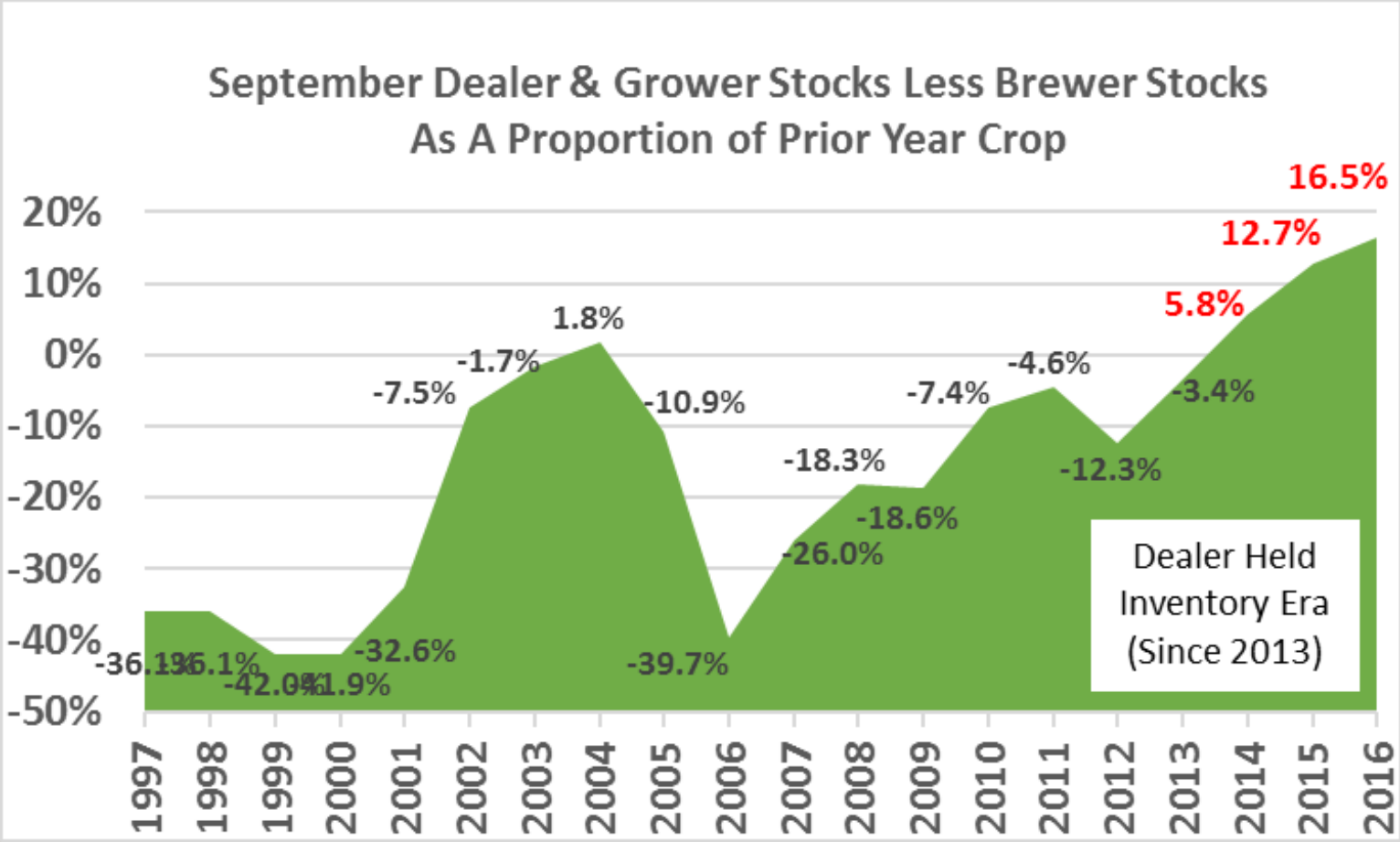
USDA-NASS September 2016 Hop Stocks Report

U.S. Hop Stocks Analysis: Who's Doing The Lifting



USDA-NASS September 2016 Hop Stocks Report

U.S. Hop Stocks Analysis: Who's Doing The Lifting



USDA-NASS September 2016 Hop Stocks Report

Objectives

- Brewing & Hop Industry Updates
- Annual BA Hop Survey Results
- Hop Stocks Reports Analysis (new for 2017)
- **Review 2016 pound and acre forecasts & project 2017 pound and acre needs relative to inventory and net exports**

High & Medium Rate Hop User Consumption 2015 - 2016

2015:
85% of 34.4 MM pounds = 29.4 MM pounds

2016:
85% of 39 MM pounds = 33 MM pounds US hops

3.6 MM pounds
1879 pounds per acre (3 yr avg)
⇒2000 acres of the 2015 crop are already spoken for in the US; what about overseas?

2016 Acreage Needs

+2000	Craft and Medium User Growth in 2015
+1170	Net Export Growth of ~2 MM pounds at 1713 pounds per acre
0	Assume No Change in Adjunct Lager Volume and Hop Consumption
3170	**Total New Acres Needed In 2016 ****
7224	**Total Actual New Acres In 2016**
4054	**Surplus 2016 Acres**

**** 2016 Additional Acres If Craft Growth were 12%: 960 more acres, leaving 3,100 Surplus**

All High & Medium Rate Hop Users Consumption 2016 - 2017

2016:
85% of 39 MM pounds = 33 MM pounds US hops

2017 (assume 5% vol growth, 1.6 PPB craft):
85% of 43.4 MM pounds = 37 MM pounds US hops

4 MM additional pounds
1700 pounds per acre (assume yield drop)
$\Rightarrow$2350 new acres of demand

2017 Acreage Needs

+2350	Craft and Medium User Growth in 2016 (assume all aroma, 7% craft volume growth)
+1460	Net Export Growth of +2.5 MM pounds at 1713 pounds per acre (assume mix of aroma and alpha exports, no yield change)
-4054	Surplus Acres Carried Into 2017 (assume all aroma)
-244	**Total Net New Acres Needed**
~5400 ??	**Potential Planned New Acres (assumes 1500 ID, 1500 OR, 2000 WA, 400 MI)**
-5644	**Surplus 2017 Acres (alpha AND aroma)**

Takeaways For 2017

- 2016 Craft volume rose ~<10% to ~26 MM bbls
- Craft hopping rates rates grew 7.9% to 1.50 ppb in 2015 and possibly grew 6.7% to 1.60 in 2016 (scan data)
- U.S. craft brewers continue to use 85% U.S. grown hops
- Craft brewers likely consumed ~33 MM pounds of U.S. hops in 2016
- All High and Medium hopping rate brewers likely consumed ~39 MM pounds of hops in 2016, and will consume ~43 MM pounds in 2017 (37 MM U.S.)
- Barring a yield catastrophe or significant external market changing event, current U.S. acreage is likely sufficient to meet demand for 2017 crop; additional net acres are likely to create a supply surplus

BREWERS ASSOCIATION

www.brewersassociation.org