



GIWA Barley Forum

Barley in the Brewery

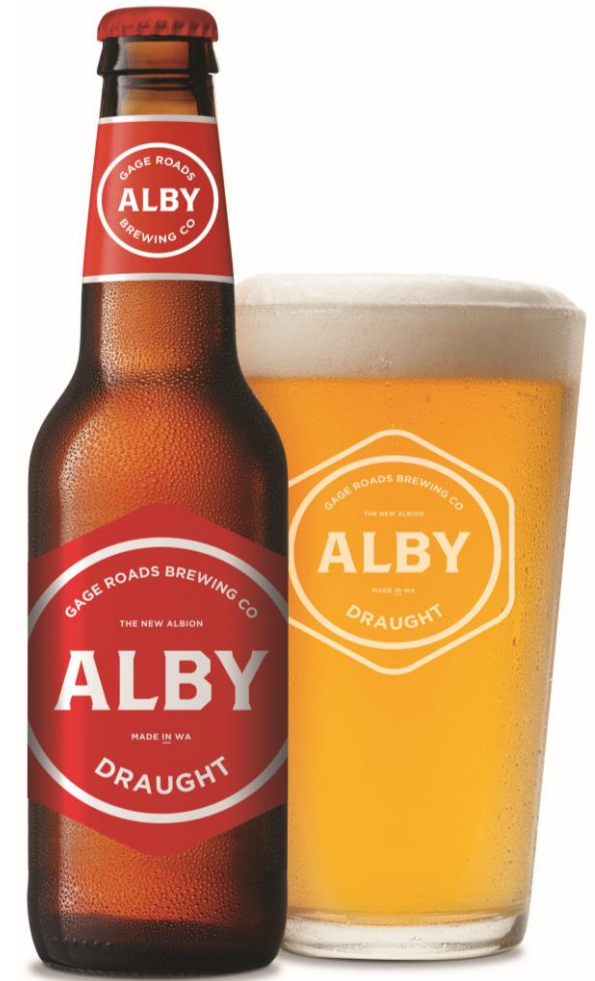
Good Drinks – Gage Roads

- Drinks Partner for Customers and Consumers
- Brands:
 - Gage Roads
 - Alby 100% WA Barley – Thanks Brad Jones!
 - Atomic
 - Matos's
 - Hello Sunshine
 - San Miguel – premium international beer



Good Drinks

- Palmyra Brewery
- Founded 2002 and brewing operations in 2003 – we're legally 18 and can drink!
- Currently 20 million litres
- 2,500 ton pa of WA Barley
- Alby is 100 % WA Malt because it's the best in world!
- Operations employs 50 staff
- Current production is 24 hours 5 days per week
- Peak is 24 hours 7 days for brewing and 24 hours 5 days packaging

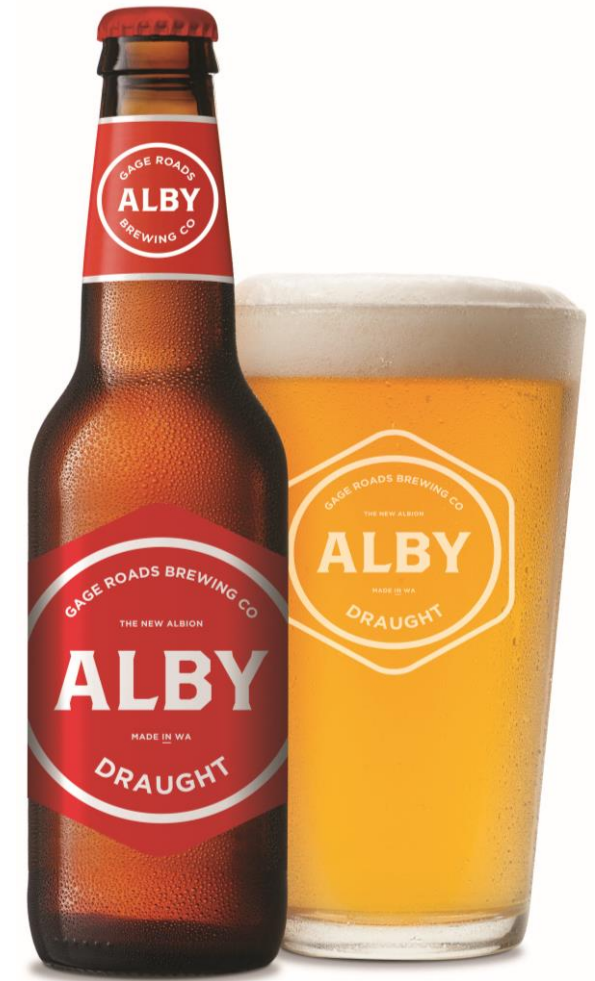


Brewing

- Ancient brewing starts with Sumerians and Egyptians fermenting barley
- Pharaohs were buried with beer for the trip to the afterlife in 5,000 BC!
- Oldest brewing recorded beer recipe from this time!
- Middle Ages monasteries had better life expectancy due to beer
- Celebrated by Saint's Arnold and Augustine
- They bathed regularly and the process of boiling water and alcohol helped remove water-borne food pathogens

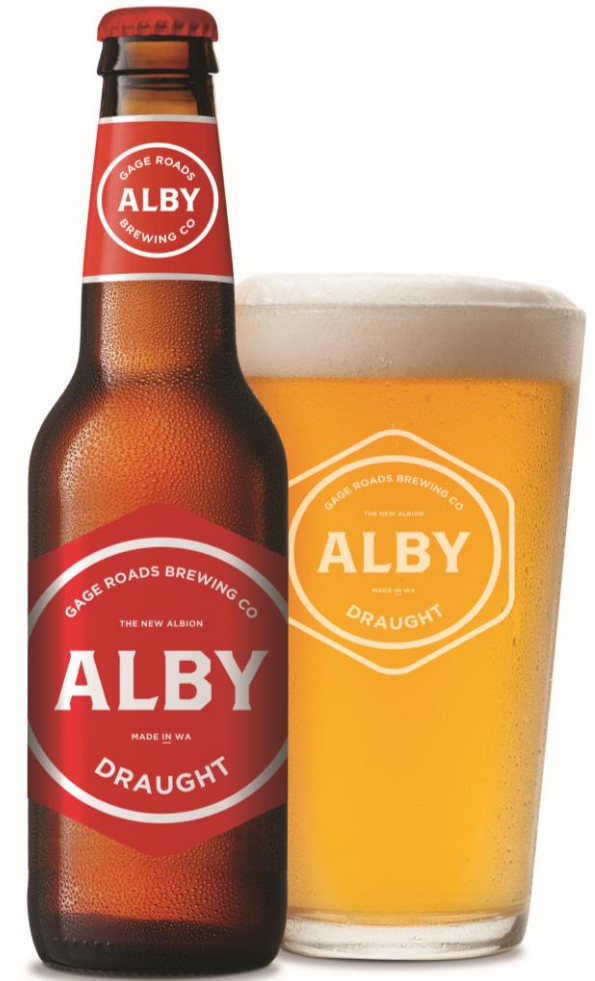


Brewing Process



Brewing Process

- Conversion of starch to fermentable sugars
- Saccharification
 - α and β Amylase
 - Produce maltose and maltotriose
- Need some protein (enzyme capacity and diastatic power)
 - Ability of enzymes to convert sugar
 - Low DP works best for Gage <320 °WK
 - TN 1.55 – 1.80 and SN 0.65 – 0.80 %w/w
 - High gravity brewing requires higher DP
- Low β Glucan
- Low DMS and precursor <1200 and <400 ug/100g

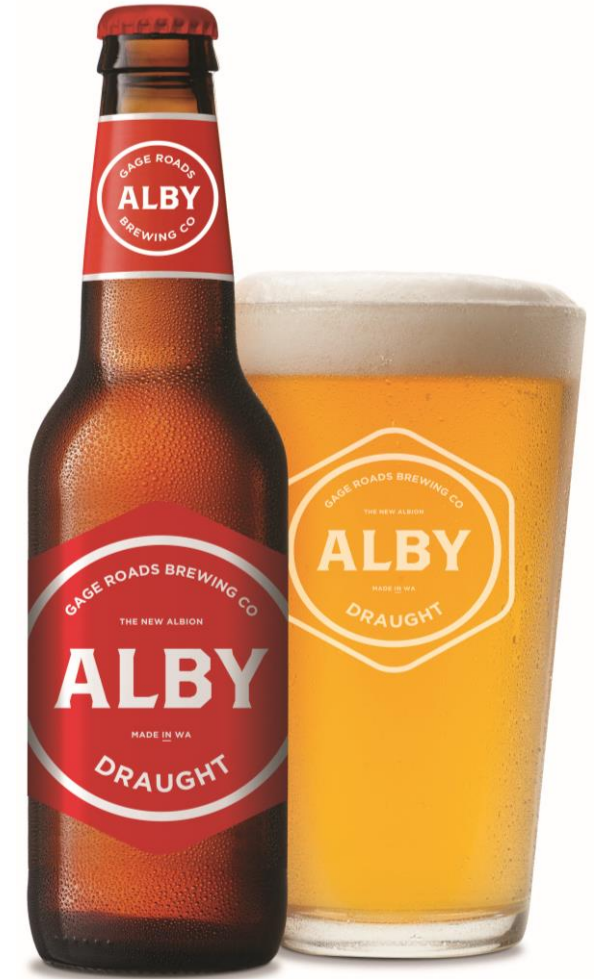


Brewing Process

- Consistency is the ruler
- Grain size and colour
- Minimal dust, breakages and husk
- No contamination – foreign grains or objects
- Current preferred variety is Spartacus

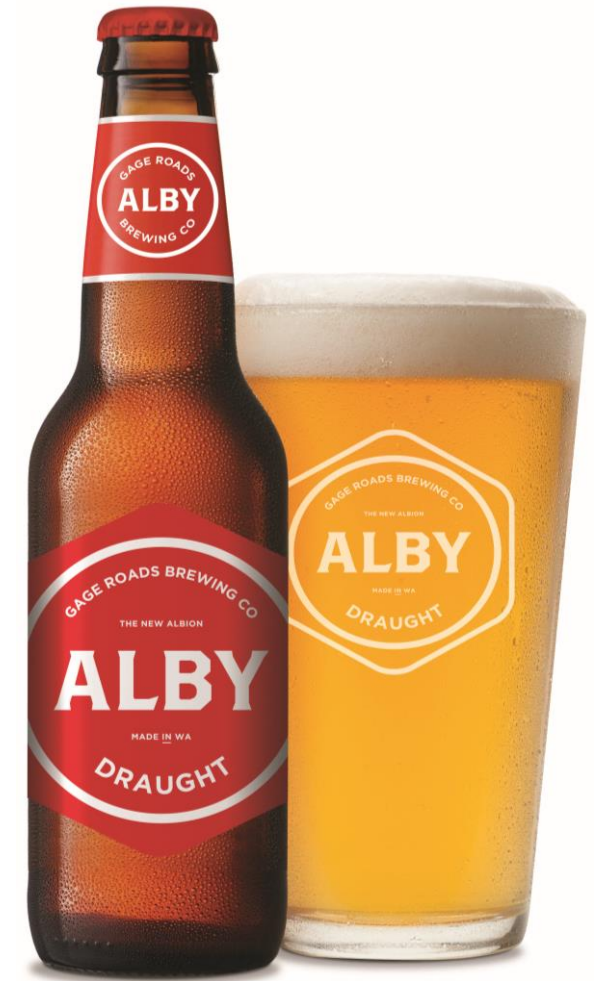


Packaging Process



Packaging Process

- Bottle and can fillers – 1,000 cartons per hour (400 packages per minute!)
- Kegging – 80 kegs per hour
- Record production is 600,000 litres in a week (120,000 per day)
- Single biggest 24 hour production was 22,000 cartons



Product Release

Votes are performed simultaneously and operate on a colour coded number system:

1. **GREEN** - True to type – exactly as the brand is expected to taste
2. **YELLOW** - Minor deviation to brand not sufficient to be noticed by consumers
3. **ORANGE** - Minor deviation with potential fault that would be undetected by non-trained consumer
4. **RED** – Clear fault detectable by consumer – immediate halt to production
5. **WHITE** – Predisposition for taster who knows there may be a fault or needs to remain impartial

All **GREEN** is a Kermit!



Gage Roads

- Thank you for time
- Questions?

