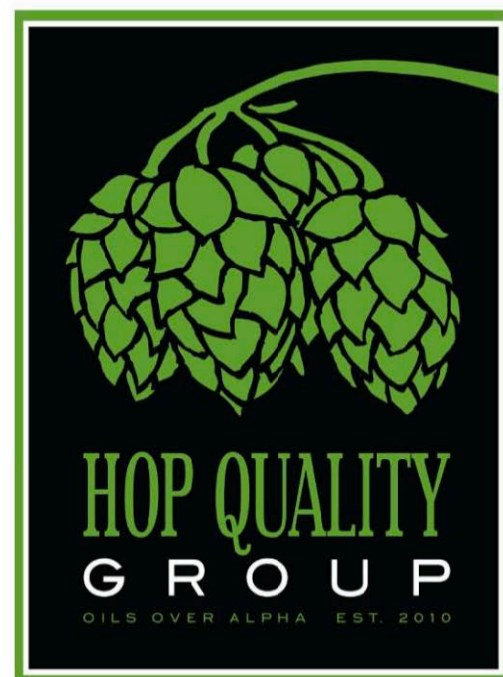


<b>HQG Pellet Mill Visit Date:</b>	7/21/21
<b>Primary Owner/Operator:</b>	YCH
<b>Physical Address of Facility:</b>	520 E. South Hill Rd, Sunnyside, WA 98944
<b>Pellet Mill Contact:</b>	Blaze Ruud
<b>Contact's Email Address:</b>	Blaze.ruud@yakimachief.com
<b>Contact's Email Phone:</b>	



<b>HQG Attendee &amp; Brewery</b>	
Alec Mull-Founders	Brad Benson-Stoup
Jeremy Moynier-Stone	
JT Albright-Stone	
Sam Pecoraro-Von Ebert	
Van Havig-Gigantic	

**Operations Description:**

Two Lines, Green and Gray. Same procedures SOP, protocols, etc as the downtown Division St mills as detailed in other Division Street report. Large video screens with all Work Order, product details and process metrics displayed constantly for operators. They do not use Hammer mills here; these are different mills (Rotator/Grinder) and have a pair of magnets immediately prior. (Plan to switch out to these grinders at Division downtown in the future and upgrade VFDs). Using Ignition as their SCADA system. There are some areas without magnets but discussing possibility of putting more in. All YCH lines use liquid nitrogen to precool hops prior to pelletizing, as well as at the die. The HQG also believes this precool and purge process helps to reduce oxidation by purging ambient air from the product flow and helps to reduce off gassing of hop aromatics at the mill.

Gray Line under construction for updates but will be concluded prior to harvest. Hop flow measurement + data capture. Temp capture and more efficient cooling. Spare magnets: pull out in-use and plug and play. Clean out ones that are pulled out. Robots to place boxes, with one robot on each line. Color coded process for buckets like Division. Cameras and monitors in place. They have a good culture, and the staff is motivated to run efficiently and completely food safe.

Duct work designed to be easily cleaned (pop off with clamps). Total for all YCH pellet production = 40 million lbs for 2020! Looking to be done pelletizing by end of year. Palletizer receives both lines and boxes are placed on skid by another robot. Lot # used for traceability throughout. Use older equipment for samples. All hops that touch the floor become compost.

For 170 kg for extraction, it's a manual process but look to automate. Operators will hand fill and weigh each Big Box. Monthly best practice mtgs for Green Chief. Pre-Harvest Grower Mtg each year to review process with Growers. (All lab work = Sunnyside: Division is R&D and overflow). YCH has a portal system on-line for records (example spray records are entered into Portal). Lab data goes into portal within 24 hrs. Nice feedback system from Portal to Growers (selection feedback from internal and Brewers for example). No barcoding. Grower Lot # is used for tracking. \*Opening a YCH lab at Jackson's in ID for ALL Growers (not just YCH Growers). Their ERP System won't allow a hop to proceed to a work order until it's passed all the requirements.

**Recommendations:**

It's standard industry practice and we understand that the bale wrap provides protection, and YCH maintains impeccable floor cleanliness for this area, but please think about alternatives to staging bales on ground prior to bale breaker. The HQG would love to see these bales never touch the ground in processing. We have seen roller conveyor work well for this at other mills.

Think about adding in more magnets and of course if the Xray works at the Downtown mill as planned, to install these X rays here in Sunnyside as well. Your machines and customers alike appreciate magnets. A magnet immediately prior to the pellet mill and immediately prior to packaging is our recommendation beyond your current magnets. I recall that the pellet mill magnet is planned currently.

Consider automating 170kg Big Box process.

**Improvements since last HQG visit (if applicable):**

Continual upgrades, more automation, "better" mill to replace the Hammer mills, innovation, robots!

**Additional Comments:**

**Quality test performed:** See below in survey

**Third Party Certification, if any?** Green Chief is a comprehensive program and ISO, see below in survey

**Additional Comments about the operation?**

**World class facility!** Focused on food safety and hop quality. (We really LOVE your die storage method). Great leadership, good signage, good processes in place, and good traceability. An impressive facility and process. Thank you for allowing us to visit!

Thank you YCH for your continued focus on food safety and hop quality!

## Hop Quality Group

### Hop Pellet Mill Survey

Facility Address - *520 E. South Hill Rd, Sunnyside, WA 98944*

Primary Owner/Operator- *Yakima Chief Hops*

Manufacturer of Hammer Mill- **Green Line:** *Pallmann Grinder 6-180*  
*Manufacturer Date: 2015*  
*(1) 30HP Motor | (1) 50HP Motor*

Manufacturer of Pellet Mill- Gray Line: *California Pellet Mill*

Date of manufacture or installation- *N/A*

Motor size in KW or HP- *100 HP*

Blending capacity

Bale breaker bin capacity-

Powder tank capacity- *1,200 Lb*

Blender type (Ribbon or Conical)- *Ribbon*

Throughput capacity (per 24 hours)- *4,000lb/hr Capacity*

Magnet locations- *Pre-Grinder | Pre-VFFS*

Pellet diameter & number of die sizes owned- *¼" Diameter | 7*

Target temperature of pellet & cooling method- *Not to Exceed 105F | Liquid Nitrogen*

Vacuum hard pack or soft pack & flush gas type- *Nitrogen Flushed | Viking VFFS*

Quality tests performed- *Particle Size, Temperature, Oxygen, Density, Seal Integrity*

Laminate foil integrity tests performed & frequency of tests- *Dunk Tank, 1 Bag per Pallet*

Standard label information-

Frozen storage capacity- *32F | 30MM Capacity Across All Campuses*

Any third-party certification- *ISO 9001 | ISO 14001*

## Hop Quality Group

### Hop Pellet Mill Survey

Facility Address - *520 E. South Hill Rd, Sunnyside, WA 98944*

Primary Owner/Operator- *Yakima Chief Hops*

Manufacturer of Hammer Mill- **Gray Line:** *Pallmann Grinder 8-240*  
*Manufacturer Date: 2021*  
*(1) 50HP Motor | (1) 100HP Motor*

Manufacturer of Pellet Mill- Gray Line: *California Pellet Mill*

Date of manufacture or installation- *N/A*

Motor size in KW or HP- *150 HP*

Blending capacity

Bale breaker bin capacity-

Powder tank capacity- *1,200 Lb*

Blender type (Ribbon or Conical)- *Ribbon*

Throughput capacity (per 24 hours)- *6,000lb/hr Capacity*

Magnet locations- *Pre-Grinder | Pre-VFFS*

Pellet diameter & number of die sizes owned- *¼" Diameter | 7*

Target temperature of pellet & cooling method- *Not to Exceed 105F | Liquid Nitrogen*

Vacuum hard pack or soft pack & flush gas type- *Nitrogen Flushed | Viking VFFS*

Quality tests performed- *Particle Size, Temperature, Oxygen, Density, Seal Integrity*

Laminate foil integrity tests performed & frequency of tests- *Dunk Tank, 1 Bag per Pallet*

Standard label information-

Frozen storage capacity- *32F | 30MM Capacity Across All Campuses*

Any third-party certification- *ISO 9001 | ISO 14001*