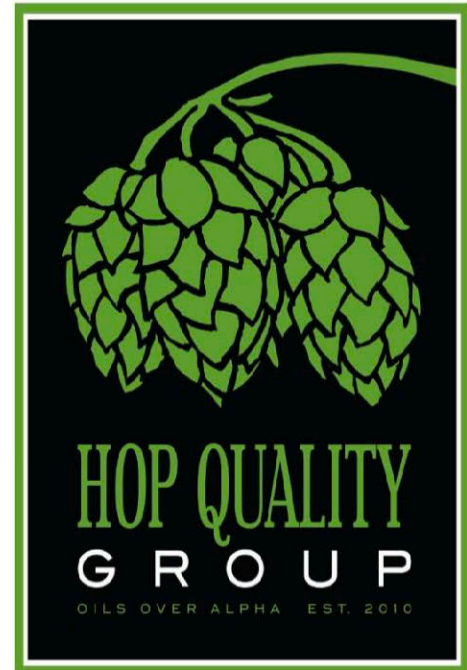


<b>HQG Pellet Mill Visit Date:</b>	7/20/2021
<b>Primary Owner/Operator:</b>	S.S. Steiner Inc
<b>Physical Address of Facility:</b>	1 West Washington Avenue, Yakima, WA
<b>Pellet Mill Contact:</b>	Dave Dunham, Chris McCabe
<b>Contact's Email Address:</b>	<a href="mailto:ddunham@hopsteiner.com">ddunham@hopsteiner.com</a> , <a href="mailto:cmccabe@hopsteiner.com">cmccabe@hopsteiner.com</a>
<b>Contact's Phone:</b>	Doug Wilson-815-382-0562



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

**Operations Description:**

Steiner operates two Pellet Mill lines at one site with a T90 and Concentrated (T45) line utilizing similar utilities and infrastructure but operating independently. They can also produce ISO pellets at this facility. Thoroughly work with growers prior to harvest and include several verifications in place prior with spray records and at bale receipt and before starting production orders. Complete traceability and work with all growers with specific feedback. Currently working to increase their laboratory capabilities toward further ensuring food safety. 25 American bales average production blend and typically do up to 350 bales per day. Not using RFID or barcode. "Clear the deck" complete clear out for separation between varieties, lots or blends with 10-25 bales staged on clean deck prior to breaking. Operators wear white booties on deck. Trained operator at load-in does a complete visual inspection of the bale at bale breaker before processing. All conveyance is covered on this entire line post bale infeed.

Three magnets by rock trap prior to Hammer mill with regular cleanout and pull check and additional fingers to trap nonmagnetic light material (like booties) as well. Keep historical records on everything. Store dies with plastic covers and dies look immaculate! Dual Pellet mills with Nitrogen cooling as needed. They use hops for Die cleanout. Spark Detection. Two magnets prior to a mostly automated packaging line with Nitrogen/CO2 flush and regular gas checks with additional check weighing of bags, and later of pallet. Pellets go immediately into cold storage. Testing of at least one box per pallet. Oxygen levels check for leaks, bag integrity. Test data is automatically captured. Work backwards if there is an issue and raise testing intensity when needed.

Concentrated line typically runs approximately 25 bales per day one bale at a time through standard Buhler Vibrasifter machines in cold ambient rooms at negative 20 C, with ability to process and package Lupulin Powder (T35). Magnets present with some blending capacity of powder feeding two Flat Die pellet mills where pellets pass through an additional magnet. Concentrated hop products are packaged manually.

Rodent screens on roll-up doors and bug zappers. They have a 3<sup>rd</sup> party pest control service. Really loud alarms for roll-up doors (forklift traffic) for worker safety, good uniform policies. Good signage throughout facility. Nice ladder board. "Product Only", "Garbage Only" cans. Good cell phone rules in place. 2018 went from union to non-union. Lost a lot of the team but worked out as a huge positive in the end: they currently have a great culture because of it. Maintained some veterans for Supervisors, Leads, etc. but have many newer teams. Lab actively works with Production towards ideal pellet density based on dissolution tests.

**Areas of Concern:**

Maintenance was being performed, so there was some loose insulation that the team said would be all buttoned back up prior to operating, so just ensure no loose materials could enter product stream at Concentrated line bale breaker. While we love booties to protect hops from shoe born issues, and appreciate operators are trained to keep them out, ensure booties can't enter product stream, magnetic ones perhaps.

**Additional Comments:**

Quality test performed:  
Appearance, Color, Hardness, Density, Dissolution, Temperature, Moisture, UV Spectro, HPLC, Conductometric, Total Oils, GC (8 standard Oils).

Standard Label information on: Customer Specific: Product, Variety, Lot, Alpha, Package size

Third Party Certification, if any? ISO 9001:2015, Organic, Kosher, Halal, WSDA, Global GAP (Farms)

**Additional Comments about the operation?**

Lines and facility look great! Good processes in place, good safety, good lab capability, and really love to hear about positive culture and a team environment. Keep up the great work and thank you for allowing HQG to come and visit! We are honored by the partnership.

**Recommendations:**

It's standard industry practice but think about alternatives to bales on ground prior to bale breaker. Most of the industry performs this task similarly, and we understand that the bale wrap is a protective barrier, and much of Steiner's staging occurs on a platform free from concern, but we have seen some alternative methods like roller conveyor work.

Think about using gloves when sampling (even with scoop). Think about converting to LED lights throughout (currently do have shatterproof). Good incentives exist.

Consider automating packaging on Concentrated line similar to T90 line. Perhaps include magnet on magnesium oxide feed line.

HQG thanks Steiner for their dedication to hop quality and food safety! We really appreciate the partnership to make hops better for all stakeholders! Cheers

## Hop Quality Group

### Hop Pellet Mill Survey

#### Concentrated Line

Facility Address- **1 West Washington Avenue, Yakima, WA**

Primary Owner/Operator- **S.S. Steiner, Inc**

Manufacturer of Hammer Mill- **Confidential**

Date of manufacture or installation- **2007**

Motor size in KW or HP- **Confidential**

Manufacturer of Pellet Mill- **Confidential**

Date of manufacture or installation- **2007**

Motor size in KW or HP- **Confidential**

Blending capacity

Bale breaker bin capacity- **na**

Powder tank capacity- **12 Bales**

Blender type (Ribbon or Conical)- **custom plus conical**

Throughput capacity **<1 million lbs/yr depending on product mix**

Magnet locations- **Pre-Pelleting and Post Bale Breaker**

Pellet diameter and number of die sizes owned- **6mm, 4 dies**

Target temperature of pellet and cooling method- **ambient liquid N2, < -20 C, glycol refrigeration**

Vacuum hard pack or soft pack and flush gas type- **Soft Pack with N2/CO2**

Quality tests performed- **Appearance, Color, Hardness, Density, Dissolution, Temperature, Moisture, UV Spectro, HPLC, Conductometric, Total Oils, GC (8 standard Oils).**

Laminate foil integrity tests performed and frequency of tests- **Leak detection, residual Oxygen, 1 per pallet**

Standard label information- **Customer Specific: Product, Variety, Lot, Alpha, Package size**

Frozen storage capacity- **~30 Million lbs**

Any third-party certification- **ISO 9001:2015, Organic, Kosher, Halal, WSDA, Global GAP (Farms)**

## Hop Quality Group

### Hop Pellet Mill Survey

#### T90 Line

Facility Address- **1 West Washington Avenue, Yakima, WA**

Primary Owner/Operator- **S.S. Steiner, Inc**

Manufacturer of Hammer Mill- **Confidential**

Date of manufacture or installation- **2009**

Motor size in KW or HP- **Confidential**

Manufacturer of Pellet Mill- **Confidential**

Date of manufacture or installation- **2008/2018**

Motor size in KW or HP- **Confidential**

Blending capacity

Bale breaker bin capacity- **na**

Powder tank capacity-**50 Bales**

Blender type (Ribbon or Conical)- **Ribbon**

Throughput capacity - **19 million lbs/yr**

Magnet locations- **Post Bale Breaker and 2 separate locations Prepackaging**

Pellet diameter and number of die sizes owned- **4 – 7mm, 16 dies**

Target temperature of pellet and cooling method- **< 55 C, Ambient plus Liquid Nitrogen**

Vacuum hard pack or soft pack and flush gas type- **Soft Pack N2/CO2**

Quality tests performed- **Appearance, Color, Hardness, Density, Dissolution, Temperature, Moisture, UV Spectro, HPLC, Conductometric, Total Oils, GC (8 standard Oils).**

Laminate foil integrity tests performed and frequency of tests- **Leak detection, residual Oxygen, 1 per pallet**

Standard label information- **Customer Specific: Product, Variety, Lot, Alpha, Package size**

Frozen storage capacity- **~30 Million lbs**

Any third-party certification- **ISO 9001:2015, Organic, Kosher, Halal, WSDA, Global GAP (Farms)**