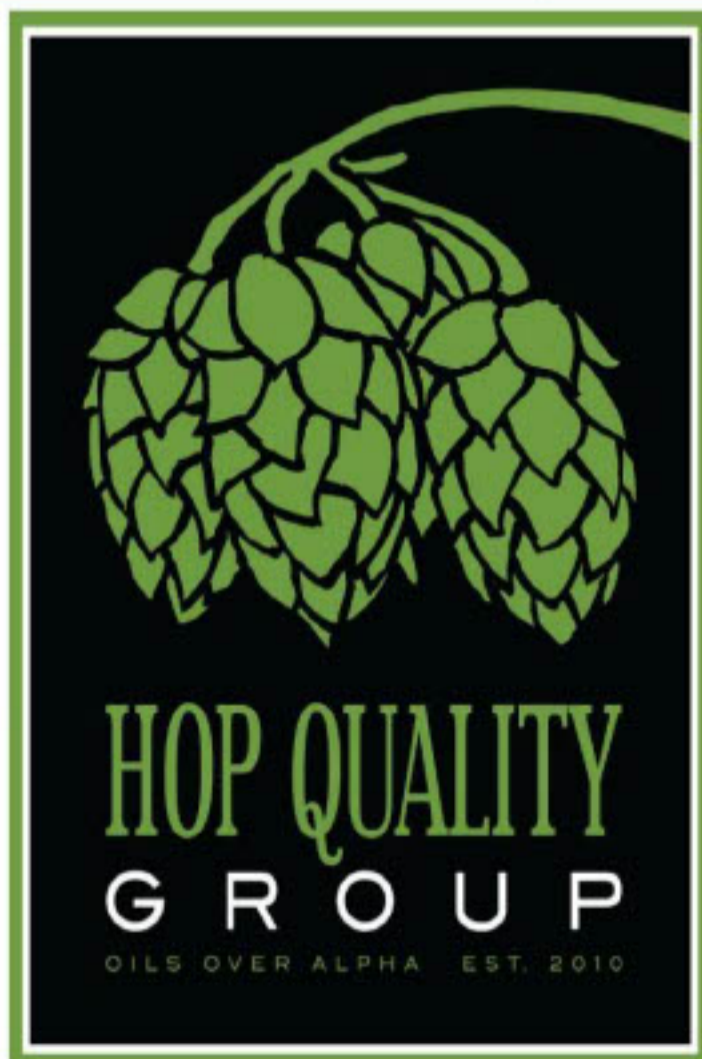


HQG Visit Date:	3/21/23
Farm/Facility:	Freestyle Hops
Picker Name & Grower Number(s):	Freestyle Sunrise Valley
Grower Name & Phone:	Dave Dunbar; +64 022 3145773
Physical Address of Farm/Facility:	Freestyle Farm Sunrise Valley; 32 Eggers Rd. Upper Moutere, 7173, Nelson
Email Address:	dave@fs-inv.com
Picker Type(s) & Description:	25-year-old Dauenhauer (from Oregon; rebuilt by DK Fab)
Merchant Partners/Direct/Both?	Direct

HQG Attendee & Brewery	
Jeremy Moynier – Stone Brewing	Tristan Karosas – Single Hill Brewing
Sam Pecoraro – Von Ebert Brewing	Matt Brynildson – Firestone Walker Brewing Company
Tom Cook – Von Ebert Brewing	Scott Janish – Sapwood Cellars Brewery
Bob Kunz – Highland Park Brewery	Nick Pavlina – Humble Sea Brewing



Operations Description:

Picker: 25-year-old Dauenhauer from Oregon that was rebuilt by DK Fab. Hops are put on ground and then hung to go into picker. Lots of cobwebs in picking building. Covered/shatterproof lights – some LED. +40% is Nelson that runs through so special cleaners in place since Nelson has issues running through the process. Magnet = exiting picker. Using coconut-based twine. They use aluminum, spiral hooks and in general throughout the facility there is a lot of aluminum, so the X-Ray in Pelletizer is key. Open conveyance. Did see some bird evidence.

Kiln: small kiln (from the 1950s) for experimentals. Some gaps in wall in small kiln. Main Kiln: windows open (no screens). Good netting on kiln roof. 54 – 56 C (130F) kiln temp. 75 – 85 cm (29 – 33in) for bed depth. 7 kiln floors: 4,000 kg to 6,600 kgs per (8818 – 14550 lbs). Blow air at high speed at the start to blow off moisture and then drying.

Conditioning and Pelletizer: 12 bale capacity. Mixing process is done on floor with forklift attachment. No air conveyance, all bucket and auger. Currently running mill at 1/8 speed. Magnet in pelletizer before Hammer and density trap after that. In-line X-Ray after fining screen before weigh head (before foil) and will kick out. No cooling post die – cooling with air at ambient temp. Going straight to pellets – no bales. But they will do bales for processing other hops from other farms (they do this as a service). Process for 5 other growers. Will typically blend the whole lot batch for external clients but can blend in whatever manner requested. It's a gentle bale breaker: break and initially blend on the kiln floor. The process further blends in the mixing trough below the hammer mill and in the buffer tank above the mill. Do 100 – 110 KG bales (less dense than standard American bale). For Freestyle, they do similar blending of lots that is a similar process to Roy Farms. They can blend and also blend two days together. Selection is off of pellets. Package testing: seal integrity and oxygen – MPI and Europe earned certificates to do inspection. 1 inspection per pallet: pellets go back into cooler. Pellet density and sanitary inspection. They have 500 tons of bale capacity for cold storage (excess capacity currently).

Hapi Research Limited: breeding program that is an even partnership with Garage Project. Peacharine is the first hop to come out of Hapi. Also showed us Lilikoi and SBHO2. Intentionally breeding diploid and triploid to be diverse (many NZ farms just focus on triploids). Pulling in agronomics at 20-500 plant stage. The breeding program is aggressive. They are jumping ahead of some agronomic concerns to focus on aroma and thiols. They see this as the best way to get new hops in Brewer's hands as quickly as possible. They will deal with the agronomic issues as they arise. They are also doing some fruit + hop combos (freeze dried fresh skin). Ascorbic acid is included in the process. Additionally, they have a hop product called SubZero Hop Kief (concentrated lupulin for cold side add). They have 3 pathways for new varietal feedback: informal/anecdotal, formalized questionnaire sent out with new varieties when shipped, and DraughtLab Descriptive Sensory from breweries that utilize the software.

Other: great information on their hop packages/boxes: bar codes that will list all the info, harvest conditions, and then thiols get added to it once they are run from the lab in France (June timeline). Labor is a big challenge: they have used H2A but it has gotten expensive (+30%) and could become cost prohibitive at some point. Could use more signage in facility. Marie Menut, their sales manager, also was on the tour as well as Pete Gillespie from Garage Project.

Areas of Concern:

Cobwebs in processing area.

Open windows (no screens) in processing areas.

Some gaps in wall (esp in small kiln area).

Some bird evidence in picker.

Improvements since last HQG visit (if applicable):

First time visit for Hop Quality Group – only had individual brewery visits in the past.

Recommendations:

Do thorough cleaning before/after harvest to mitigate cobwebs – don't want those in the hops!
Cover all openings in building including windows (add screens) to mitigate birds and other pests from getting into processing areas.
There are risks with hops staged on the ground before hanging in the Picker. It sounds like there are some strict NZ guidelines that force this method of staging. Good topic for further discussion to see if there are any creative solutions. Designated areas with floor markings? Regularly wash/clean areas to mitigate boot, truck, and tractor contamination? Having the magnets/X-Ray is also a good step to mitigating risk.
More signage in facility for worker safety and hops as a food product.

Additional Comments:

What hop varieties are grown? Acreage? <ul style="list-style-type: none">● Pacific Jade, Wakatu, Cascade, Pacifica, Nelson, Rakau, Motueka, Riwaka, Southern Cross. New Hapi Hops released or coming: Peacharine, Lilikoi, SBHO2. 135 Hectares at Freestyle.
Does Grower plan any major upgrades in the near future? <ul style="list-style-type: none">● Installing T-45 line. Also some minor adjustment of pellet mill with conveyance, etc.
Does Grower operate multiple facilities? If yes, how many? Facility names and locations (grower numbers)? <ul style="list-style-type: none">● They have a partnership with Nelson Lakes Farm which is 2 hours south of Sunrise Valley on the edge of Nelson Lakes National Park.
Does Grower custom pick for anyone else? If yes, who? <ul style="list-style-type: none">● No but yes on pelletizing. Clayton and Hop Revolution were two that were mentioned along with Nelson Lakes Farm. This year Clayton will have their own pelletizer.
What certifications does the grower possess, if any? <ul style="list-style-type: none">● NZ Gap (like Global Gap). National Program 3 Food Safety (same cert for spices to be directly used). MPI: ministry authorized to export to other countries: EU, Japan, Etc.
Additional Comments about the operation? <ul style="list-style-type: none">● This is an impressive operation, especially considering it's an older facility. It's obvious there is passion and technical expertise focused on getting quality hops out of this facility. The continual, concentrated effort on picking windows, oils, and thiol chemistry is really outstanding in this operation. We appreciate you letting the Hop Quality Group come to visit during harvest and are grateful for the time and great conversations around quality and hops. Cheers!● Virtual discussion on 7/27. Freestyle is very receptive to HQG recommendations and looks forward to future visits.









