



Certificate of analysis

John I Haas, Inc.
1600 River Road
Yakima, WA 98902
USA
1(509) 469-4000

Certificate of analysis	ICA003136		
Product name	CASCADE LUPOMAX® BULK-INT PELLETS US	Crop year	2024
Raw hop batches	24-WA349-006	Production date	21-Nov 2024
Finished good batch	PE03058	Best before date	21-Nov 2029

Notes

Type	Description	Note
CoA Note	Product Description	LupoMax® Pellets are produced from raw hops and can be added to the kettle to provide bitterness and a hop character that is indistinguishable from that achieved using raw hops. Hop Pellets provide improved homogeneity, better storage stability and reduced storage/transport costs compared to raw hops.
CoA Note	Storage	LupoMax® Pellets should be stored cool at 0 – 5 °C (32 - 41 °F). Pellets are best used within 5 years after processing. Foils, once opened, should be used within a few days to avoid deterioration of bitter acids and essential oils.
CoA Note	HACCP Statement	Composite product sample tested for heavy metals and lead on annual basis per John I. Haas HACCP program to ensure compliance with the specification.
CoA Note	Pesticide Statement	Pesticide residues are monitored in hop products under our BarthHaas Quality Guarantee.

Test	Unit	Test value	Reference method
HSI	--	0.292	ASBC Hops-12
Total Oil	mL/100g	1.5	ASBC Hops-13
Beta-pinene	%	0.6	ASBC Hops-17
Caryophyllene	%	7.1	ASBC Hops-17
Citronellol	%	1.3	ASBC Hops-17
Farnesene	%	6.1	ASBC Hops-17
Geraniol	%	0.4	ASBC Hops-17
Humulene	%	17.7	ASBC Hops-17
Limonene	%	0.2	ASBC Hops-17
Linalool	%	0.6	ASBC Hops-17
Myrcene	%	42.9	ASBC Hops-17
Nerol	%	0.2	ASBC Hops-17
Moisture Oven	%	7.0	ASBC Hops-4C
Alpha, Spectro	%	10.8	ASBC Hops-6A
Beta, Spectro	%	8.5	ASBC Hops-6A

Release by	Date
Hannah Eyerly, Sr Lab Tech	January 7, 2025 9:47:40 AM