



## Certificate of analysis

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

Certificate of analysis	ICA003081		
Product name	LORAL® HBC 291 C.V. TYPE 90 BULK-INT PELLETS	Crop year	2024
	US		
Raw hop batches	24-WA460-043	Production date	16-Dec 2024
Finished good batch	PE03299	Best before date	16-Dec 2029

### Notes

Type	Description	Note
CoA Note	Description	Type 90 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	Type 90 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	Pesticide Statement	Pesticide residues are monitored in hop products under our BarthHaas Quality Guarantee.

Test	Unit	Test value	Reference method
HSI	--	0.344	ASBC Hops-12
Total Oil	mL/100g	1.4	ASBC Hops-13
Beta-pinene	%	0.4	ASBC Hops-17
Caryophyllene	%	9.0	ASBC Hops-17
Citronellol	%	1.8	ASBC Hops-17
Farnesene	%	0.2	ASBC Hops-17
Geraniol	%	0.6	ASBC Hops-17
Humulene	%	31.1	ASBC Hops-17
Limonene	%	0.2	ASBC Hops-17
Linalool	%	1.5	ASBC Hops-17
Myrcene	%	29.1	ASBC Hops-17
Nerol	%	0.2	ASBC Hops-17
Moisture Oven	%	6.1	ASBC Hops-4C
Alpha, Spectro	%	11.0	ASBC Hops-6A
Beta, Spectro	%	5.4	ASBC Hops-6A

Release by	Date
Hannah Eyerly, Sr Lab Tech	December 20, 2024 12:18:26 PM