



YAKIMA CHIEF HOPS™



AMERICAN NOBLE HOPS™

PRODUCT OVERVIEW SHEET

WHAT IS AMERICAN NOBLE HOPS™?

AMERICAN NOBLE HOPS pellets are designed to share traditional noble hop variety characteristics, including high aromatics and low alpha acids, while retaining regional hop characteristics that make them unique to America's Pacific Northwest. AMERICAN NOBLE HOPS pellets are a high-quality, consistent solution for providing nuanced flavors and aromas from varieties like Cascade, Citra® Brand, Mosaic® Brand and Simcoe® Brand, making them perfect for Pilsner, Kölsch, Blonde, Saison and/or Sour beer styles.

INTRODUCING AMERICAN NOBLE HOPS™ INTO BEER

MASH: Some brewers have found success using AMERICAN NOBLE HOPS in the mash to aid runoff.

KETTLE: Late kettle additions are preferred because the low alpha content will not provide enough bittering and the aromatics will be boiled off.

WHIRLPOOL: The whirlpool provides a good blend of the aromatic addition and the ability to remove vegetal material before it enters the fermenter.

FERMENTER: Subtle aromatic characteristics can be achieved through dry hopping. An increased diacetyl rest may be required due to the hop creep phenomenon.

BENEFITS OF UTILIZING AMERICAN NOBLE HOPS™

AMERICAN NOBLE HOPS analytically appear similar to traditional low-alpha varieties, however, the bract itself contains many other variety-specific brewing characteristics. AMERICAN NOBLE HOPS contribute pleasant noble bitterness with the unique aroma of higher-resin Northwest varieties due to the extraction of water soluble flavor compounds such as flavonoids, glycosides and polyphenols.

- Unique flavor profiles from high-resin hops
- Noble hop replacement with reliable supply
- High-quality, low-alpha product
- Low cost alternative
- Source of polyphenols & antioxidants
- Controlled, oxygen-free production environment
- Solvent, heat, & pressure free processing

COLD PRESSED PELLETS

To ensure preservation of the essential oils and resins, the production process is conducted at cool temperatures, approximately 30 degrees lower than T-90 pellet production. AMERICAN NOBLE HOPS pellets perform similar to T-90 hop pellets and have comparable density and dissolving characteristics.

CURRENT AVAILABILITY	AMERICAN NOBLE HOPS™ PELLETS		TYPICAL ANALYSIS	
	1X5KG/11 LB	4X5KG/11 LB	ALPHA BY UV SPECTROSCOPY & OIL BY DISTILLATION	
			ALPHA*	OIL* (mL/g)
AMARILLO® BRAND VGXP01	⊙	⊙	1.5%	> 1
CASCADE	⊙	⊙	0.8%	> 1
CITRA® BRAND HBC 394 CV	⊙	⊙	2.6%	> 1
LORAL® BRAND HBC 291 CV	⊙	⊙	3.0%	> 1
MOSAIC® BRAND HBC 369 CV	⊙	⊙	2.2%	> 1
PALISADE® BRAND YCR 4 CV	⊙	⊙	1.5%	> 1
SIMCOE® BRAND YCR 14 CV	⊙	⊙	2.2%	> 1

* Actual alpha and oil percentages will vary based on lot and crop year.