YCHHOPS

PRODUCT DATA SHEET

T-90 Hop Pellets

PACKAGED BY

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DESCRIPTION

T-90 hop pellets are produced from kiln-dried, whole leaf hop cones which have been hammer-milled into a uniform powder and pressed through a pellet die. Leaf hops vary in oil and vegetative content, so pellet compression is fine-tuned to achieve a consistent density for repeatable brewing, batch after batch. Production processes are designed to protect and preserve hop resins by continually monitoring temperature and cooling the pellet die. Hop pellets retain all of their natural lupulin and cone material, and can be used as a full replacement for whole hops having a longer shelf life, requiring less storage space, and generally being easier to handle. Pellet hops are offered to brewers in 11lb (5kg) and 44lb (20kg), light-resistant packaging which has been nitrogen flushed to ensure freshness for up to three years from production date in cold storage conditions. T-90 hop pellets can be made from any hop variety. Detailed technical data sheets for these hop varieties are available at ychhops.com.

APPLICATION

T-90 hop pellets are primarily used in kettle additions to provide bitterness and hop character to beer, or in post-fermentation dry hopping applications to provide aroma and flavor. It is generally recognized that kettle hopping with T-90 hop pellets leads to improved trub formation and wort sterilization.

ADDITION PROCEDURE

Add the T-90 hop pellets into wort before or early into kettle boil for bitterness and the best utilization of alpha acid. Add aroma varieties late in kettle boil to maximize the aroma properties of beer. T-90 hop pellets can be added into the brew kettle during kettle boil loose, or via custom designed dosing systems. T-90 hop pellets can also be used for dry hopping during fermentation.

USE RATE CALCULATIONS

Addition during early kettle boil to achieve average bitterness in high gravity wort/beer will typically lead to the extraction and isomerisation of 30% of the alpha acids in the finished beer. Addition rate is thus calculated as follows:

$kgA = BU \times HL / 3000$
Where: kgA = kg of alpha acids to add in the brew kettle
BU = the desired amount of bitterness units in the finished beer
HL = hectoliters of finished beer (1 barrel = 1.173477657999771 hectoliter)
Use rates may vary depending on the brewing process and the desired hopping level

Addition during kettle boil to provide bitterness and/or aroma are dependent on the time of addition and the desired hop character in the finished beer. Hop formulation and addition rates are determined on a case by case basis. Addition rates during or post-fermentation to reinforce aroma in beer are also determined on a case by case basis.

AROMA

Aromatic notes are variety specific. Perception of hoppy character and various related notes in beer are also variety specific in some instances and will depend on the quantity of pellets added and the time of addition during kettle boil. Aroma descriptors include, but are not limited to citrus, tropical fruit, stone fruit, pine, cedar, floral, spicy, herbal, earthy, tobacco, onion/garlic and grassy.

PACKAGING

T-90 hop pellets are packaged inside polyethylene pouches and/or metallic polyester foils ranging from 11 lb (5kg) to 44 lb (20kg) capacities and shipped in cardboard cartons. Packaging is done with a nitrogen flush under inert atmosphere. T-90 hop pellets are packaged based on kg net weight or kg alpha acids. A complete list of packaging information can be obtained upon request.

STORAGE

T-90 hop pellets should be stored near-freezing, preferably between 30°F and 41°F (-1°C and 5°C). They will remain stable in closed containers under the following conditions: 1 year in bales or 3 years in nitrogen flushed, vacuum sealed packaging.

Storage stability does vary per variety and can be negatively affected by exposure to oxygen, heat and/or light.