



Totally Natural Solutions®
aromas & flavours to inspire

Late Hopping – Be Inspired!

Where late addition of hops to the brew kettle is used to add flavour to a beer, the brewer faces many challenges to achieve consistency. Hop aroma and flavour molecules can be volatilised from the kettle, bound to trub particles and lost or modified during fermentation.

Totally Natural Solutions Ltd have developed a range of late-hop soluble products for direct addition to beer post fermentation. A new, green technology has been used to fractionate hop oils to give spicy, floral, herbal and citrus character, which can then be independently added. Late hop extracts are also available as the named hop variety.

What is HopShot®?

- A concentrated hop oil extract
- Fractionated using clean label technology
- Adds hop flavour (spicy, floral, citrus, herbal, woody) independently
- Varietal products available
- Added post-fermentation
- Dose range 5 – 40ml / hl



TRADITIONAL LATE HOPPING vs TNS HOPSHOT®		
	Late hopping	HopShot®
All natural	Yes	Yes
Dose rate	100 – 500gms / hl	5 – 40ml / hl
Cost in use	£1 – £12 / hl	£1 – £5 / hl
Utilisation	20 – 35%	Up to 100%
Easy to use	Solid hops added to brew kettle	Liquid dose post fermentation to bright beer, cask, firkin or keg
Reproducibility	Oil content and utilisation will vary	Yes - HopShot® is a standardised product
Beer development	Requires individual brew trials over several weeks	Allows quick and easy assessment of hop flavour
Light stability	No	Yes
Flexibility	Can only add varietal hop character	Fractions can be added independently
Vessel cleaning	Spent hop to be removed from brew kettle	Simple rinse required. No hops to remove