



BarthHaas® **SPECTRUM**

HIGHLY EFFICIENT DRY-HOP FLAVOR

SPECTRUM adds true-to-type variety specific dry hop flavor that is made entirely from hops with no synthetic carriers or solvents. As well as the efficiency benefits listed below it delivers highly consistent flavor to help you manage beer quality. It can also create a more stable dry-hop flavor that lasts longer in the final beer and creates no hop creep. As full or partial replacement for hop cones or pellets, SPECTRUM can create efficiency through:

REDUCED PROCESS TIMES

SPECTRUM is simple to dose and makes all of the flavor compounds more readily available to the beer. This means you can reduce tank times and therefore the overall brewing process times. This means you can make more beer more quickly and easily.

INCREASED YIELDS

SPECTRUM is a fully dissolvable liquid product and as such it does not soak up your beer like traditional hop cones or pellets do. This means that you reduce your beer losses, reclaiming beer that would otherwise be soaked up in the dry-hopping process. The result is more beer to sell, making more profit for your business.

REDUCED ENERGY USAGE

By reducing processing time and increasing dry-hopping yields, you can reduce your energy usage during the dry-hopping process.

REDUCED WASTE

SPECTRUM creates no additional waste products. This means that with every pellet or hop cone you replace with SPECTRUM, you are reducing the waste material and the associated time and cost needed in disposing of it. You can also re-pitch your yeast when dry-hopping a beer with SPECTRUM.

REDUCED SHIPPING AND STORAGE

The volume of SPECTRUM required to achieve the same job as hop cones or pellets is significantly reduced. This means less volume on the road, giving you reduced shipping costs. Add to this that you are chilling a far smaller volume and the cost savings can really add up.

GREAT FLAVORS

SPECTRUM is now available in the following great hop varieties: Azacca®, Bru-1®, Cascade (US), Citra®, El Dorado®, Eclipse®, Galaxy®, Mosaic® and Vic Secret®



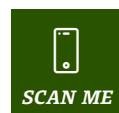
WHERE TO DOSE:

Fermenter during dry hopping.

REDUCED CAPITAL EXPENDITURE:

As SPECTRUM is fully soluble, you don't need any additional expensive equipment to dry-hop your beer.

Learn more at
barthhaas.com/spectrum





CASE STUDY

AMUNDSEN BRYGGERI

“I suspect that [...] we can improve yields even further, which would be incredible.”

Amundsen Bryggeri is an Oslo-based brewery focused on producing quality craft beers. Their motto is “Created by Craftsmen” and they see themselves as modern day craftsmen hand-crafting and producing ales, lagers and sours. As Oslo’s largest brewery they have been following an organic growth from the starting days at their 5 hL brew pub. They now enjoy a 3500m² 42 hL brew plant.

Matt Arens, Head Brewer explains:

“We wanted to use SPECTRUM for a variant of our double IPA, Double Apocalypse. This version of the beer (which we called Lean Green Lupulin Machine) was an experiment to see if we could match the Double Apocalypse flavor in the most efficient way possible. To do this we used SPECTRUM alongside another of our liquid hop products Incognito®, and a brewing enzyme from Novozymes called Ultraflo® Max. The usual dry-hopping rate for this beer is 80 kg in 40 hL, so a whopping 2 kg/hL.

Based on our previous experience with using SPECTRUM and our discussions with BarthHaas, we decided to add it early. If brew day is day zero, then we added SPECTRUM two days after the brew day and then the pellets went in right after, which is the next day, so day 3. We decided to go for a 50/50 split. We kept 40 kg of T90 / BBC pellets in the dry-hop and then went for 5 kg of SPECTRUM. That was a very different approach than what we had been doing previously. Most of our past approaches were SPECTRUM-heavy, but this time it was way more balanced. The result was striking. No harsh resinous notes and instead it was juicy orange, passion fruit and peach flavors, making this a dangerously drinkable double IPA.



Matt Arens
Head Brewer

On the last Double Apocalypse (reference beer), we got 31 hL and on this one we got 35.8 hL unpackaged beer, which is a big difference. Admittedly, the yield on our Double Apocalypse was a bit lower than it should have been – it is usually 32 hL of beer. But we are comparing those two beers, because everything is the same - the same bulk silo delivery, and the specialty malts are from the same pallets. If we are going to compare like for like, that was the difference. But in any case, we have never brewed a Double IPA with more than 35 yields out of 40. Those are the numbers; and numbers don't lie.

We wanted to push the boundaries with SPECTRUM but actually the key is to start more carefully, trying a partial replacement or reduced dose rates. I suspect that with some more trials we can improve yields even further which would be incredible.”

LET'S TALK SPECTRUM

We'd love to talk to you more about how you can begin using SPECTRUM to create great flavor more efficiently. Speak to your BarthHaas contact or contact us on the details below.

BarthHaas GmbH & Co. KG · Freiligrathstr. 7-9 · 90482 Nürnberg
Tel: +49 911 5489-0 · info@barthhaas.de