



**INTERNATIONAL  
DISTRIBUTION PARTNER  
HANDBOOK**



**JUNE 2023**

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## Crop 2023

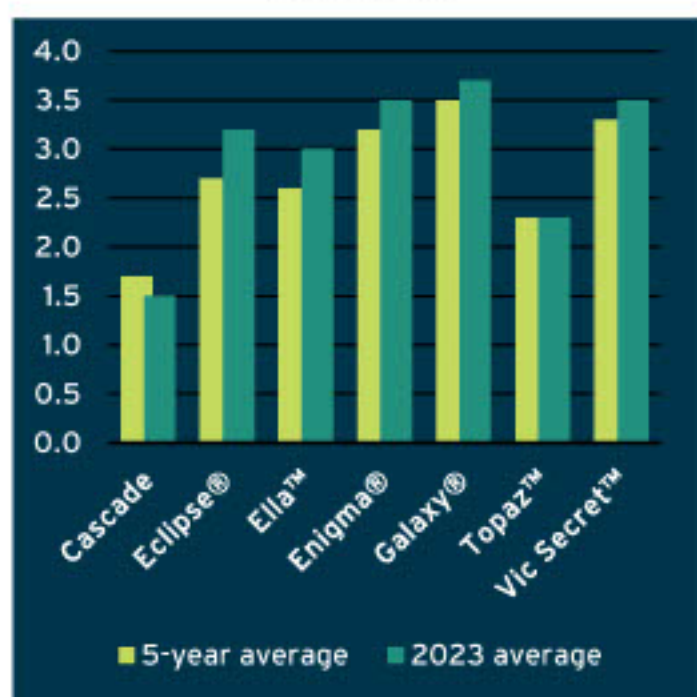
Hop Products Australia (HPA) picked 847 hectares across Victoria and Tasmania, which resulted in 1,821 tonnes of hops. This was a 37 hectare (4.5%) net increase and a 164 tonne (9.9%) net increase year-on-year across six proprietary varieties - Eclipse<sup>®</sup>, Ella<sup>™</sup>, Enigma<sup>®</sup>, Galaxy<sup>®</sup>, Topaz<sup>™</sup> and Vic Secret<sup>™</sup> - as well as Cascade.

The increases in Galaxy<sup>®</sup>, Vic Secret<sup>™</sup> and Eclipse<sup>®</sup> are the result of second and third-year plants reaching commercial maturity. These increases were somewhat lowered on account of adverse seasonal conditions that also impacted Ella<sup>™</sup>, Enigma<sup>®</sup> and Cascade. This bodes well for crop 2024 which has a more favourable long-range weather outlook.

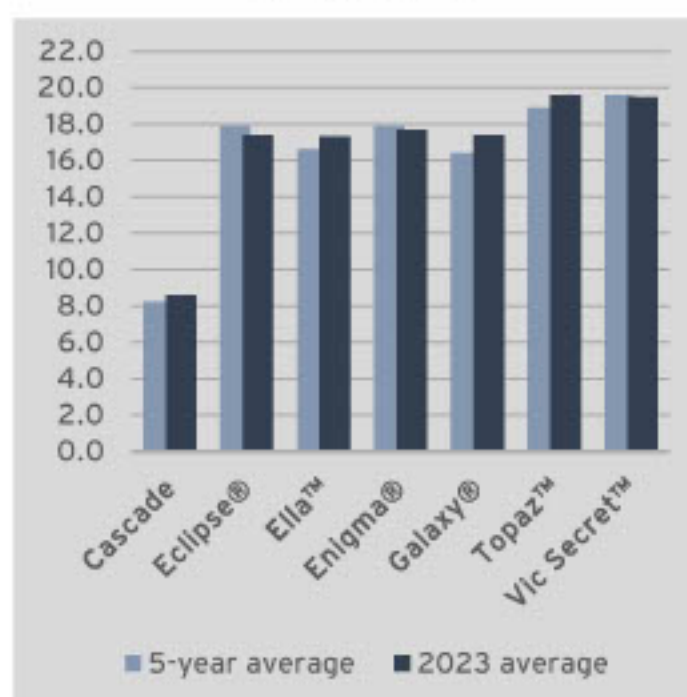
	Production Volume (Metric Tonnes)	Year-on-Year Variation
Galaxy <sup>®</sup>	1,096	+8.8%
Vic Secret <sup>™</sup>	320	+10.3%
Eclipse <sup>®</sup>	161	+70.0%
Ella <sup>™</sup>	87	-10.1%
Enigma <sup>®</sup>	78	-9.6%
Topaz <sup>™</sup>	60	+9.2%
Cascade	18	-29.7%
<b>Total</b>	<b>1,821</b>	<b>+9.9%</b>

Impact in beer is expected to remain strong, with oil content equal or above the 5-year average for all proprietary hops. The star performers were Eclipse<sup>®</sup> with strong oil content that should lead to an exceptional year of impact in beer, and Galaxy<sup>®</sup> with oils and alphas above the long-term average ensuring high quality outcomes for our popular hop.

Oil content



Alpha content



Note: measurements calculated on raw hop quantities. Processed hop pellets will show reduced values.



## Increasing capacity & improving quality

HPA has purchased the former Tobacco Cooperative of Victoria property in Myrtleford. The site contains four buildings totaling ~22,000 square metres, which we will transform into a state-of-the-art pelleting, packaging and storage facility by crop 2024.

The project will involve transitioning from two aging 1960s pellet plants and packaging lines capable of producing 10 metric tonnes of pellets per day, to one temperature-controlled pellet plant and modern form, fill and seal packaging line capable of producing in excess of 50 tonnes of pellets per day.



Improvements in quality and capacity from the modern equipment, supported by 100% cold chain from farm to final packaging, will allow us to retain a higher percentage of oil content in the finished pellets at a lower average Hop Storage Index (HSI). This means brewers can expect an overall increase in quality and a reduced spread of analytical data across lots, which will translate to more consistent performance in beer.

The capacity of our new facility is based on a central tenet of hop quality, the stability of hop bales in storage. Through a study into the degradation of hop chemistry, as published in the [Journal of American Society of Brewing Chemists](#), we know Galaxy® bales are susceptible to rapid deterioration. The higher throughput of the modern pelleting and packaging equipment is expected to mitigate this threat to quality, processing the entire crop in the shortest time possible. This substantial capital investment will ensure all HPA hops are in the physical protection and modified atmosphere of foils in under 55 days.

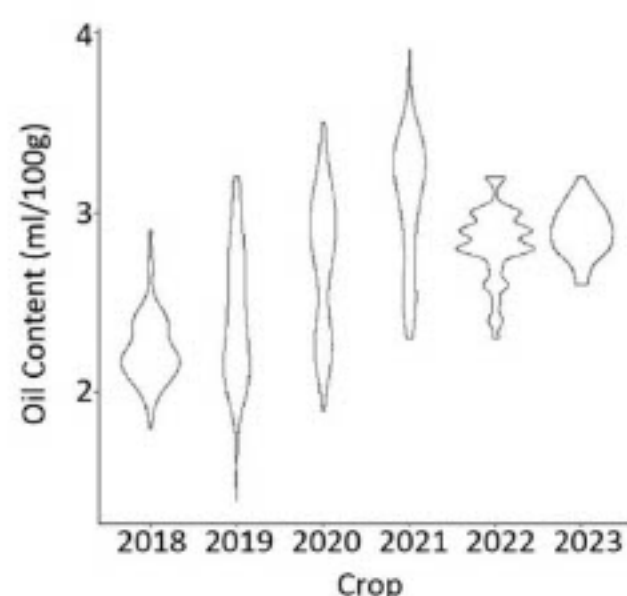
In response to valued customer feedback on the performance of Galaxy®, we also revisited some fundamental principles around how we protect our hops from damage and deterioration. Foils perform the critical role of providing both a physical barrier for food safety and an oxygen barrier for preserving volatile oil compounds. A review of the material specifications and manufacturing quality of our foils led to a 30% increase in thickness of the aluminium layer for the purpose of increasing the oxygen barrier properties, and a 36% increase in thickness overall. Investing in these upgrades will improve the protection of our pellets from processing to shipping and delivery, ensuring the highest quality outcomes for brewers.

## Tightening sensory specifications

HPA has been working hard to improve our whole-of-crop approach to blending based on key measurements including oil content, alpha content, moisture content and HSI. This is currently applied to all Aussie hops, except Galaxy<sup>®</sup>. Crop 2023 lots processed in Victoria are 100 percent Victorian Galaxy<sup>®</sup>, while all crop 2023 lots processed in Tasmania are 50 percent Tasmanian Galaxy<sup>®</sup> and 50 percent Victorian Galaxy<sup>®</sup> to assist with throughput.

The following violin plot shows the distribution of all Galaxy<sup>®</sup> oil content over the past six crop years. This is a useful way to visualise statistical distribution, with width representing frequency of the corresponding value on the vertical axis. It shows a strong trend toward increasing mean oil content and reducing spread of oil content over time. We are confident the performance of 2.6 - 3.0ml/100g coupled with an HSI <0.33 will result in meaningful improvement to potential impact in beer.

Violin plot of oil content by Galaxy T90 pellet batch



From crop 2024, bales from Tasmania will be transported to Victoria. In preparation, we have upgraded to dual-sided Reith bale presses across all sites to establish a warehouse management system based on standard bale weights and pallet configurations.

To deliver on our promise of highest possible quality and lowest possible variance all bales will be 100% cold chain from farm to final pellet. This is critical to arresting degradation of hop chemistry. Our new facility will have room for cold storage of 704 pallets of bales and 552 pallets of finished pellets, and existing third-party cold storage will be used to stage production when it exceeds our in-house capacity.

We're also tightening our minimum quality standards so any bales with significantly lower alpha and oil content or significantly higher HSI will be excluded from our blends. This will involve sensory screening focused on critical review of all material flagged by non-conformance reporting through farm operations, or data analysis of statistical outliers.

By ensuring only great material goes in, we are proactively positioning ourselves to ensure optimal outcomes in the finished product. Our focus is delivering a consistently high quality that can be sustained year after year. We believe it is possible that >3.5ml/100g is unsustainable, and any brewers advocating for selection of this material may find themselves in a compromising position.



## Tackling selections

Hop grower and suppliers' decision to offer selections is largely driven by variable quality outcomes due to a large number of independent growers who are spread across diverse geography all contributing to the yield of a single hop variety.

HPA is in a unique situation compared to the international growing regions that are experiencing increasing diversity. HPA are a relatively small, independent, vertically integrated business that has sole custody of our proprietary hops across all stages of the hop production process, from cultivation and growing all the way through to packaging and sales. They are cultivated specifically for our Australian growing regions that produce just 2% of hops around the world. Our farming practices are governed by a quality management system that adheres to the internationally recognised ISO 9001 and HACCP certifications, which ensures best practice and procedural uniformity across both growing regions. The timing of our post-harvest production process also has a particularly significant impact on quality outcomes. Fortunately, our business model and substantial infrastructure capabilities currently allow us to ensure the entire crop is packaged within eight weeks of finishing harvest.

An intimate understanding of our proprietary hops and an exceptional level of quality control over the hops from bine to brewery is our most important point of difference compared to other businesses in growing regions that choose to offer selections. This doesn't mean we don't experience some variability in quality outcomes, but we can minimise these variabilities by being in full control of the whole crop from the very beginning to the very end. For instance, we know Galaxy® bales are particularly susceptible to degradation, so instead of offering selections which would increase time in storage we have made it our mission to deliver the highest possible quality outcomes with the lowest possible flavour variability through a whole-of-crop approach to blending. We choose to manage our proprietary hops in a way that will deliver the best long-term outcomes for everyone involved, distributing equitable hops to all of our brewing customers, and allowing them to trust their performance in beer year after year.

We understand our approach to selections does not embrace the nuances of a given hop variety's flavour profile, which can really excite some brewers. But we also know the majority of our brewing customers would admit they are under a lot of commercial pressure to make consistent beer. No matter how much we might want to celebrate choice and diversity in beer, there is a consumer confidence piece we need to consider. When a beer drinker falls in love with one of our brewing customers beers, whether it be on tap at the pub down the road or off the shelf from their local bottle shop, it's important that beer tastes the same next time they drink it. This consistency encourages a level of brand loyalty that forms the foundation for future growth. We see it as our role to help our brewing customers achieve future growth by presenting consistent, high quality hops and giving them one less production challenge to face.

All current and potential brewing customers are encouraged to visit our farms during harvest so they can meet our team, better understand our production process, observe our commitment to consistent flavour profiles through quality management, and come to appreciate the connection between brewers and hop growers who really are mutually dependent on one another.