



NEWSLETTER 2014-15



Prof Ernest Salmon
Wye College

From Salmon to DNA

Hop breeding was started by Prof Salmon at Wye College in 1906 and his work has been the foundation for all hop breeding worldwide until the present day. Amazingly, the techniques he pioneered are still those used by hop breeders today. But advances in plant science, with the ability to rapidly and cheaply sequence DNA, are set to change this in the near future. DNA markers will transform the selection process. The crosses made by Wye Hops in 2014 and 2015 are in anticipation of the application of these advances to hops. The crosses in 2014 aimed to develop suitable new parents for use with marker-assisted technology, whilst the crosses in 2015 will develop segregating progenies on which to validate and, hopefully, discover new markers.

... and back to Salmon

Prof Salmon's last variety to be on farm trials remains in the Wye Hops germplasm collection under his code of OZ97a. It did not become a commercial variety because it was rejected after the IBD brewing trials in 1960 where it "found little or no favour" because of its "strong coarse American aroma". However, as reported in previous newsletters, its flavour has generated interest from a new generation of craft brewers.

With hops of OZ97a from the germplasm collection, a beer was brewed during 2015 by craft brewers The Foundry Brew Pub, Canterbury and the reactions of customers recorded on a flavour wheel. The beer was very much liked and described as complex with predominantly fruity notes, especially apricot, citrus and spice.

Salmon's last variety is now back on two farms, planted in 2015 with production expected from the 2016 crop.

Visitors and talks

Interest in hop flavour in the brewing industry and amongst beer-drinkers continues to escalate unabated. This is reflected in the number of requests Wye Hops receives for visits, interviews, talks and tours of the trial plots. Publication of this newsletter is just one of nearly fifty different events describing the work done for the British hop industry by Wye Hops in the last year!

A+ scheme and yet more initials

Every industry loves their acronyms! Past newsletters have mentioned the revised PHPS A+ Scheme (Hops) which was set up in 2013. Just to explain how this Plant Health Propagation Scheme works: The elite, virus and viroid tested hop plant stocks (known as A+ status) are held on behalf of the BHA (British Hop Association) at STC (Stockbridge Technology Centre) who apply for the GSI (Growing Season Inspection). Plants are inspected for the GSI by APHA (Animal and Plant Health Agency) using forms administered by the NSA (Nuclear Stocks Association). All BHA plant stocks are tested for the presence of viruses and viroids every two years and so were all sampled again during 2015 to ensure that only the highest quality plants are propagated for the British hop industry.



Selection 37/15
In plots at
Dormington

Exciting new flavour selections

Most of the seedlings in the current breeding garden, from crosses made 2011-13, are there to be selected primarily for their flavour. Samples of the most promising selections from the 2014 harvest were presented to a trade panel of merchants and brewers in January 2015 and their comments were invaluable in deciding which selections to progress to further trials. The panel was impressed by the intensity of aroma in some selections, matching imported USA hops, and their vocabulary was stretched to describe some of the flavours : mango, lychees, honey, cedar wood, banana, chocolate and rhubarb were just some of the comments on their assessment sheets - all these from potential hop varieties from Britain!

Hardly a predator in sight

It is an old adage that no two years are ever the same and this certainly holds for the way in which aphids invade the hop crop during late May. In the search for hops resistant to the hop aphid, each season Wye Hops has many hundreds of plants in the field where no aphicides are used. Each plant is individually assessed for the numbers and sizes of aphids on its leaves to find the resistant types. In 2015, these assessments revealed an almost complete lack of aphid predators. The aphid population explosion which could have resulted was only halted by the searing 34° (shade) temperatures in early July.

Top of the Hops 2015

Exactly 2,015 different seedlings were harvested from the breeding garden to produce Top of the Hops 2015 beer distributed in January 2015 on draught through the M&B pub chain and claiming to contain a world record for the number of different hops.

Further Endeavours

The original farm trial site for Wye Hops' new variety Endeavour was planted in 2010, and extended in 2011, to provide sufficient hops to judge the reaction of brewers and their customers to this unique English flavour. However, interest in the variety is such that a further three sites were planted in 2014 which will be producing from the 2015 harvest. A fifth site has been agreed for planting in 2015. The BHA are trying to carefully match supply with demand.

Perhaps Heanua or Lannoseas?

Well, perhaps not. These obscure names are said to be those of the daughters of queen Boadicea. Daughters of hop variety Boadicea have also remained quite obscure until now. They have all failed against one criterion or another during the course of the selection programme. But a daughter of Boadicea from a cross made in 2006, coded 37/15 and pictured above, is now set to go for farm trials. It has been very promising in its assessment plot with resistance to aphids, strong resistance to wilt disease, fair yields and a typically "English"-type aroma when assessed blind by a panel of brewers and merchants. The BHA is arranging farm trial sites to be planted in 2016.



A new farm trial site
for Endeavour

Contact

If you have any comments or questions about the articles in this newsletter, please contact Peter Darby or any of the Directors of Wye Hops Ltd; Ali Capper, Clive Edmed, Andrew Hoad, Simon Parker, Bobby Neame, and Tony Redsell, who would be pleased to give you further information about the work.

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