

PETER THE GREAT OF THE UK HOP INDUSTRY

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From the previous technical editor of the SBR, Jens Eiken, we have received the following very interesting article on the development of and research into English hops in general and on one of the pioneers within this field in particular. With Jens' own words: 'Peter the Great changed the destiny of Russia; Peter Darby changed the destiny of the UK hop industry!'

Have you ever tried driving around in the Kent area in the beginning and middle of September? As you are turning yet another corner on the narrow country lane, you are suddenly met by green fluffy dust and a strong hoppy smell. The speedy tractors, driving like mad, are rushing to get the crop from the fields to the picking sheds. The atmosphere is vibrant; Englishmen, Poles, Czechs are busy harvesting the green spicy gold, vital for brewing a beer. This is not easy and time is not on your side. You need to think about alpha acids (money), crop yield, virus attack, wilt, fungal disease – you name it.

Peter Darby is a hop researcher and the public figurehead behind Wye Hops Ltd. Established in March 2007, Wye Hops Ltd has become a vital research centre for the English hop industry.

A fantastic job has been initiated by Peter Darby to save the present as well as the future for the UK hop industry. With the passion for hops and a will to succeed, Peter collected, with the help of the National Hop Association of England (NHA), approximately £120,000 to finance the set-up of Wye Hops Ltd. In addition to the NHA, the funding came from among others IBD, SIBA, BBPA, East Malling Trust, Kent County Agricultural

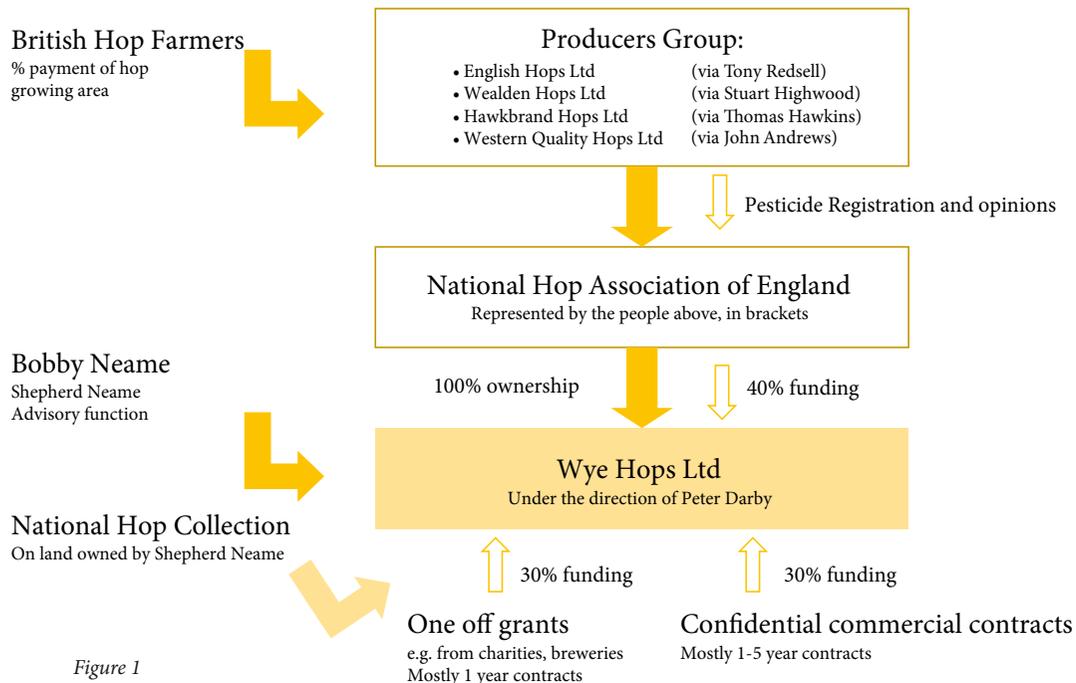


Figure 1

Society, Defra (the UK Government) and charitable trusts. Take a look at figure 1 for a full explanation of the set-up of Wye Hops Ltd¹.

Wye hops Ltd is a company with no official employees and it is a wholly-owned subsidiary of the NHA. Staff of Wye Hops Ltd are all self-employed, which makes collaboration with hop suppliers and the brewing industry very important.

English hops are needed to produce proper English beer styles like Burton Ale, Porter and India Pale Ale. English hops do attract micro brewers around the world and should also be a very attractive candidate when thinking about sustainability, a great marketing story.

Wye Hops Ltd. is located amongst the commercial hop crop at China Farm, owned by Hop Farmer and NHA Chairman Tony Redsell. This site was selected mainly due to wilt-free conditions and a possibility for irrigation.

The main success stories for Wye Hops Ltd. to celebrate are:

1. Rescuing the English hop breeding programme following the closure of the programme at Wye College in 2007.
2. Successful EU registration of two new hop varieties:
 - Sovereign (granted EU plant variety rights in 2010) – a classic English aroma often likened to a Fuggle
 - Boadicea (granted rights in 2008) – the only variety in the world with resistance to hop aphids
3. Developing a new dwarf variety named Endeavour (selection code 15/2). This variety is currently in trials at farms and is considered to impart unique English flavour notes to beer*. It has been used very successfully in English-style pale ales and is currently undergoing pilot brews using the limited 2011 crop to investigate its suitability for other beer styles.
4. Developing UK-Fuggle varieties with wilt and aphid resistance (on-going).
5. Establishing of the national hop collection at Queens Court in Kent. This collection includes over 70 historic English hop varieties from Mathon (1737) through to Sovereign, including Early Bird (1887) and other Golding varieties, Janus (1960), Viking (1979).

A hop breeding programme consists of preparing pollen, making controlled crosses, raising seedlings, transferring →



Peter Darby and the hop variety Boadicea

seedlings to the field, and collecting, drying and pressing cone samples from the seedlings for analysis.

For historic reasons dating back to the early 1900s, in England male hop plants are grown alongside female hop plants. In the breeding programme, the males are not ‘killed’ but used as parents to develop new female varieties like e.g. UK-First Gold. Peter uses the male hop plants mainly for their growth habit characteristics and to provide disease resistance in their female hop plant progeny.

Peter Darby has also been deeply involved in setting up the French hop breeding programme located in Alsace to help save the hop production in that area. This programme was started in 1999 and Peter is now an advisor to Cophoudal – ‘Fine hops from Alsace’.

It normally takes at least five years to identify a potential new hop variety and can be a further six years to take it into commerce. The cycle is:

- Year 1: Crosses
- Year 2: Raising seeds
- Year 3: First assessment of individual seedlings (based on resin analyses, and aroma assessment)
- Year 4: Mature hop harvesting; yield, plant health and cone shapes
- Year 5: Selection of potential varieties and propagation of material for commercialisation
- Year 6: Planting of small plots

- Year 7: Assessment of commercial attributes including suitability for machine harvesting, yield, oil and resin analysis, and disease resistance
- Year 8: Assessment of mature plants for habit and pilot brewing trials
- Year 9: Propagation of materials for planting on farms
- Year 10: Planting on farms
- Year 11: Commercial crop

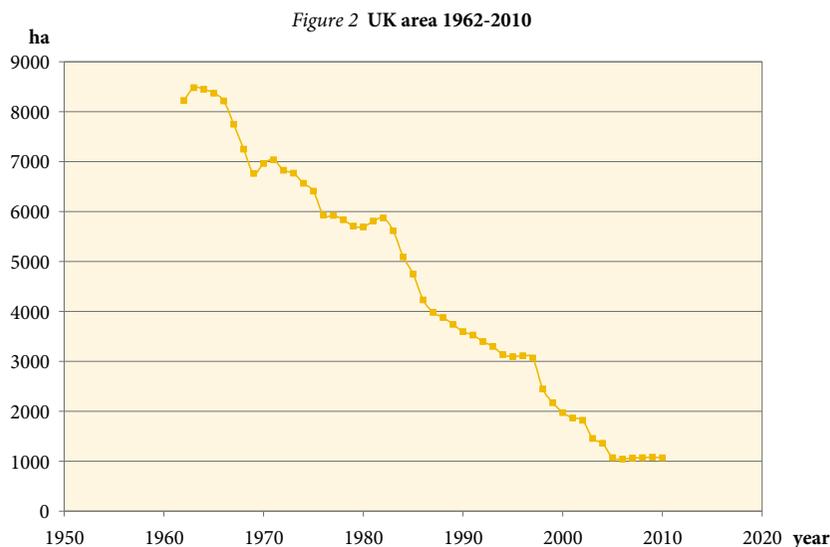
THE FUTURE OF ENGLISH HOPS

In 1962, hops in England were covering an area of approximately 8,200 ha. Since 1962, the area has declined massively and was stabilised to approximately 1,060 ha in 2007, see figure 2. In 2010, the 1,070 ha of hop plants produced 1,608 t of hops, according to Peter Darby and the Barth report on hops². The 2011 figure looks very similar to 2010, but let’s wait and hopefully enjoy.

The year 2011 was a difficult hop growing year in the UK with a very dry but warm spring leading to erratic hop growth. The summer was dull and cloudy for much of the time and, in particular, August lacked much sunshine although rainfall remained low. Hop growers and Wye Hops Ltd have coped with all these vagaries of the English weather.

In March 2012, Wye Hops Ltd can celebrate a very successful five year anniversary and since you need English hops for original English beer styles, I am sure that you will be ready to donate a bit of money for more research to be performed in the years to come or why not even your own commercial contract?

Happy birthday and good luck! 🍀



ENGLISH FLAVOUR NOTES*

Peter Darby associates English flavour notes as being subtle and balanced. Although hoppiness is distinct, there are also fruity and woody notes present but without any one note being predominant. The effect is that you want to have another drink of the same beer; there is no need to change to another brand.

Peter continues with an analogy:

‘English flavour is like a chamber orchestra, the hops giving simultaneously the high notes and the bass notes. In comparison, a Czech beer is more like a full orchestra with much more breadth to the sound, and an American hop gives more of a dance band with more emphasis on volume and brass. The recent New Zealand hops (e.g. Nelson Sauvin) are like adding a voice to the instrumental music.’

Endeavour gives flavour notes, especially heading towards citrus, which are not usually found in English hops, yet, the notes are not strident or overwhelming as they are in some of the ‘citrus’ hops such as Cascade or Citra or Galaxy.

REFERENCES

- ¹ Newsletters from Wye Hops Ltd. (2007-8, 2008-9, 2009-10 & 2010-11) via Peter.Darby@wyehops.co.uk
- ² Barth report on hops: http://www.barthhaasgroup.com/index.php?option=com_content&task=view&id=28&Itemid=30

ABOUT THE AUTHOR

Jens Eiken is an experienced director and master brewer with international expertise and a passion for beer and drinks innovation. He graduated as a Master Brewer from The Scandinavian School of Brewing in 1993 and has worked in many supply chain roles for Royal Unibrew (DK), Carlsberg and Molson Coors. Jens is highly recognized for his endeavours within beer NPD, and hops are a big passion for Jens, having participated in the rediscovery of traditional Danish hop varieties.



Controlled crosses



Fiona at the ‘Peter Darby invented pressing machine’