

Hops Market Update, December 2007

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Over the last two years, there has been a turnaround in the hops industry, from recession to worldwide hops shortage, leading to the highest prices on record for hops in 2007.

The industry had been in a 15 year price recession, leading to a massive reduction in acreage all over the world, and a corresponding decrease in the number of farms. At the same time, production of alpha acid rose considerably, as growers sought higher-alpha varieties to meet the mass market. The trend for the largest brewers (Anheuser-Busch, Molson Coors, InBev, SABMiller) is to use smaller volumes of high-alpha hops, as well as brewing high-gravity beers and watering them down, and considerable vertical integration, especially in malting. High-alpha hops do command a premium price, but this is offset entirely by the lower volumes used. In addition, these big brewers also contract ahead for their hops, keeping prices as low as they can – and with their level of market power, that's pretty low.

In the ten years between 1996 and 2006, both acreage and total production of hops was down 36% worldwide, while alpha production was down only 4%. In the meantime, beer production was up 58% worldwide (16% in the USA). This shift in production and use of hops shows the trends discussed above: while beer production increased, overall hops consumption decreased.

This sounds pretty depressing to the prospective hops farmer, but there is a contrasting view of the situation. First of all, due to poor growing seasons, loss of acreage, and a single warehouse fire in 2006 which destroyed 4% of the US hop crop (craft brewers are estimated to hold 4-8% of the US market), hops are now in high demand. In particular, smaller breweries, who do not have the market power to forward contract for their hops, are finding themselves competing for a very small segment of a poor crop. Prices for current production have increased from \$1.70/lb in 2005 (for non-organic hops) to a current reported price of \$32/lb – although the latter price is not paid directly to the farmer, but to a hops broker, it nevertheless indicates the price jump. Brewers are holding smaller stocks of hops than ever before, and production in 2007 is estimated to be short by 20,000lbs, according to HopUnion. This is despite the fact that world hop acreage actually rose in 2007 by 4900 ac., although these are presumably not yet in production. Hops are currently forward contracted at 85% for 2009-2010.

The current prospects are interesting, to say the least. "Organic beer sales have been increasing even faster than the organic industry as a whole, reaching \$19 million in 2005, a 40% increase over the previous year - and that figure doesn't even count organic sales by Anheuser-Busch who entered the market in 2006." (Chris O'Brien, "The Organic Hops Controversy" 2007) So organic brewing is on the rise – massively. At the same time, some brewers are saying that hops at \$32/lb will drive them out of business, and that the amounts of hops that are forward contracted will prevent them from weathering the storm. So we have two prospects working against each other: higher hops prices and current lower production makes it very enticing to start producing hops, with the increase in organic brewing making organic production the clear favourite; at the same time, cash-strapped smaller breweries are ripe for takeover by the largest corporations, which push ingredient prices downward, and results in a potential decrease in the market, particularly for small-scale production.

My personal view, as an organic farmer, hops grower and brewer, is that the market will remain strong for organic hops and small-scale production. More stringent national and international organic standards put greater pressure on organic brewers to use organic hops (as the 5% rule no longer applies). The organic market is surging ahead, and brewers who have anticipated this have strong and loyal customer bases, which can also absorb price increases. It must also be noted that an increase in the price of beer to reflect the increase of cost of goods (both malt and hops), will not result in a huge price increase on the consumer end, as soft costs in the industry are considerably higher than cost of goods. In addition, microbrewers are becoming more and more aware of the need to link directly with their growers and to establish "beer security" through strong relationships and the local economy. This is good news for small and organic growers, who can grow exclusively for one or two brewers and involve them directly in production issues. It is a wonderful marketing opportunity for brewers as well, as they become involved in their local agricultural community as well as being able to establish terroir for their beers.

Once again, we have the opportunity to learn from our organic history. Rather than focusing on joining the mainstream market, attempting to serve the Wal-Mart of beer producers, we must create an alternative. Fortunately, there is a huge market of craft or microbrewers panting for supply, and seeking local producers. Also pleasingly for farmers, these breweries are all over the country, so there is bound to be a brewpub or microbrewery close by who will be interested in buying locally grown hops.

That said, what's the actual potential? There are currently 14 microbreweries and many more brewpubs in BC alone. Crannóg Ales and Nelson Brewing are certified organic, while Phillips Brewing uses a high percentage of organic ingredients, and many others are already using organic malted barley. The concept of organic brewing has been slower to take off in BC than in the US Pacific Northwest, but thanks to the American influence and growing consumer pressure, BC brewers are warming to the idea. They are currently much more concerned with local supply, and are eager to link with local producers. Many of them are already establishing local links for ingredients like fruit and herbs for specialty beers.

This means a potential market for thousands of pounds of hops. Current estimates by HopUnion, one of the foremost US hops brokers, is that production is short by about 300 acres in Cascades alone. While the market should be strong for hops for the foreseeable future, established growers are likely to increase their acreage substantially on the strength of the market. However, US conventional growers have already shown their lack of ability to grow organic hops, leaving the market wide open for local organic production.

The best tactic remains to contact your local brewer, and talk to them about supplying them with hops. Speak directly with the brewer to get the best information.

<i>Hops by production Quantity</i>	<i>USA 2006</i>	<i>Alpha</i>
Zeus	20%	13-17
Willamette	15%	4-6
Columbus/Tomahawk	13%	C 14-16, T 15-17
Galena	12%	10-14
Nugget	10%	9-14
Millenium	5%	unknown
Cascade	4%	4-7

This table shows that the vast majority of hops grown in 2006 were high-alpha varieties. This does not mean that there is no potential for lower alpha hops, but it does reflect an increased desire for intensely hopped beers with high IBUs (bittering units) like IPAs. At the same time, preferred hops varieties in BC still start with Golding and Cascade hops, followed by Fuggle and Mt. Hood.

Yields in 2006 averaged 1810 lb/ac, at 800 hills/acre. This is a planting density of a 7' grid - so plantings can be doubled with a recommended spacing of 3.5-4' between crowns, in beds 7-8' apart. The income potential per acre starts at \$21,720/ac at \$12/lb on conventional spacing.

Hopyard Design

Hopyard size: 1 acre, 209'/side

	<i>Plants</i>	<i>Poles</i>	<i>Beds</i>	<i>Cable main</i>	<i>Cable secondary</i>
spacing (foot)	3.5	25	15	25	3.5
per bed or row (#)	60	9			
Total ea	900	81		3,762	12,540

Capital costs – Trellising & Rhizomes

<i>Item</i>	<i>Unit</i>	<i>\$/Unit</i>	<i>Qty</i>	<i>\$ Total</i>
Poles	ea	25.00	81	2,025
Cabling - Primary	ft	.40	3762	1,505
Cable - Secondary	ft	.26	12540	3,260
String - 2/plant	ft	.02	1800	36
Anchors, cable	ea	9.00	26	234
Cable clamps	ea	.29	194	56
pass-throughs (loops)	ea	1.50	63	95
Cable eyes	ea	0.32	26	8
Klein-Haven Grip	ea	160.00	1	160
Rhizomes	ea	3.5	900	3150
Total				10,529

Obviously, considerable variation can be expected with clever use of scrounged materials or found materials.

Annual Activities

- Crowning or digging rhizomes
- Irrigation maintenance
- Topdressing with compost
- Mulching plants
- Stringing plants
- Cover crop/green manure maintenance
- Inspections/cleanup and IPM
- Harvest & packaging

All of these activities take person hours and machinery of some description, whether it's your pocketknife or more complex tools. The major activities take place in early spring, as soon as the ground is open, and in the fall at harvest. We find that it takes 2-5 person days to dig rhizomes over 1/2 acre – but if you are only root pruning rather than digging rhizomes, this time would be cut by at least half if not 3/4. Stringing time depends on the efficiency of your system. By far the most cost effective method on larger holdings is to use a cherry-picker or some such device to run down the rows, tying strings to the trellising at each plant, followed by a ground person anchoring the strings and twining the vines. Summer work is relatively light, depending on your weed-control methodology and Integrated Pest Management (IPM) use. Harvest and packaging vary widely, with considerations including use of machinery to harvest and to pull plants down, speed of hand pickers and dryer efficiency.

It should be clear from this that there is considerable potential in organic hops production. We strongly recommend small scale production for the new grower and direct liaison with your brewery customers. Capital costs can be amortized over the lifetime of the yard, with poles being replaced as needed during that time. A group of small hop growers can also take advantage of group dryers and vacuum sealers, as well as creating a trained and mobile workforce.

Please note that supplies of rhizomes from Left Fields will be limited in 2008. We reserve our primary production for new commercial growers. Our rhizome price list will be out in February. We dig rhizomes in early April and ship through the end of May. Earlier enquiries will simply be placed on our mailing list to receive the price list.