Production Partnering and Management of Multiple Brands in the Small Brewery Environment

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ABSTRACT

Many brewers are familiar with the logistics associated with producing contract or license beers at their facilities. From yeast to packaging materials, the management of brewing multiple brands for different customers has some unique twists in the small brewery. The speaker will discuss contract brewing and bottling at the microbrewery level. A brief introduction to the history of contract brewing and production partnering at the microbrewery level will be followed by the various types of contract brewing arrangements that are prevalent in the North American specialty brewing industry.

Having been both the contract producer and the contract customer, the speaker will then focus on his first hand experiences. An overview of the primary concerns that the producer and the customer have, as well as the aspects of production and multiple brand management that typically warrant the most attention from the producer’s perspective will be discussed.

Keywords: contract brewing, contract packaging, production partnerships, joint ventures

INTRODUCTION

Production partnering is an integral element of the brewing industry worldwide. In America, production partnering is relevant to the large scale, traditional brewer as well as the upstart “craft,” or specialty brewer. Examples that underscore this include the recent cessation of operations at the Stroh Brewery Company and the fact that approximately 20% of new-generation, craft beer is contract brewed. The concept of contract brewed beer is nothing new. In fact, the world’s largest brand, Budweiser, was originally contract produced before it was purchased by Anheuser-Busch over 100 years ago. Contract bottling arrangements are quite common in Europe, and some craft breweries in the U.S. with excess bottling capacity have been contract bottling for small brewers that do not have their own bottling plants, or have bottling capability that is inadequate for larger scale distribution.

The author has been involved with many different production partnerships, primarily with smaller breweries, and is familiar with the logistical issues surrounding the management of multiple brands in the small brewery environment. More often than not, he has observed production partnerships that do not function as well as they could. The following model represents a solution to this problem and a template for production partnerships going into the 21st century.
BASIC TYPES OF PRODUCTION PARTNERING

The four basic types of production partnering presented are:

- Hands-off contract brewing
- Hands-on contract brewing
- Contract bottling
- Joint venture, shared production

The emphasis will be on hands-on contract brewing and contract bottling, as they seem to represent the types of production partnering that provide the greatest, tangible success opportunity for both (all) of the partners involved.

HANDS-OFF CONTRACT BREWING

Non-Proprietary Formula/Process

The most common form of hands-off contract brewing is reselling. The producer takes an existing product and simply relabels it for sale to another business entity. At the small brewery level, a common application of reselling is to create a private-label product for a retail outlet. A typical scenario is a restaurant chain that wants to have its own beer named after the restaurant. The producer takes an existing formula and simply puts the restaurant’s label on it. There is no proprietary formula or process involved in this type of relationship.

Proprietary Formula/Process

This type of relationship is perhaps the least common type of production partnering arrangement, but there are certainly cases where it exists. The contract brewer will give the producing brewery a very simple recipe or formula, and the extent of the relationship is the contract brewer issuing purchase orders and paying invoices to the producing brewery. This scenario is not very likely to succeed in the small brewery environment unless the brewery has strong systems, well-documented operating procedures and tight quality control. Small breweries often lack adequate resources to execute the production of their own products, let alone those of a contract brewing company. Typically, the qualification process for this type of arrangement is centered on formulas, ingredients and process. At this point in the qualification process, yeast-related issues shouldn’t pose any major challenges. If harvested yeast is not repitched within 4-7 days, then it must be fed and/or aerated. This adds a layer of complexity and cost to the production process.

Performance Measures

Usually, the measures used to evaluate the quality of the product being produced in a hands-off contract brewing arrangement are very simple. If they are more extensive, then it is reasonable to assume that the contract brewer understands enough about the process of brewing and packaging beer to have a more hands-on level of involvement in the production of its beer. Examples of the type of performance measures used in a hands-off, contract brewing arrangement would be flavor profiling, microbiological stability and basic product characteristics such as CO₂ content, alcohol content, original gravity, final gravity and bitterness.

HANDS-ON CONTRACT BREWING

This scenario is much more preferable to both parties involved in the relationship, assuming the qualification process used by the contract brewer (and the producing brewery) is centered on the following criteria:

- The batch volume or capacity of the producing brewery
- The suitability of the process and/or equipment of the producing brewery for the contract brewer’s specifications
- The quality assurance capabilities of the producing brewery
- The skill level and enthusiasm of both partners and their employees

Volume/Capacity Issues

One of the quickest ways to determine the suitability of a production partnership is to evaluate the volume and capacity requirements of both the contract brewer and the producing brewery. There should be a sensible fit for both parties if the relationship is going to be successful and if the product quality in the marketplace is to be high. The decision regarding this fit should be driven primarily by two factors: inventory of finished goods and frequency of brews. Finished goods inventory should not exceed 30 days, particularly if the shelf life of the beer is less than 120 days. This standard is more common in the United States, whereas in Europe, a one year posted shelf life is not uncommon. If it is determined that the brew length is too much to meet this standard, than partial batching is also an option, albeit a more expensive one.

Frequency of brews is also a key variable in determining the volume/capacity suitability of a proposed production partnership. Ideally the yeast used to brew a particular formula should be used at least once per week, otherwise yeast management can become a cumbersome and costly issue. If harvested yeast is not repitched within 4-7 days, then it must be fed and/or aerated. This adds a layer of complexity and cost to the production process.

Finally, both partners should investigate the capacity from a growth perspective. Will the producing brewery grow to the point where it becomes constraining on the production of its own brands, let alone those of the contract brewer? On the other side, will sales of the contract brewer’s products outgrow the capacity of the producing brewery? Ideally, the duration of a production partnership should be at least two years, longer if special equipment needs to be purchased to produce the contract brewed product. Other than the financial decision-making criteria based on the amortization of such equipment purchases, a two year-plus arrangement is favorable because of the difficulty to quantify time spent invested in developing partnerships. This is all the more critical at the small brewery level where members of the management team are probably already wearing too many hats.

Formula and Ingredients

Assuming that volume and capacity issues do not present any major hurdles for the potential partnership, the next categories of issues to be addressed would be centered on formulas, ingredients and process. At this point in the qualification process, ingredient-related issues shouldn’t pose any major challenges. In fact, if the contract brewer and producing brewery share com-
Brewers are used to, it needs to be determined if they can handle certain ingredients there can be immediate benefits in the form of volume discounts. With hops, the main issue is what type of hop product will be used. The greatest challenge presented would probably be the case of the contract brewer who wishes to use leaf hops when the producing brewery uses some other hop product in the brewhouse. In this scenario, some type of hop back would be required, but this shouldn’t be a deal-killer. The other hop-related consideration is whether or not the contract brewer dry-hops its beer, but again, this scenario is usually workable.

Water chemistry and treatment can present possible expense/investment-related challenges to a potential relationship. In the best case scenario the water supply at the brewery will suit the needs of the contract brewer near perfectly, and perhaps only minor adjustments to mineral content will have to be made. At the other end of the spectrum, investments may have to be made in treatment equipment that will totally change the water character for the contract brewer’s recipe.

A number of issues can also arise when the topic of yeast comes up in the qualification process. Most fundamentally, is the producing brewery using ale or lager yeast (or both)? In the best case scenario the producing partner will be using the same yeast that the contract brewer specifies for its recipe. An issue for the producing brewery may be the purity of the contract brewer’s yeast itself. In other words, is it coming from a trusted source?

Process-related Issues

There are a number of considerations that need to be evaluated when qualifying a brewery to produce a contract label. In the brewhouse, there are considerations regarding milling, brewhouse configuration, trub removal and wort aeration.

Many small brewers use simple, two-roller mills to grind malt. This type of mill may be suitable for some type of brews, but may not be adequate if the contract brewer is producing a pale, smooth lager. There also are yield-related issues associated with milling techniques and equipment. This is most relevant when the contract brewer is scaling up its recipe from a smaller system to production scale.

Brewhouse configuration is a major qualification issue. If the contract brewer specifies a decoction brew, and the producing brewery doesn’t have that capability, then that can be a deal killer from the outset due to space and/or cost constraints. Another question is what are the brewers at the producing brewery used to doing? If the contract brewer comes in with a formula or process that is significantly different from what the brewers are used to, it needs to be determined if they can handle the more complex process. The type of wort boiling system used by the producing brewery also needs to be evaluated. Issues to be considered here are evaporation rate, removal of volatile compounds, caramelization and protein removal.

Trub separation is another point not to be overlooked. What degree of hot and/or cold trub removal is required? The latter is more of a consideration in the production of lager beers, but may be of interest to ale brewers as well. Finally, an often-overlooked issue at the small brewery level is wort aeration. It’s relatively easy and inexpensive to measure the concentration of oxygen in aerated wort, but often brewers will use the visual inspection method, looking at how foamy or turbulent the wort looks in a post-aeration sight glass.

Fermentation

The key considerations regarding fermentation are fermenter geometry and whether a uni- or two-tank process is used to ferment and mature the beer. Another consideration is how many brews may be doubled into a fermenter.

Finishing and Packaging

The first issue to be considered is how the beer will be clarified. The contract brewer may specify anything from fining the beer all the way to using membrane filtration. Some options may require additional equipment, i.e., sheet or membrane filters, but usually the producing brewery will have some type of filtration equipment.

Carbonation can be a sticking point in determining the suitability of a producing brewery. Perhaps the contract brewer has a bottle conditioned product, or maybe it specifies tank-conditioning to carbonate its beer. This is where the skill level and enthusiasm of the producing brewery’s team comes into play. Being able to execute the production of a bottle or tank conditioned beer requires a certain level of brewing expertise. Maybe the producing brewery doesn’t have this expertise, but it is enthusiastic to learn these new processes.

Packaging issues are centered mainly on package dimensions and oxygen uptake. The latter should be a straightforward issue. The contract brewer should have a certain standard regarding its acceptable levels of oxygen uptake at the point of packaging. If the contract brewer wishes to produce any significant quantity of beer economically, then odds are, it will be qualifying a brewery that has a bottler that has low air values. The bitter issue with packaging is the compatibility of the contract brewer’s package with that of the producing brewery. If the contract brewery has a different bottle, label configuration and mother carton/carrier dimensions, then investments in change parts can total tens of thousands of dollars, even at the small scale.

A crucial consideration regarding finishing and packaging is the biological and chemical physical stability requirements the contract brewer has vs. what the producing brewery is able to achieve. Obviously, if the contract brewer can get more than it is looking for in shelf stability, that is a plus, but the compromise shouldn’t be made going the other direction. The contract brewer will probably have requirements regarding biological stability assurance. The aroma and flavor profile can be noticeably different depending on whether beer is pasteurized or sheet/membrane filtered, so the method used by the producing brewery needs to be considered.

Contract Packaging

The subject of packaging brings up what is perhaps the most sensible and more widely practiced forms of production partnering. Contract bottling is fairly common in Europe. The obvious benefit to the contract packager is the spared investment in packaging equipment. The bottling brewery benefits from utilizing unused capacity in its bottling plant. On the surface the operation is fairly simple: Beer from brewery A is transported to brewery B, where it is bottled. There are several issues that need to be considered in a contract packaging situation.
ATF Requirements

The contract packaging relationship is treated as an alternating premise relationship by the ATF, with the stipulation that the beer is ‘produced’ at the bottling brewery. What this means exactly is not clearly detailed in the CFR, but in practical terms, the character of the beer must be changed from the tanker truck to the bottle. In other words, it is not acceptable to transfer filtered, carbonated beer from the tanker truck to a bright tank without altering the product changing in some manner. If the beer is touch-up carbonated during that process that is acceptable. The bottom line is that the ATF has to be convinced that the beer is being altered in some way, no matter how insignificant that change may seem.

Tanker Preparation

In most cases, the contract packager will use a tanker transport truck to move the beer from its brewery to the bottling brewery. The tanker should be food grade stainless, insulated, able to hold pressure and have some type of gas fitting at the highest point (manway). The tank can be chemically sanitized or steam sterilized after cleaning. From personal experience steam sterilization is preferable to chemical sanitizing. A thorough CO₂ purge after steam sterilization serves two purposes: first, it lowers the oxygen content inside the tanker and second, it cools the tanker prior to filling. It is critical that the oxygen content in the tanker be as low as possible, since the beer is transferred at least one additional time. If unfiltered beer is being transferred into the tanker then the oxygen-free environment is less critical.

Offloading at the Bottling Brewery

The same rules apply at the bottling brewery as above. Biological integrity and anaerobic conditions are critical. If the beer is filtered it can be pumped directly into a bright beer tank and carbonated. Otherwise the beer can be filtered and/or stabilized before entering the bright tank. In either case, dissolved oxygen levels shouldn’t exceed 200 ppb in the bright tank, a level that is realistically achievable even if the beer is filtered at the brewery of origin.

A Special Case: Contract Packaging of Bottle Conditioned Beer

In this instance, the author had first-hand experience bottling German-style Weisssner that was bottle conditioned. At the brewery of origin, the beer was filtered using 0.5 micron filter sheets. A pneumatic driven mixer was placed into the manway opening and hermetically sealed to the top of the tanker. Filtered wort was transferred into the tanker until the necessary quantity of priming wort was in the tanker. Yeast for the bottle-conditioned product was added to the tanker at the bottling brewery. To ensure rapid and consistent bottle fermentation the beer/wort mixture was warmed to approximately 70 deg. F. using a plate heat exchanger enroute to the filler. The bottled and cased beer was then stored at room temperature until the bottle fermentation was complete. There were seldom any instances of biological instability despite the complexity of this multi-step process.

A Final Note on Contract Packaging

The key to making a contract packaging arrangement successful is the quality assurance plan agreed to by both breweries. In contrast to a more traditional contract brewing arrangement where the producing brewery executes all of the processes, there are two breweries involved in the contract packaging partnership. It is essential that both breweries agree upon which quality control measures should be used at certain points in the process. Microbiological and D.O. samples should be taken coming out of the brewery, going into the tanker, coming out of the tanker, from the bright tank at the bottling brewery, at the filler and from the finished product. Additionally, the same samples should be taken at the first point into and last point out of any filtration equipment whether it is at the brewery of origin or the bottling brewery. It is also highly recommended that dual samples be pulled at each of these points so that each brewery can “cross-check” the results coming out of the other brewery. Again, this arrangement provides a great opportunity for small breweries to partner, but without a disciplined, mutually agreed upon QC program, the possibility of fingerpointing in the case of missed execution is probable.

QUALITY ASSURANCE AND PARAMETERS IN SMALL BREWERY, PRODUCTION PARTNERSHIPS

This final topic is probably the most important in the qualifying process of a potential production partnership between two breweries. Aside from the most basic qualification criteria such as volume and capacity, this is really the starting point for discussing the possibility of a partnership. The best quality assurance is mutually agreed upon measures, frequent, structured communication between both partners and, most importantly, both companies (and their employees) must have a vested interest in the success of the partnership.

To determine whether or not this platform for success exists, it is important for the contract brewer to walk through the producing brewery and talk to the employees. Does management and brewery staff care about their brewery and its beers? If they don’t they probably won’t care about the contract brewed products. Are the brewers skilled, or are they just valve openers and button pushers? Do they understand the big picture of brewing? Brewing expertise and passion on the part of the producing brewery and its employees is all the more critical depending on how different the contract brew is from what they are used to brewing. Likewise, the producing brewery should ask similar types of questions of the contract brewer. How well does it understand the brewing process? If the contract brewer doesn’t have a clue about brewing and quality assurance, that could be a serious red flag for the producing brewery. Is the contract brewer in it for the long haul, or is it just a short-term business proposition? Finally, will the contract brewer try to shop the contract around all the time, or is it looking to establish a long-term relationship.

The answers to all of these questions won’t spell out the exact QA program, but it will establish the basis for how seriously concerned each party is about the quality of the beer being produced and the viability of the business relationship. Once that is
established, the specifics of the QA program can be worked out. Over the course of the relationship, both parties should modify the QA program to address the problem areas and improve the quality of the beer.

JOINT VENTURE, SHARED PRODUCTION

This type of production partnering may offer small brewers the greatest opportunity going forward into the next century. A real-life example of this is the brewery the author is currently employed by. Broadway Brewing was formed in 1993 as a 50/50 partnership between two brew pubs that were looking to get their products into wider distribution through package sales. A bottling co-op may be another example of a joint venture opportunity that small brewers could take advantage of. Finally, there has been talk of a malting facility in the state of Colorado that would be state subsidized (because it would be located in an economically depressed area) and co-owned/financed by several Colorado breweries. These examples are advantageous to small producers primarily because of scale economies, but the fact that all parties have a vested financial interest in the partnership also ensures that they will be actively involved in making it a successful venture.

QUESTIONS AND ANSWERS

1. What about cross-utilization of a brewery to produce other products, i.e. bottled water, ethanol?

Certainly, the opportunities for small breweries to work together to produce a variety of products is left to the imagination and creativity of those involved. If alcohol beverages other than malt beverages are being considered, then ATF and other regulatory concerns need to be looked at. Sodas are a great way for breweries to take advantage of under-utilized capacity or to diversify into other areas of the beverage industry. Here at Broadway, we actually have a well that taps into very pure water. We are currently looking at selling some of our excess water to a bottled water company.

2. I would assume that you would want a test batch brewed by the contract brewer before you commit to a specific brewer. How is this typically handled, i.e. batch size, raw materials and yeast stream?

I don’t believe in the saying that practice makes perfect. I believe perfect practice makes perfect. In other words, you should do everything possible to simulate the conditions that you will be brewing under. Of course, brewing 100 barrels of a test batch just to see if you want to use a certain brewery may not make economic sense, but I don’t believe you can be satisfied brewing a five barrel test batch if your normal brew length will be 50+ barrels. As far as who pays for it all, sources the raw materials, etc., that is for you to negotiate.