#### Introduction

The words gourmet strawberries have different meanings to different people. The most common use of these words on the internet is to describe hybrid strawberries covered with chocolate. For this article these words will be used to describe specific species and varieties of strawberries that can be grown as a crop for a premium market and sold at a premium price.

European growers are already growing gourmet varieties of a couple of species. These include a hybrid variety named *Fragaria ananassa* 'Mara des Bois' and what are called pineberries. *F. vesca* types which are known as alpine strawberries or fraises des bois are grown in Europe on small acreages.. In limited areas of Europe a third species, *F. moschata*, is grown that is commonly known as musk strawberries.

'Mara des Bois' is reported to comprise 50% of the acreage in some key European markets. This variety produces medium to large fruit that has excellent aroma and flavor. The alpine types produce small fruit that are highly aromatic and have superb flavor that is known as wild flavor.

The Europeans are also ahead of U.S. growers in another area. Within the last year a grower in the Netherlands introduced what he has called pineberries. The name is the short version of pineapple strawberries which are heirloom strawberries dating from the early 1800's that produce a highly aromatic white fruit with the taste of pineapple.

A few growers in the U.S. are creating niche markets with gourmet varieties. This includes the varieties and types mentioned above. There are no more than a hand full of growers doing this in the U.S. to my knowledge.

There are several reasons that European growers grow more diverse varieties than U.S. growers. My opinion is that the primary reason is due to the American attitude that big is better. Recently, I discovered a list of research priorities from a large U.S. strawberry association. One of the main priorities was to develop varieties with larger fruit. No mention was made of flavor or aroma. I think this is what separates European from U.S. markets.

For several years I have been building an online retail business where I sell seeds and plants of gourmet strawberries. This business is growing by leaps and bounds. The primary customers are home gardeners who are looking for strawberries with taste. They are not turned off at all about size. They want flavor. And, equally important, many tell me that they want to control how their fruit is grown to reduce or eliminate pesticides that are applied to their fruit. They are looking for healthy fruit with flavor.

It is my opinion that growers who change their attitudes toward large fruited strawberry varieties and start growing varieties with flavor will reap the benefits. Those that also produce fruit using organic or natural methods will enjoy even higher profits.

All of this is likely a new way of thinking for any one reading this article. I am sure that most are already asking to see the numbers. This article is not going to focus on numbers. All that will be mentioned at this point is that gourmet strawberries have the potential to produce significantly more income per acre than growers are receiving now. The numbers for any grower will depend on their location and the varieties and growing methods that are chosen.

The opportunity to grow gourmet strawberries is not limited to large scale commercial strawberry growers. Anyone with land can profit from gourmet strawberries. I know of a grower who's production is on a quarter acre. His profit is higher on this area than some commercial growers get for several acres of hybrid strawberry production. If you have the desire and have market opportunities in your area, growing gourmet strawberries may be worth exploring.

#### **Gourmet Hybrids**

All of the hybrids currently grown in the U.S. are *F. ananassa* varieties. We will break this category of gourmet hybrids into two types. The first type is 'Mara des Bois'. As mentioned, this type is grown extensively in Europe. It has not been widely available in the U.S. until recently.

'Mara' is a day neutral variety that can be grown similarly to currently available hybrid varieties. Fruit size will likely mean that labor cost for harvest will be higher than growers are paying now. But, the flavor can increase the market value. Market price will depend on the location and market. I am aware of a grower in the Western U.S. who grows this variety and markets to high end restaurants. This grower is successfully using portable high tunnels to improve quality and marketable yield. More and more growers and researchers are focusing on high tunnel production but this is one of only a handful of growers that I know of that commercially grows the gourmet variety 'Mara des Bois'. He is capitalizing on being in a niche within a niche.

'Mara des Bois' is in my opinion a variety that will catch on in the U.S. and will eventually be widely grown. Until it becomes a commodity, growers will be able to demand a premium price. Side by side with current U.S. hybrids it will, again in my opinion, be sought out by consumers due to the excellent taste. The fact that it can be shipped longer distances than some of the other gourmet strawberries will also make it more widely grown.

Another type of gourmet hybrid are the pineberries already mentioned. To date this fruit is available in Europe only and a single large greenhouse grower in the Netherlands is the only grower in Europe. This grower markets all his production through one grocery chain with stores in several European countries. The grower has chosen not to sell plants of his single variety so there are few opportunities for other growers to enter this market. I currently offer three varieties of this type of hybrid strawberry and have been selling one of the varieties to home gardeners in the U.S. for two years (I cannot ship plants outside the U.S. due to USDA restrictions). A limited number of growers and breeders are interested in commercializing this crop in the U.S. but to my knowledge no growers have a significant area committed to this type at the present time.

My opinion is that for some time there will be interest in growing pineberries by home gardeners, especially those interested in heirloom varieties. Chefs with experience with this type of gourmet strawberry will likely be interested as well if consistent production makes it available. Some plant growth habits and the need for protection will likely limit commercialization. Specialty growers are encouraged to trial these varieties on a limited scale. Growing methods and techniques that I have developed for other gourmet strawberries are adaptable to this type and might make it more attractive for commercialization.

### **Alpine Types**

This gourmet type is also known as fraises des bois. These are open pollinated varieties that are not hybrids. The varieties are selections and the oldest have been cultivated in Europe for around 300 years. There are varieties that produce red, white or yellow fruit. Red fruiting varieties are favored in Europe and the Western U.S. European trained chefs seldom are interested in white or yellow fruit. Less traditional chefs will use white and yellow fruit to give their customers a memorable experience with something different.

Several European countries boast acreages of around 50 acres each of fraises des bois production. There are several growers in Europe that export fruit to the U.S. I am aware of several growers in the U.S. that grow no more than an acre of fraises des bois each. More and more U.S. growers are interested in growing this highly specialized crop.

Most of the geographical areas where fraises des bois are currently grown in the U.S. are coastal with mild climates. I am aware of one grower in central Pennsylvania with a half acre of production. I have grown fraises des bois for sale to a high end restaurant in Philadelphia. My experience was with about ¼ acre of field grown plants. From that experience and from research that I have conducted for a number of years have lead me to a number of observations and conclusions:

1. This is a very labor intensive crop due to the size of the fruit

- 2. Field grown plants are more difficult to harvest and are more susceptible to weather and pest damage. Harvesting the crop requires "stoop labor" and laborers are difficult to find.
- 3. The alpine type of strawberry has growth habits different from traditional hybrid varieties. Not all methods and techniques currently employed are applicable to commercial production of alpine types.
- 4. Potential sales from small acreages rival returns from whole farms of conventionally grown hybrid strawberries.
- 5. Outside of coast areas with mild climates I recommend growing the crop in a protected environment such as a high tunnel
- Variety trials and experience show that growing multiple varieties produce more consistent production due to the cyclical nature of production of the day neutral plants
- 7. Runnering June-bearing varieties are worth trialing.
- 8. Most literature available both online and printed paint a picture totally different than reality. This is especially true of garden writers in the U.S. Alpine strawberry plants are depicted as cute little ornamentals that are not very productive. My research and experience show this to be false.
- 9. Container production trials have shown clear season extending capabilities of certain types of containers. I have not yet tested combinations of techniques and methods on a commercial scale.
- 10. Growing methods that reduce labor required for production are available. Trials are needed to assess practicality and economics.
- 11. Drip irrigation is an essential component of a production system for alpine strawberries.
- 12. There are multiple markets for fraises des bois fruit. Some believe that the only market is to high end restaurants but this is not the case.
- 13. Strawberry growers tend to have a negative attitude toward fraises des bois largely due to the size of the fruit.
- 14. Fraises des bois production can be incorporated into a hybrid strawberry operation within limits due to pest considerations.
- 15. Organic and all natural methods can be successfully used for small production areas. Testing is needed on larger areas to determine if these methods will continue to be economical and practical.

#### **Musk Strawberries**

Musk strawberries are not self-pollinating. A male and a female are needed for production. In practice, I suggest that customers purchase plants of several varieties to optimize pollination.

A University of Maryland researcher is conducting extensive breeding trials with this type of strawberry. His story appeared in Smithsonian magazine several years ago (give reference). I have tried to contact him. To date I don't know the status of his research.

I can confirm that he is on the right track. This strawberry is like nothing you have ever tasted. A couple of years ago I donated a few plants of several types to a chef in Pennsylvania, including musk plants. The day I delivered them I had a half pint of the fruit to offer him. He and his partner had the most interesting looks on their faces I have ever seen. He still says that it is his favorite strawberry.

What is it about musk strawberries that make them a chef's favorite? The aroma is first. The aroma is very strong and penetrating. When you encounter the aroma you don't immediately identify it as a strawberry. And the taste is memorable as well, though some immediately don't like the taste. It is impossible to describe. My best stab at it is to say that these strawberries taste like pineapples, strawberries and raspberries all at once. The musky taste is reminiscent of certain types of wine.

I have never attempted to grow this type and market them commercially. Trials are necessary to determine the commercial potential.

#### **Other Gourmet Types**

I have been collecting and trialing varieties of several species not already mentioned. This includes a number of European and U.S. heirloom varieties. Some have never been grown commercially. Others fell out of favor due to the soft nature of the fruit making it less desirable to ship large distances. The "buy local" movement currently underway in the U.S. brings into question whether some of these varieties might be grown and sold into local markets. Small and large scale testing is needed to select varieties that have potential to be grown for these local markets. Each will have to be assessed individually in that environment.

#### Conclusion

There is tremendous potential for commercialization of gourmet strawberries. Most of the varieties mentioned likely will not ever be grown on large acreages. Some will be adaptable and accepted in certain local markets. Specialty markets will likely embrace the availability of gourmet strawberries. As production increases, the extremely high price needed to economically market these strawberries will adjust making them more affordable and even more widely available.

The opportunity is now to begin trialing these strawberry types. There is no reason to reinvent the wheel so to speak. I have spent nearly 25 years collecting and growing gourmet strawberries. If you are a commercial grower I would like to work with you to produce these strawberries and bring them to the marketplace. I believe that your customers will appreciate these new products and create new profit centers for your business.

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