

Orphan Varieties, Orphan Growers

The term "orphan drug" has become widely used to describe drugs that treat rare medical conditions but that fail to achieve their full potential because no firm or organization has been willing to step forward to champion their development and commercialization.

If leading firms in the apple industry continue their heavy focus on club or premium varieties, many traditional apple varieties are in danger of falling into the orphan variety category. The growers that depend solely on those traditional varieties are also in danger of falling into the orphan category. This is occurring, not because of any deliberate decision within the apple industry to abandon older varieties, but by default.

The Unenviable Fate of Orphans

An orphan child is one whose parents are either dead or have abandoned them. Such children are left to fend for themselves. At one extreme, orphans may be forced to live on the streets and to scavenge for food, clothing or shelter. The more fortunate may have a relative, friend, or acquaintance that provides the necessities of life, but has neither the desire nor the ability to take over the role of parent.

Orphan apple varieties cover the same range from partial support to total neglect. For any single variety, it is difficult to determine where on that continuum the variety may sit, or what its future fate might be.

Classic Orphan Varieties

In the past, orphan varieties occurred naturally and gradually. One historic example was the standard Delicious variety that was upstaged by the classic Red Delicious. It simply faded away over time. Other varieties, like Cox's Orange, Gloster, Gravenstein, Jonathan, Newton Pippin and Winesap, have gradually been displaced by newer varieties.

However, in the past, these orphan varieties were replaced by newer varieties that had wide appeal and that were supported by large, organized promotional programs.

Economics of Adoption and Erosion

A study of numerous apple varieties in differing producing countries shows similar forces at work as new varieties gain traction. In the early years of adoption, the demand curve shifts to the right. If, for example, 100,000 cartons can be sold in year 2 at \$40 per carton, by year 5, 200,000 cartons can be sold at \$40 per carton. That process can continue as supplies increase, marketing support expands, retailers stock the variety for longer periods, and additional customers learn about the merits of the variety.

For some new varieties, like Honeycrisp, the rightward shifts of the demand curve can continue for a decade or more. For other varieties, like Braeburn, the rightward shifts end much sooner.

Erosion of demand for established varieties shows the same process in reverse. For example, where one could once sell 50 million cartons of Red Delicious at \$15 per carton in today's prices, one can now only sell 30 million cartons at \$15 per carton. The reasons for this leftward shift in demand include reduced supplies, reduced marketing support, less shelf space from retailers and erosion of preferences among consumers.

Powerful Role of Substitution

However, one last crucial point needs to be made, namely that the rightward shifts in demand for newer varieties are among the main causes for the leftward shift in demand for older varieties. There is a strong substitution effect between most apple varieties. If consumers are buying more of Gala apples, it is

because they are substituting them for Red Delicious or Golden Delicious apples. If consumers are buying more Honeycrisp or Kanzi apples, they are generally buying less of other established varieties.

The New Orphan Varieties

The established varieties that are suffering an erosion of demand are the most likely candidates to become orphan varieties. Among these are varieties like Braeburn, Cameo, Jonagold and Empire, that quite recently were seen as having the potential to replace established varieties, but that are rapidly running out of friends to tout their virtues.

At one time, Braeburn looked to have a particularly promising future. It was nurtured into commercial prominence by the then New Zealand monopoly marketing board, Enza Limited. That entity was dissolved in 2002. In the 1990s, the Braeburn variety was prominently featured by the Washington Apple Commission alongside other newer varieties like Fuji and Gala. The Commission was dissolved in 2004. Since then, Braeburn has had no committed sponsor in the United States.

Potential Orphan Varieties

A number of other prominent varieties have the potential to become orphans if present trends continue. Among these are mainstream varieties like Red Delicious, Golden Delicious, Gala/Royal Gala, Fuji, Granny Smith, Jonagold and McIntosh. Each faces different levels of abandonment.

Gala/Royal Gala is probably the least vulnerable because it has become the mainstay of most retail apple arrays. Retailers will continue to need it as a foil to the premium varieties that they are currently promoting. Other major varieties may not be so lucky.

Traditional Varieties Losing Friends

Red Delicious remains the largest single apple variety in the United States, but after the disastrous price experience of the 2014-15 season, it is rapidly running out of friends among producers. However, since it still accounts for half of all U.S. fresh apple exports, it continues to benefit in international markets from support from the Washington Apple Commission, whose mandate is now restricted to promotion outside the United States.

Golden Delicious is in a similar position within the European Union. It still accounts for over 20 percent of EU apple production. Its share of production is even higher among major producing countries like France (over 30 percent), Italy (over 40 percent) and Spain (over 50 percent). As such, it is likely to retain a share of generic promotions in these countries, and of limited promotions funded by the European Union.

The fate of Fuji will be complicated by the fact that branded versions such as Kiku® Fuji or Tasmanian Devil Fuji will be competing in the premium category. This could either elevate the entire Fuji category, or it could cannibalize the mainstream Fuji products.

Some varieties like McIntosh and Jonagold will benefit from the support of state, provincial or national promotional bodies. However, if retailers and consumers inexorably move towards premium products, they too will be vulnerable to displacement.

Orphan Growers

If the traditional apple varieties become orphans, so too will the growers that depend exclusively on those varieties. The concern among apple growers about becoming orphan growers is not new. In the 1990s, as sponsors of a sequence of new apple varieties sought to sign up preferred growers, packers and marketers in the most favorable locations, many other operators feared that they would be left behind.

That was one of the driving forces behind public funding of new variety developments in Italy, Canada, New York State and Washington State. One of their goals was to give all local growers equal, or exclusive, access to any new varieties developed by those public programs.

However, ironically, concentration of development and promotional efforts behind these new varieties, such as RubyFrost and SnapDragon in New York State, or Cosmic Crisp in Washington State, could lead to further neglect of the traditional varieties.

Orphans Not a Sound Marketing Strategy

All major marketers of consumer products know that they must innovate in order to maintain their place in a dynamic marketplace. But they also know that they must maintain sales of their existing mainstream products. They must keep total sales revenue rising if they are to continue to invest in innovation.

These marketers know that they must achieve a difficult balancing act between supporting expansion of new products and slowing erosion of sales of their existing mainstream products. This is particularly challenging when the new and old products are close substitutes, like they are in apples.

The risk of orphan apple varieties and orphan apple growers cannot be ignored much longer by the global apple industry. If not addressed, it could threaten the sustainability of the apple industry at its present scale.

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