



Growing Asparagus: The Food of Kings

In years past, asparagus farmers plowed under their asparagus fields because prices for the crop were too low. But the popularity of asparagus is growing. Find out how small producers can make a profit from the crop.

by Rick Gush

About the Author

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Asparagus growers in California had a disparaging season last year. Spring 2002 saw many farmers in that state plowing under some of their asparagus fields because prices for the crop were just too low. And it's not just California growers who are feeling the pain.

The American Asparagus Industry is in deep trouble: growers have experienced tough times lately because less expensive foreign imports have driven down the price for asparagus, in much the same way as prices have been lowered for almost all major produce crops. Mushrooms from Asia, tomatoes from Mexico and asparagus from Peru have changed the market, and farming in America, forever. For the big growers, asparagus farming today is all about marketing cooperatives, working toward federal crop subsidies and cutting back on marginal acreage. The days of steady profits and high prices at the big fresh and processed markets are over.

Small Farm Opportunity

The big farmers may be in trouble, but there's plenty of reason for optimism among small farmers who are considering growing asparagus. Thanks to years of promotional campaigns, the consumer demand for fresh asparagus has been rising steadily. The demand for local and organically grown produce has expanded the network of alternate distribution systems. Increasing customer sophistication has enlarged the market for alternative asparagus products. In many areas there's even still an opportunity to grow green asparagus for the local fresh market.

There is definitely a place for asparagus farmers who produce something slightly different. The difference can be a full-fledged organic certification or simply an adherence to organic methods. It could also be alternative asparagus products: white, purple, wild, dried or candied asparagus.

Male vs. Female Plants Female plants expend more of their energy producing seed during the post-harvest growing period. Therefore, during the spring, they usually produce 20 to 30 percent less spears than males. Although male plants produce more spears, female plants produce the largest ones. The Jersey varieties are all male-only hybrids, and some researchers are now attempting to produce all-female varieties as well. White asparagus has been the preferred product of modern European customers. The blanching process is usually accomplished by heaping extra soil over the beds and then harvesting the shoots in early morning before the exposure to sunlight triggers the production of green chlorophyll. These days the Europeans are moving toward an appreciation of green stalks, but at the same time, more Americans are discovering the pleasures of blanched asparagus. New blanching systems that use black fabric covers have made the process a bit easier, and there's every reason to believe that high quality blanched spears will find ready buyers in U.S. farmers' markets.

Purple asparagus varieties are also experiencing a growth in popularity. From exotic French violets to the sturdy dark Italian types, more colored asparagus is being purchased by American consumers than ever before.

Wild asparagus varieties produce stalks that are smaller in diameter and more twisted, but with a robust flavor that has been popular on rural tables for centuries. These wild varieties, often called sparrowgrass, are now becoming a desirable product among gourmet restaurants. The few farmers who have acquired seed and planted domestic fields of the wild types are claiming that both the harvest quantities and the market prices are quite favorable.

Using their crops to create a value-added product has long been a successful path to profitability for small farmers. Asparagus soups, sauces and stews are all money makers for some small growers. Native Americans had a history of drying asparagus for later use. Perhaps some enterprising farmer of the future will discover a means of making that system work in the coming years. In China, asparagus is commonly candied. An enterprising farmer could employ this same preservation method here in America.



Planting new asparagus fields is expensive, and it can take experienced growers several years just to break even. Still, many mixed-crop farmers report that asparagus is their most profitable crop, so enterprising small growers can certainly find plenty of opportunity in the industry.

Asparagus Basics

Asparagus shoots are the first vegetable to pop out of the ground in spring, and for a month or two, the fields need to be harvested frequently to pick the newly emerging shoots as soon as they appear. The annual cultivation cycle includes a busy spring harvest, then a summer and fall foliage-growing period during which the plant shoots grow tall and bushy and store energy in the buried crowns. In the winter, some farmers clear the dead growth, while others let the brush provide winter-cold protection.

Asparagus Varieties Before the 20th century, all asparagus varieties were open-pollinated.

In the 1920s, the variety Mary Washington (NOT Martha) was developed. It was one of the first varieties to show resistance to rust, and has been favored by American farmers for most of the past century.

Several decades ago, UC-157 and its relatives became the leading commercial varieties.

About the same time, Rutgers University developed the Jersey line of varieties such as Jersey Giant and Jersey King, which are male-only hybrids.

The British asparagus of the 20th century was based on the variety known as Connover's Colossal.

Purple Passion, Viking, Larac and some improved strains of Washington, like Waltham and Roberts, are also frequently planted these days. Although production requires a few years of development after planting, once established, an asparagus bed is often described as a "lifetime planting," lasting 12 to 20 years, or more. Asparagus farming does take a lot of room, and growers will need to plant large areas in order to produce a sizable crop.

Asparagus generally does not do well in regions with long hot summers and mild winters, but new varieties and techniques are stretching the geographical borders. For centuries, farmers in all of Europe and the Mediterranean region have grown asparagus. Michigan, New Jersey and the West Coast states have been the traditional American asparagus-growing regions. But now even Hawaiian farmers have started to grow asparagus for the local market. Irrigation is also expanding the asparagus-growing territories; almost all of the big commercial Spanish, Mexican and Peruvian fields are drip-irrigated.

Yields and Prices

A well-tended planting yields a lot of asparagus. Gardeners figure about 25 pounds of stalks per 100 feet of row. Farmers figure each acre can produce somewhere between two and eight tons of salable asparagus per year. A best-case scenario includes two harvests a day yielding 1,000 pounds of asparagus per acre, per week.

The average retail price for fresh asparagus in supermarkets is currently around \$2.25 per pound. The price goes up quite a bit during the winter and can drop considerably around Easter. The average commercial sale price for fresh asparagus in America last year was about 50 cents per pound. Smaller growers selling their own product in farmers' markets often obtained four times that amount.

Rootstocks for new plantings can be expensive, and installing any sort of field irrigation is not cheap. Growers should expect to spend several thousand dollars per acre to establish new fields. And after all the hard work and expense of planting a new field, growers must still be patient and wait a year or two while they allow the plants to mature before they begin full-scale harvesting.

The old cooperative extension rule for new, small and fresh asparagus growers is to measure the local population within a 25-mile radius, and then figure that the market will support about an acre of asparagus for 10,000 people in the area. Find out who else is growing asparagus near you, and make your market calculations accordingly.

Planting New Beds

Asparagus are deep-rooted plants, so selecting a site with good drainage is crucial. A low to medium pH is preferable, and good sun exposure in early spring is a must. For coastal and sodic-land farmers, it's worth noting that asparagus does have a high tolerance for salt.

New asparagus plants like to get growing early in the season, so ideally, the beds for new plantings should be prepared the previous fall. Seedlings should be planted a foot apart in the rows, and the rows should be two to four feet apart. Many gardeners believe that thicker spears are obtained by spacing the plantings further apart, and that the colder your climate, the deeper you should plant.

The underground bodies of the asparagus plants are called crowns. The size of the crowns will increase as they age, so



the bed will eventually become completely filled with crowns, and the width of the bed will start to enlarge as well.

New growers usually plant one- or two-year-old crowns into their fields. Obtaining new plants by planting seed is another popular method, but asparagus is not usually direct seeded, but rather grown in nursery beds and moved into the fields the following year. Plants grown from seeds are thought to be less likely to have disease problems.

Pests

The most notable problems with asparagus plants are the rust and fusarium fungal diseases. There is not really a thoroughly effective treatment for infected beds, so it's no surprise that prevention is the best tool against these problems. Buying disease-free stock, and planting in sunny and well-drained areas helps most farmers avoid fungus problems. The old-fashioned technique of salting beds was started to help control fusarium. Rust is best controlled by burning the fields in winter to reduce the overwintering capacity of the disease. The latest studies indicate that introducing domesticated fungal mycorrhizae into field soils may help reduce crop plants' susceptibility to fusarium by out-competing the disease-causing fungus varieties.

The black-and-white and the green-spotted asparagus beetles are the most common insect pests. Most asparagus growers will see some level of these insects during the year. The beetles feed on the young shoots in the spring, causing damaged and unsaleable spears; and in the summer they feed on the foliage, which reduces the vigor of the plants and decreases next season's crop yields. After the shoots have been harvested, it may not seem like much of a problem to have a few beetles chewing on the abundant leaves, but maintaining fern health is critical to the following years' production. Like its cousins—daffodils and lilies—asparagus needs to have a long leafy period in the annual cycle to recharge itself and remain healthy.

The best organic way to control beetles is to remove or burn the dried fronds once they turn brown. This will at least eliminate the sites where the beetles overwinter. Historically, chickens, ducks and geese have been allowed to wander in asparagus fields during summer to eat the insects and sprouting weeds.

Weeds

Weed control is a serious problem for asparagus farmers. The worst weeds are the perennials, and new plantings should not be installed until the fields are completely weeded. Canada thistle and quackgrass are particularly dangerous perennial weeds that may require extensive cultivation, treatment and asparagus replanting to remove the problem. Annual weeds are abundant in most all asparagus beds, and they are mostly controlled through cultivation that kills the weeds after they sprout.

Mulching

Mulching asparagus plantings is a time-consuming and expensive task, but it can be the backbone of an organic cultivation system. Mulching beds during the summer growth period helps to conserve moisture, keep weed growth minimized and encourage healthy soil microorganism activity. Covering the beds with mulches during the winter months helps nourish the spring crop and promote earlier shoot emergence. The preferred material for mulching is a mixed base of assorted organic debris such as leaf collections and residual crop wastes. The organic mulches are best applied generously, and may be up to one foot thick. Some growers have used black plastic mulches with perforations that allow summer foliage to poke through.

Harvesting

Farmers need to pick all the spears that come up during the harvest season, otherwise the developing leaf stalks retard the growth of any other new shoots. The plants in spring often grow so quickly that a spear that sprouts up one day becomes too tall the next. When an asparagus grower speaks of tilling the crop under, he's not talking about destroying the field, but rather knocking the emerged sprouts off. The California farmers who "plowed their fields" this past year because of low prices probably used a dragging chain or a roller to knock the shoots off. The crowns under the ground were untouched, and certainly produced a new batch of shoots within a few days.

Harvesting labor is the largest ongoing expense in asparagus growing. One experienced picker can usually harvest almost one acre per hour. Tractor-pulled seats for harvesters increase the comfort of the workers but don't speed the work significantly. Small farmers who pick by themselves—or with the help of family members or neighbors—can save a great deal of expense.

The dates for spring harvest vary from one location to another. From the mountains, to the coast, to the hot interiors, the advent of warmer temperatures fluctuates and so does the asparagus harvest. The harvest period for American farms usually lasts 60 to 90 days, somewhere between January and May.



Asparagus spears are very perishable and are usually hydrocooled immediately after harvest by washing in cold water. Freshly harvested asparagus spears are like fresh cut flowers in that they deteriorate more slowly when their cut ends are put in water. Even after harvest, the shoots are still growing, so the boxes that asparagus are packed in must allow space at the top for the spears to elongate. One post-harvest problem is that asparagus stacked sideways can grow away from the pull of gravity and produce bent spears that are less desirable.

Harvested asparagus can be kept for moderately lengthy periods—weeks, even months—at very cool, almost freezing temperatures. Since storage periods can be extended, growers occasionally withhold harvested asparagus from the market until prices are higher.

The Future

It is clear that the near future of the asparagus industry will be dominated by activity in the fresh marketplace. (The demand for canned asparagus is not increasing.) For the big growers, the handwriting is on the wall.

Asparagus farmers are becoming more organized, and the marketing cooperatives have helped hold the prices up for processed asparagus in many cases. But the asparagus industry is tottering, and it's dependent on the cheap labor of foreign workers. American growers estimate that at least 50 percent, and up to 70 percent, of the work force in their fields are comprised of illegal immigrants.

It's ironic that countries like the United States and Canada—which have helped most with the technology transfer to Peru and Mexico—will be putting their own growers out of business. We supplied the know-how and the market, and are now watching as our own big growers go out of business.

Peru has exported asparagus to America duty free since 1991, and the volume has gone from four million to 44 million pounds per year in that time. Labor costs in Peru are about \$4 per day, whereas even illegal labor in the United States costs considerably more than that per hour. With competition like that, it's no surprise that American growers are having a hard time breaking even.

But U.S. farmers aren't the only ones suffering from the import of less expensive products from abroad. The Japanese asparagus industry is overwhelmed because the crop is the number two vegetable, behind broccoli, imported into Japan from the United States. The United States' three top export markets for asparagus are Canada, Japan and Switzerland—all of whose local farmers feel the pinch when American-grown asparagus arrives in the local markets.

There's no doubt that changes will continue to occur in the asparagus industry. During the asparagus season in Germany and many neighboring European countries, every restaurant puts out a list of special asparagus dishes for its customers, and as a result, asparagus consumption goes through the roof. Perhaps this same tradition could be encouraged among the restaurants in America. It would certainly help farmers.

The history of asparagus can teach a farmer many things. Asparagus is indeed a delicacy, much loved by consumers, and another of the food products known as "The Food of Kings." The Romans grew a lot of asparagus and shipped it around to their nobility in distant lands. Louis XIV of France had asparagus grown in greenhouses. In Russia and Poland, thick green stalks of asparagus grow wild, and horses and cattle graze on them. Asparagus is a wonderful gift from nature, but as usual, who eats the asparagus is all a question of the market.

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