

History of Asparagus in South Carolina: A Look at Its Potential and How To Grow It

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Summary: Asparagus is considered a very good choice as a new crop for South Carolina. This crop, however, used to be grown on thousands of acres in the state and that fact is obscured over time. The purpose of this report is to indicate that this mysterious new crop is an “old friend” and it still has high potential of, once again, becoming a traditional crop for our growers.

History: Asparagus is considered a new crop for SC, but in reality, it is a “renewed crop.” The first reference to asparagus grown commercially in SC was as early as the 1890's. In 1903, Hexamer in his antique book titled *Asparagus, its culture for home use and for market*, Orange Judd Co., NY, mentioned that asparagus was grown commercially in the Charleston area. He even included a drawing of incredibly high quality asparagus picked near Charleston and mentioned that we, in SC, grew an asparagus variety called "Palmetto". The Department of Ag. Economics at Clemson University first cited asparagus in their crop statistics as a commercial crop in SC about 1918. Then, there were about 1,100 acres already in the state. The acreage steadily grew to almost 10,000 acres by 1932 and peaked in acreage around 1936 when the acreage began declining as steadily as it grew until 1953, when they dropped it from the rolls. Based on the earliest accounts from the turn of the century, asparagus was a viable cash crop in our state for half a century. Nevertheless, since its death about 1953, we have forgotten this crop and now in the 1990's, mention of adopting asparagus as a commercial crop is very foreign and full of risk.

Old asparagus production areas in SC: The major asparagus capital cities were Williston and Bamberg with Aiken, Barnwell, and Bamberg counties were the major asparagus production counties. There were two Asparagus grower's groups, the Progressive Green Grass Association in Elko (Barnwell) and the SC Asparagus Growers Association in Williston (Barnwell). Asparagus was reported to be grown in Charleston, Lexington, Saluda, Allendale, Hampton, and upstate in Greenville counties.

Old markets for SC asparagus: Most of the SC was for fresh market use. They sold much of the fresh market asparagus locally in Bamberg, but they shipped a significant proportion to # 1 New York City, #2 Philadelphia, and #3 Washington, D.C. An asparagus cannery was located in Fairfax (Allendale) where contracted asparagus was processed.

Why did the crop die in SC?: Unfortunately, we do not have any solid information about why the asparagus industry died in our state. Some growers tell me about their granddads and how they used to hear about the crop from them. I have tried to piece together some ideas and there are a few lines of thought that offer some explanation:

Explanation 1--WAR: WWII depleted the work force and few people were available to farm this crop or pick it. Also, during war times, I think people's diets may have changed and became more basic. A “luxury” food item like asparagus surely wasn't in high demand during war years.

Explanation 2--CALIFORNIA COMPETITION: California became stronger force in the marketplace and we lost our share to them. South Carolina actually was number two in early season fresh asparagus after California came into production about March 1 before our competitors New Jersey

and Maryland. Other late producers harvesting in April were DE, IL, IA, MA, NJ, PA, WA and OR. For instance, in 1939, South Carolina had about 8,200 acres of asparagus and California had 27,000.

Explanation 3--DISEASE EPIDEMIC: Varieties then were highly susceptible to rust and other diseases weakened the crop and eventually it went under. Today, we have much better varieties of higher disease resistance and greater productivity. Previously, average yield per acre was 1,200 pounds/acre. Now we have varieties reported to easily yield 4,000 pounds per acre.

Explanation 4--POOR WEATHER YEARS: We had a succession of “bad weather years” that undermined the industry’s strength making it decline. Most likely weather, war, and poor varieties reduced, the yield per acre from 1940 to 1948.

Explanation 5--COMBO OF ALL: A combination of all the four factors probably contributed to South Carolina’s decline in asparagus production.

How It Grows: Asparagus is a member of the lily family. It is a perennial plant which may live decades if treated well. One unusual aspect of asparagus is that there are male and female asparagus plants. The male plants produce greater numbers of shoots but not as large in diameter. The females produce fewer, but usually thicker spears. Today, breeders have developed preferred all-male varieties of asparagus yielding greater production of spears. The females spend a lot of their energy into making berries and seed at the expense of spear formation. Of all the vegetable crops, asparagus has the most unusual culture for optimum growth. First, asparagus roots (crowns) are planted down deep, 6 to 8" below the surface. You need to first dig a trench about 8" deep and plant the crowns 1 foot apart. Use an “orchard philosophy” in growing asparagus. In an orchard, money is spent right up front to buy good plant material. Prepare the land well, and replace any dead plants with new ones to insure that every part of the plantation is productive. Losing a plant here and there can reduce the profitability for years to come. This is the same philosophy you need to use with asparagus.

Does asparagus culture by year? In South Carolina, it takes a minimum of two growing season before the first spears are harvested. Your objectives differ somewhat over the years as follows:

Year 1: Buy good quality crowns which are one-year-old root systems from a reputable source. Crowns should be dormant, without any green shoots showing. They should have 10-15 roots on them, fat storage roots are loaded with sugars, and several buds on the top of the crown. Each bud on the crown is an unexpanded spear. The more buds on the crown, the better. Plant crowns early in spring. Lime and fertilize land according to soil test’s results. Add organic matter if well rotted and available and mix into the soil to the bottom of the furrow. Place crowns into the bottom of 8" furrows and cover with about 2 inches of soil. **DO NOT COVER THE CROWN ENTIRELY WITH SOIL. ONLY PUT IN TWO INCHES OR SO AT PLANTING. WHY?**

- 1) You could smother the crown at this time ;
- 2) You want the heat from early planting to reach the crown to stimulate it into early fast growth and deep planting will cause the soil temperature to remain cooler;
- 3) As the fern starts to develop and expand in height, you’ll need to start to close the furrow to support these branches that now stand a great chance of falling over and girdling and breaking; and
- 4) You will probably have lots of weeds coming and moving soil around the plants will help smother the weeds. Only add 2" to cover at a time. Probably, after 2-3 more weeks you’ll need to put more

soil to the plants again.

The objective is to bury the crowns 6 to 8 inches below the ground surface. They will remain at that depth permanently. Every year you'll need to refresh the beds to make sure the beds don't get shallow. These new plantings need to get a side dressing of nitrogen fertilizer every 3-4 weeks for the entire summer until late fall. There is a lot of research that shows the bigger the foliage mass or plant, the better the yield. After the harvest season is over, the plants need to be fertilized monthly to build up the root systems for the following year's harvest. **THE BIGGEST PROBLEM IS THAT SOME GROWERS NEGLECT TO GROW THE ASPARAGUS FERN AFTER THE HARVEST SEASON.** Other concerns are to watch the plants for water needs and pests. Not many insects attack asparagus, but these plants are susceptible to Fusarium root rots and Cercospora needle blight. The best recourse is to grow asparagus as vigorous as possible to combat the diseases. There are chemicals labeled to control these disease problems. **BY IN LARGE, ASPARAGUS IS EASY TO GROW IF YOU CAN GET THROUGH THE FIRST YEAR.**

Year 2: After the Christmas holidays, the fern usually is all brown and needs to be mowed to begin renovation of the fields. Wait until the fern browns out because most of the nutrients are exported back into the crowns for storage. After that operation, shallowly till the soil to restore the beds (6 to 8" over crowns), fertilize according to the soil test results and sidedress monthly with a high nitrogen fertilizer. After the second year, practice very shallow tillage to avoid ripping the roots. Plan weed control very carefully and put down effective herbicides. Asparagus is a deeply rooted crop. Its roots extend four feet on either side and grow to a 9-foot depth with most roots within the 6" to 5' depth. Asparagus is considered a drought tolerant plant and can stand an incredible amount of water stress because of its deep roots tapping water in subsoil areas. Asparagus resents wet feet. In the following years, be careful not to over irrigate the crop because of crown rots. On very sandy deep soils, frequent irrigation is probably okay, but in shallow, heavier soils, it needs to be watched more closely. **THE ONLY EXCEPTION TO THIS IS DURING THE HARVEST SEASON.** If the soil dries out during the harvest season, the hard soil cover reduces the emergence of spears. After a good healthy rain in spring, the spears pop up in greater numbers. During the second year, continue to encourage the development of a large, bushy fern.....the bigger, the better. That means keep the weeds down, fertilize and avoid droughty weather and irrigate.

Year 3: The first harvest can begin in the 3rd year but the key is **DO NOT BE TOO GREEDY** and know when to quit harvesting. The best rule of thumb is not to use the calendar to quit. Judge the time to quit by the diameter of the spears. When the spears get close to pencil size, it is time to quit. Over harvesting is one of the greatest killers of asparagus. You must remember to leave enough energy in the crowns for the plants to recover from harvest. The crowns are very high in sugars and harvesting removes a major portion. The plant needs a major portion to developing ferns after the harvest season and spends a large portion the rest of the year producing sugars for the following year's harvests.... It usually takes about 2 months for the sugars to recover to preharvest levels after the harvest season and over harvesting delays the recovery even more.

In the years to come: The main objectives in following years is to keep the weeds down, fertilize, encourage the fern growth after harvest season, and do not over harvest. Asparagus lives longer in the northern climates and shorter in the south, but commercially, I think after 8 to 10 years, it's probably time to get into new fields with fresh new plants.

The Potential: We have a great opportunity to produce this renewed crop in SC. Hexamer (1903) stated that we have an advantage to grow very early asparagus which commands the best prices. He said that our deep sandy soils allow early heating of the asparagus roots and our deep clay subsoils act

like a radiator, causing asparagus to come very early. Soils have not changed since the turn of the century and we still have the soil advantages. Climatically, we have a very long growing season and asparagus just seems to thrive in it. We can produce excellent early spring asparagus along the coast and probably through the coastal plain area. California is the big leader in vegetable production and we may never be able to compete with them in volume, but we could at least supply our local and regional Southeastern markets with our asparagus. We are also closer to Southern markets and big cities to supply those folks with fresh local asparagus, better than imports from other countries and closer than California. For the smaller operations, asparagus is a great UPICK crop. It is the first fresh vegetable that is available in spring and people would love to get out and harvest this delicacy after the winter at a reasonable price. It is time for asparagus to become a traditional crop in SC once more. Its potential for growth and income is well established and we know how to grow it.