

## Getting Started in Asparagus Production Part 4: Field Care

Carl Cantaluppi, Horticulture Agent North Carolina Cooperative Extension Granville and Person Counties

*Editor's note: this is the last of a 4-part series on asparagus production. This installment deals with field care issues. Many thanks to Carl for sharing his expertise with us.*

### Weed Control

Weed control is very important in asparagus. You don't want the young plants competing with weeds, which will stress the plants and prevent them from making good fern growth during the planting year. We are very fortunate in North Carolina in that growers can use Lorox pre-emergence herbicide to control broadleaf and grassy weeds during the planting year. If it is labeled in Virginia, it leaves a clean bed as the fern is developing, before it forms a dense canopy to smother out weeds.

Roundup herbicide is labeled for applying immediately after mowing the field clean after your last harvest. This will kill any existing weeds. You can also apply Lorox or Karmex at the same time to take care of any weeds that are germinating. Poast can be applied to actively growing grasses and will not harm the asparagus since it is in the lily family.

Asparagus is very salt tolerant and salt can be used to control weeds, but salt will seal the soil surface, impeding water infiltration and percolation. Also, after a heavy rain, the salts can leach horizontally through the soil and can kill other vegetables adjacent to the asparagus which are not as salt tolerant as asparagus.

There is no need to till to control weeds in asparagus. Use herbicides to control weeds. Research shows that even the shallowest of cultivations between asparagus rows cuts and injures roots, predisposing them to Fusarium root rot fungus that eventually will kill the asparagus.

### Fern Management

Allow ferns to grow after harvest, and then die-back naturally with first frost. In the next year, about 3 weeks before the spears start to emerge, you can mow off the dead fern and spray a pre-emergence herbicide right over the dead fern. Do not cut the fern down in the fall because the dead fern will catch moisture and snow in the winter and it will keep the soil temperature about 5 degrees colder than the temperature of bare soil. This colder soil temperature will delay early spear emergence in the spring when we might have an early warm day temperature that would force the growth of new spears in bare soil, that would be killed by an early spring frost, making the spears unmarketable.

The fern of the old, open-pollinated varieties, such as Mary Washington, turn yellow earlier in the fall than the male hybrids, which stay greener up until frost. This provides the plant with the capacity to grow longer and translocates more carbohydrates to the root system for next year's crop. It's not uncommon to get a 5-6 foot tall fern growth in one season with the male hybrid varieties if we have ample soil moisture.

Mow the dead fern off as close to the ground as possible to prevent skinning your knuckles on the sharp dead fern stalks as you harvest.

## **Fertilization**

The best time to fertilize is right after harvesting is over. This will allow the fertilizer to be used by the new fern growth to allow the translocation of nutrients down to the crown for next year's spears. Soil test every other year to determine your fertilizer and lime requirement.

## **Insect and Disease Management**

Cutworms feed on the spear tips at night before emerging from the soil. They feed on one side of the spear, causing the tip to bend over. They can easily be controlled with approved insecticides.

Asparagus beetle adults will chew on the fern, stripping off the green material and reducing photosynthesis, causing a loss of stored food reserves in the crown for next year's crop. They also lay eggs on the spears during harvest. The best way to control them during harvest is to pick on a timely basis and never let any spears get tall and spindly, or allow them to fern-out.

If you live north of the 40° latitude across the U.S., you will get asparagus rust. If you live south of the 40° latitude, you will get *Cercospora* needle blight. These are both fungus diseases.

*Cercospora* spores are blown into our area in late July or early August, when it's hot and humid. It turns the needles of the fern yellow, then brown, and then they fall off. This severely reduces the photosynthetic capability of the fern to manufacture carbohydrates to move down the plant into the crown for next year's spears.

You need to spray with mancozeb fungicide when you first start to notice reddish-brown football shaped lesions on the fern stalks. Then spray once every 7-10 days until the end of September. If you don't spray, you will reduce your spear yield by 40% next year. Burning the old ferns off instead of mowing them off and letting the residue remain on the ground will not stop you from getting *Cercospora*. All it will do is delay the start of the disease by about one week. So be prepared to spray, regardless if you burn the old ferns off or not.

*Fusarium* crown and root rot is the major destructive disease of asparagus and the one that usually takes fields out of production. There are no controls once you have it. The main way to prevent you from getting it is to prevent stresses from occurring to the plant. These stresses include:

- overharvesting
- low soil pH
- low soil fertility
- frost damage to spears
- waterlogged soil
- insect, disease, and weed pressures

If you use mulches for weed control be sure that you monitor your soil pH to keep it between 6.7-7.0. Asparagus will not grow well at a pH of less than 6.0. At pH's that are higher than 7.0, it is also more difficult for the *Fusarium* fungus to grow.

*Originally printed in Virginia Vegetable, Small Fruit and Specialty Crops – June 2002.*