

## **Asparagus-Getting Started**

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There is a saying among asparagus growers, “There is not much you can do to hurt a good asparagus planting, and there is not much you can do to help a poor one”. In other words you want to make every effort to do things correctly during the establishment phase, because mistakes made at this time you live with for the duration of planting. A well managed asparagus planting can remain productive and profitable for 20 or more years, but a stressed planting will frequently become infected with Fusarium crown rot and decline rapidly.

### **Site selection and soil preparation**

It is no surprise that asparagus with its large underground crown (stem tissue), bud clusters and extensive storage root system requires a well drained soil. If oxygen becomes limited in the soil due to water logging or poor soil structure the crown is damaged and becomes more susceptible to Fusarium and other rot organisms. So the key is to select a well drained soil, preferably a sandy loam or loamy sand that NEVER had grown asparagus. One cannot avoid Fusarium even on new ground, but we know it can survive in soils indefinitely and old asparagus beds are a prime source of inoculum. Also, avoid sites that are susceptible to soil erosion and early spring frosts. Emerged asparagus spears are killed with the slightest bit of frost resulting in reduced yields and slow emergence of subsequent spears.

In planning a new asparagus planting, a soil test is mandatory. Once the field is planted it is not possible to adjust the soil pH or supply additional phosphorus at the level of the crown. Because soil acidity will increase over the longevity of the planting it is necessary to adjust the soil pH within the plow layer to 6.5-7.0. Similarly, the phosphorus level must be raised as prescribed by the soil test. In addition to making these soil nutrient adjustments in the year or two prior to planting asparagus an effort should be made to incorporate organic matter into the soil. Green manures are particularly effective in improving soil structure and suppressing annual weeds. Trying to control a deep rooted perennial weed in a deep rooted perennial crop presents a real problem, thus it is imperative that perennial weeds be eliminated prior to planting asparagus.

### **Variety selection**

The development of all male hybrids over the past 25 years has been a real asset to asparagus growers. The seed is more expensive than that of open pollinated varieties, but the higher yields and enhanced longevity of beds makes them a good investment. All male hybrids have the additional asset that there are no asparagus seedlings emerging in the field which are essentially weeds. Jersey Giant, Jersey Knight and Jersey Supreme are three hybrids that are currently being planted in the Northeast. I also suggest that you check with your local Cooperative Extension Office, Experiment Station or crown grower to learn which are recommended for your area.

## **Planting**

Asparagus can be established using 12 week old plug transplants, however, survivability is frequently a problem. A much more reliable method of establishment is with 1 year old, field grown crowns. Managing an asparagus crown nursery requires excellent technique, plus some specialized planting and digging equipment, thus it is advisable to buy crowns from a reputable grower rather than growing your own. Healthy crowns have viable buds that have not yet sprouted and firm storage roots that will provide all the carbohydrates and nutrients that are required to sustain the plant until it is producing its own food.

On ideal soils asparagus crowns are placed at a depth of 8-10 inches. On heavier soils the crowns will not survive at this depth and must be placed at a more shallow depth of 6 inches. Planting shallower than this leads to problems of small spear size and early spring spear emergence that are killed by frost. A middle-buster or furrowing plow is generally used to make furrows for planting. Frequently wings need to be welded to the plow in order to get to the depth that is desired. Due to the amount of soil that is moved out of the furrow it is virtually impossible to get rows closer than 48 inches. A wider row spacing, up to 60 inches, has the advantage of better air movement after the fern is fully developed (enhanced disease control), but may not achieve the maximum yield of spears per acre.

After the furrows are opened 60 pounds per acre of triple superphosphate (0-45-0) is placed in the bottom of the furrow. This is the last opportunity to apply phosphorus in the life of the asparagus field. Because super phosphate has no salt index the crowns can be placed directly on top of the fertilizer. Crowns should be placed no closer than 12 inches. Wider spacings of 16-18 inches will not have as high yields in the first couple of years of harvest, but will reduce competition between crown as the hybrids mature. After the crowns are placed in the bottom of the furrow they are covered with 2 inches of soil. After the ferns have emerged the furrows can be gradually filled being careful not to cover the fern. This can be accomplished by periodic cultivation throughout the summer. This repeated cultivation, plus occasional hand hoeing is adequate to control the weeds during the first year. A side-dress of 50 pounds per acre nitrogen with one of the cultivations is also recommended. Young fern is very susceptible to infestations of asparagus beetles and/or asparagus rust, thus must be monitored closely. It is so easy to forget about the asparagus field after it is planted only to return after a few weeks to find it completely defoliated with one or both of these pests. Please consult your local recommendations for appropriate control measures.

## **Second year**

During the second year our primary objective is to promote the growth of the fern, eliminate competing weeds and protect the fern from insect or disease infestation. Please check your local recommendation for herbicides, insecticides and fungicides that are registered for use. No spears should be harvested this year. Although it may be tempting to harvest a few of the large spears that emerge in the spring, please bear in mind that these are the spears that produce the largest and most vigorous fern. Under extremely dry conditions irrigation may be beneficial during this year.

Fern should be allowed to stand as long as possible. As asparagus fern senescens in the fall there is a massive redistribution of carbohydrates and nutrients from the fern to the storage roots. It is

extremely important that fern not be mowed or disked down until the fern is thoroughly dead. Frequently fern is allowed to stand all winter and mowed in the spring. The standing fern catches the snow, thus providing moisture and insulation, plus reduces soil erosion.

### **Third year**

During the third year the asparagus can be harvested for 3 weeks, no more! We want to insure that we leave sufficient large buds on the crown to develop vigorous fern. Nitrogen and herbicide applications can be split applying half prior to harvest and half following harvest. Once again protecting the fern from insect and disease infestation is paramount.

### **Fourth year**

Providing the planting was not stressed the previous year a full six weeks of harvest can

commence.