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Soil Fertility Recommendations for Strawberries

Since the fertility of the soil is very important to high yields, take representative soil samples for testing in the year before the plants are to be set and use the information to improve the production capacity of the soil through proper fertilization. Strawberries will tolerate pH as low as 4.0 or 4.5, but many nutrients will not be available in quantities needed for high production. In order to increase available nutrients, heavy applications of lime and fertilizer just prior to setting plants are not as efficient as applications the previous year.

Some strawberry plantings can be harvested profitably for three or more years if properly fertilized, weeded, and renovated. If the field is to be retained over a period of three years, the soil must be high in organic matter and phosphorus when the field is planted. Organic matter content of the soil can be improved by heavy applications of manure and/or by planting cover crops of legumes or small grains that are disked into the soil prior to planting. Strawberries are particularly sensitive to low phosphate and boron. Therefore, pH adjustment with proper lime applications is important as it increases phosphorus and boron availability.

The following suggestions should be helpful in preparing the soil for strawberry production (assuming plants are set out in late March or early April):

1. The field should not be used for strawberries for at least one year if a soil test shows a pH below 5.0. It should be limed to a pH of 6.0-6.5, planted to a cover crop, and fertilized according to soil test recommendations. Strawberries do best if soil pH is around 6.0, so if the soil test shows it to be lower, disk the recommended amount of lime into the soil the year before planting. Disk recommended fertilizer in at the same time, then put soil under cover crop until ready to plant.

2. Depending on soil test results, add phosphate (P_2O_5) the year before planting as follows: Low P - Apply 400 lb/A of triple superphosphate (0-46-0) before disking (= 10 lb/1000 sq. ft.); Medium P - Apply 300 lb/A of 0-46-0 before plowing (= 8 lb/1000 sq. ft.); High P - No additional superphosphate needed.

3. Add potash (K_2O) the year before planting as follows: Low K - Apply 300 lb/A of muriate of potash (0-0-60) before disking (= 8 lb/1000 sq. ft.); Medium K - Apply 250 lb/A of 0-0-60 per acre before disking (= 6 lb/1000 sq. ft.); High K - No additional potash needed.

   In addition to any nitrogen applied the previous year, disk in 50 lb/A of actual N before planting, then broadcast 50 lb/A of actual N 2-3 weeks after planting, 50 lb/A of actual N in early August, and 50 lb/A of actual N in March of the second year if weeds are not a problem. To convert "actual N" into fertilizer rates, use the following conversion: 50 lb/A of actual N = 150 lb/A of 33-0-0 (ammonium nitrate) = about 4 lb of 33-0-0 per 1000 sq. ft.

   NOTE: Uncultivated soils, especially those in sod, may contain a heavy infestation of white grubs and other soil insects which can damage strawberry roots. It is recommended in such cases to disk in 7 lb/A of Diazinon 14-G along with the fertilizer.

Anyone interested in large-scale production should read WVU Misc. Publication 373, "Growing Strawberries Commercially", available from your WVU County Extension office or by writing the WVU Soil Testing office, Morgantown, WV 26506-6108 (293-6258 or 293-4801).

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