

ents may have a chance to hasten maturity. Too much nitrogen, or nitrogen applied late in the season, will cause a large growth of stem, and prevent the setting and development of fruit.

Regarding the value of the various forms in which the different constituents exist in mixed fertilizers, it may be said that most soluble and active manures produce their principal effect at once and are of little benefit to subsequent crops. Ammonium salts or nitrates give all their effects the first year. Sparingly soluble substances, and those that must suffer decomposition in the soil before they are of service to the plant, as coarse tankage, ground bone, and Thomas phosphate, will, on the contrary, continue to produce an effect over many years. Consequently, the soluble substances give the quickest returns for the money invested. It is hardly necessary to say that soluble manures, as nitrate of soda, should not be applied until planting time, and even then it is best to save part of the fertilizer and apply small portions at intervals of two or three weeks.

As the vegetable growers understand the true nature of the fertilizers and the needs of the soil and crop, the tendency will be to buy a fertilizer containing a single constituent to supply the known deficiency of the soil or the element particularly required by the crop. At present, too frequently so-called complete fertilizers, which are specially recommended for certain crops, are purchased. These may or may not answer the purpose under the particular conditions. Fertilizers are too expensive to be applied at random. It is essential that a clear conception of what is required be formed and then that the constituents that will produce the required effect be purchased. To do this a gardener must study his soil and crops and understand the fertilizer or mixture of fertilizers he intends using.

During the last three months we have received a number of requests to analyze mixed fertilizers. It does not seem to be generally known that according to a law enacted by the Dominion Government at Ottawa, no fertilizer selling at more than \$10 a ton can legally be sold in Canada without a guarantee giving the percentage amount of the various constituents contained in it. While we are willing to do all we can to help the vegetable growers with their fertilizer problems, we must refer this portion of the work to the Inland Revenue Department of Ottawa, and we would advise all purchasers to demand the results of the analysis made in that department.

Guarantees alone will not, however, wholly protect the buyer. He must not only know the percentage composition of the fertilizer and the nature

of the materials from which it was prepared, but he must also be able to determine from the analysis whether there is a proper relation between the guarantee and the selling price.

There appears to be a growing tendency on the part of the vegetable growers to use fertilizers. Before investing much money in them let the grower study his conditions and study the fertilizer. There is a place for them when properly used, but when improperly applied, they fail to give results. They will not take the place of cultivation, and should be looked upon as adjuncts to good general manuring and cultivation.

### Growing Cucumbers

"My cucumbers are started about April 1 in six inch pots," said Mr. Geo. Benner, of Burlington, to THE CANADIAN HORTICULTURIST recently. "They need very careful watching for the first three weeks, as too much water when the plants are young is sure to cause damping off. The plants should not be set out before May 24, because a slight cold snap so checks them that much time is needed by them to revive from the setback. When transplanted from the pots without disturbing the roots, the plants go right ahead.

"I set them out in rows five feet apart and four feet apart in the row. When set in this way the runners can be turned to one side and cultivation be kept up longer one way. They need a rich soil of sandy loam that retains moisture well.

"Early White Spine," continued Mr. Benner, "is the best all-round table cucumber. It holds its color well and suits the early market. Last year I let many of my cucumbers ripen and supplied Ontario seedsmen with about 300 pounds of first-class seed."

### Fertilizer Formulæ

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With rich garden loam, reinforced with well-rotted manure, there is seldom occasion to use fertilizers. In many instances, experiments alone can answer the question if fertilizers are necessary or will prove profitable. In many market gardens and orchards, however, the soil has become so depleted that special fertilizers are frequently used. Flower beds, and lawns, too, require special applications if satisfactory results are to be obtained. A careful study has shown that the use of the following mixtures gives satisfactory returns.

For general garden crops, including vegetables, small fruits, etc.: Bone meal, 1½ parts; superphosphate of lime, 1½ parts; sulphate of potash, 1 part. This should be applied at the rate of 800 to 1,500 pounds per acre, according to the

condition of the soil. Thoroughly incorporate with the surface soil at the opening of the season. After growth has commenced top dress with 100 pounds of nitrate of soda per acre. If the foliage is yellowish, or the growth lacks vigor, repeat the application of nitrate three weeks later.

For flower beds: Bone meal, 4 parts; sulphate of potash, 1 part. Work well into the soil at the rate of 4 pounds per square rod. During the early part of the season top dress with nitrate of soda at the rate of one-third to two-thirds of a pound per square rod.

For lawns: Bone meal, 2 parts; superphosphate of lime, 2 parts; muriate of potash, 1 part. Apply at the rate of five pounds per square rod. At intervals of two to three weeks during the earlier part of the season top dress with nitrate of soda at the rate of half a pound per square rod.

### The Seed Control Act

The question of guaranteed seeds is one of great interest to the market gardener. In some sections a few gardeners believe that the Seed Control Act passed by the Dominion Government in 1905 protects them against impure seeds, seeds that are not true to name or seeds that do not germinate. THE HORTICULTURIST recently wrote to Mr. G. H. Clark, seed commissioner for Canada, asking for particulars regarding this bill and its relation to market garden seeds. In return a copy of the Seed Control Act was sent. Section 3 reads: "Any seeds of cereals, grasses, clovers or forage plants," and section 4 refers to "timothy, red clover and alsike seeds," but no provision is made in the bill that will apply to the seeds of any kinds of crops that are generally considered to come under the category of hoed crops.

In answer to questions asked him, Seed Commissioner Clark wrote: "Judging from the development of the guarantee system in foreign countries, it would seem clear that as soon as there is a sufficiently strong demand on the part of gardeners for seeds of guaranteed germination qualities, so soon will we have Canadian seed merchants rise to the occasion and cater to those demands. As to whether the seed user could secure conviction and damages against the seed merchant, on account of supplying seeds not true to name, would depend largely on the contract between them. Seed merchants, as a rule, take every precaution to guard themselves against liability because of such conditions."

Spraying is becoming more popular every year and every fruit grower in this section will soon own a sprayer.—(C. F. Bailey, Coldbrook, N.S.)