

## STRAWBERRY CULTURE FOR DECEMBER.

### WINTER PROTECTION.

**W**INTER protection should, at the North, be applied about the last of November; in this latitude about December 10th or 15th. A good rule is to apply it as soon as the ground freezes hard enough for a wagon to drive over fields without breaking through the frozen crust.

The chief object in winter protection is to lessen the heaving of the soil and the consequent breaking of the roots and rootlets of the plants. The stiffer the soil the worse the heaving, and the greater the necessity of protection.

The covering should not be thick enough to entirely prevent the soil from freezing, but to greatly lessen the freezing in the severest weather. Pine straw, a little less than an inch deep *after it settles*, is the proper depth in this latitude. It would have to be deeper in proportion as you went North.

In winter protection at the North the whole ground should be covered, beds, middles and all.

The varieties of material that can be used are almost endless. Where pine straw, or pine needles, as it is often called, can be obtained it is almost the ideal covering. Of all similar material it is the least likely to be blown off. Wheat straw, oat straw, marsh grass and other similar things are used. Corn-stalks can also be used, but as they do not lie close a much thicker layer will, of course, be necessary.

The great objection to oak and similar leaves is that they blow off so bad, which is also the case with oat and wheat straw unless they are cut up very fine. Yet such leaves and straw are often used and anchored in place by

placing on them small stones or a little earth at short intervals.

All available stable or barn-yard manure should be used for this purpose, taking the place of other material. If coarse it can be applied quite thick directly over the plants. If very fine it will be best to use it mostly around and between the plants and to put a coarser, more open material just over the plants. The effect of too close a material over plants is to bleach and make them tender.

Whatever covering is used it must be nearly all removed from immediately over the plants about the time that growth begins in the spring. The material can be left around the plants and between the rows, where it will serve the double purpose of keeping the berries clean and of conserving moisture then so essential to a good crop.

Whether winter protection pays or is even advisable south of the Mason and Dixon line is uncertain. I have experimented for many winters. Some winters it did good; some winters it seemed to be rather harmful. It certainly would not be advisable farther South where crickets and harmful insects harbor under it and feed on the plants. Besides, the warmer the climate the more danger of smothering and bleaching the plants.

But stable or barn-yard manure is excellent in any climate if properly used. I have never known any insect pests to harbor under it.

At the South it should be applied around and between the plants. Used in this way with a liberal dressing of hard-wood ashes (fifty bushels to the acre can be used), or 300 pounds of kainit in place of the ashes, and 300