

to the seeding. If it is desirable to subsoil the land, this should be done a year before seeding, to a depth of 15 to 20 inches, and may be followed either by fallow or a cultivated crop. Time enough should intervene between the subsoiling and the seeding to allow the soil to settle, and to store a bountiful supply of moisture.

The seed-bed should be as fine as an onion-bed, and the subsurface be rather firm and well supplied with moisture. If the soil is deficient in humus, a liberal coating of barn-yard manure plowed under at the time of subsoiling will add greatly to its physical condition, and thus help to start the young plants. If the soil is very sandy, the manure will be of great value in preventing the sand from blowing and in conserving moisture. A very sandy soil is not benefitted by deep plowing or subsoiling. If the soil is heavy, and it is not practicable to subsoil, it should be plowed to a depth of eight or ten inches several months prior to seeding. If the land is allowed to lie fallow after this treatment, or has been fall-plowed, it should be thoroughly disked every three weeks during the summer or autumn, as the case may be, to keep a dust mulch on the surface and prevent evaporation.

The time of seeding is of great importance. This should be determined more by the absence of unfavorable conditions than by the season. Alfalfa has been successfully sown in Kansas in every month from March to September. Where the ground is not weedy, spring seeding has been practised with success. The cold rains of spring, however, when excessive, sometimes cause the young plants to rot off, as would be the case with the adult plant when submerged for two or three days.

The quantity of seed to sow per acre is a question of considerable importance also. The majority of successful growers advise twenty to thirty pounds. If the seed were universally good, and the ground always well prepared, this would be grossly extravagant. A pound of alfalfa seed contains about 210,000 seeds. If ninety per cent of them germinate, twenty pounds

per acre would give 3,780,000 plants, or eighty-eight per square foot. After nine-tenths of the young plants have perished from crowding or accidents, we would still have an ample stand. From these facts one can readily find the reasons for difference of opinion among good farmers as to the quantity of seed to sow. As low as eight to ten pounds per acre have frequently been used with success. (1)

The quality of the seed is another very important factor. Good germinable seed should always be used. The percentage of germinability should be ascertained by a test before sowing. This is easily obtained as follows: Count out 100 seeds and place between two pieces of muslin. Invert a small dish in a larger vessel and pour water around it. Place the muslin with seeds on the inverted dish. Let one end of the muslin hang down into the water. Saturate muslin and seeds before putting them into the germinator and set the whole in a warm place. The sprouted seeds should be counted and discarded at intervals of two or three days until all have germinated that will do so. The number germinated will give the per cent of germinability. This ought not to be less than seventy-five per cent.

The color of fresh alfalfa seed is a greenish orange-yellow. As it grows older it all slowly turns to a yellowish-brown color.

Alfalfa may be seeded broadcast or in drills. It is preferable to seed with a drill having a press-wheel attachment, because the depth of planting can be better regulated. The seed should be covered about one inch in depth, unless the surface be very dry, when a somewhat greater depth is admissible. A good method to secure a better distribution of plants is to sow ten pounds of seed, running the drill in one direction across the field, and then cross-drill with the other ten pounds. If the drill has no grass-seeder attachment, the seed should be mixed with about three times its weight of coarse corn meal. When

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(1) Eighteen to 20 lbs. Ed.