

the newly sown seed, while another could more justly say that the use of the head is of more consequence than the use of the feet. The sower in order to be thoroughly successful in seed sowing must have an understanding of the principles involved in the germination of seeds and use common sense in their practical application. What are some of the essential conditions for proper germination of seeds? The conditions are heat, moisture, air, and absence of light.

The heat for garden and field germination of seeds is supplied by direct rays of the sun. Seeding must be delayed until the soil has become sufficiently warm for certain seeds. The seeds of hardy plants, such as onions, beets, lettuce, radish, rye, wheat and oats germinate best in temperatures ranging between 45 degrees and 65 degrees; those of tender vegetables, such as melons, cucumbers, sweet corn, beans and squashes between 60 and 80 degrees; while the tropical plants, tomato and egg-plant, between 75 and 95 degrees. Many of the garden plants may be started by supplying artificial heat a month or six weeks in a hotbed or greenhouse and then transplant to the garden when the weather becomes warm.

The moisture is supplied by rains or some artificial means of irrigation. The best success is obtained when the supply is moderate and continuous. An excessive application of water to newly planted seeds is injurious in a number of ways.

Seeds must have air to germinate. A crop of clover seed was plowed under in the fall of 1911 and corn was put upon the field in the spring of 1912. This spring (1913) the field was plowed and put into oats. Notice if we have a good patch of clover on this same field. We did not sow any clover seed there this spring. Deeply buried seeds will not grow, as they are shut off from the air.

No definite rule can be established for the depth of planting seeds. The soil and climatic conditions must be considered in this connection. As a general rule, seeds are planted to a depth equaling five times their diameter. The soil must be pressed firmly about the seed to make sure that capillarity is established with the soil and seed. This will insure moisture and aid in heat conduction.

Pressing the soil firmly does not mean pounding it down with a sledge hammer. This extreme shuts out some air and hinders the young plants in getting to the surface. This is often the cause of failure in securing a good stand, and a poor stand is a financial failure.

Heavily soaking a seed-bed is a mistake quite often made by many children. They do not realize that they are delaying germination and forming a crust over the seeds. The seeds should be sown in a sufficiently moist soil that does not need to have water applied after the seeds are in, until the plants are up.