

Seed Germination

I have received many questions lately as to why garden seeds may not have germinated this year. The main reason is weather related. However, successful germination depends on four factors: (1) establishing soil is appropriate for growing vegetables, (2) planting when soil temperatures are warm enough, (3) planting at the proper depth, and (4) using proper irrigation.

Most Cache Valley soils are suited to growing vegetables. However, especially when problems are experienced, it may be worth obtaining a soil test. Test performed by labs are often more accurate than do-it-yourself kits available for purchase. Utah State University offers this service inexpensively. For a \$14 test, needed soil characteristics and potential problems can be determined. For more information concerning soil testing visit the following web page: www.usual.usu.edu.

In addition to soil testing, improving garden soil with compost materials can improve the garden soil. In fact, one of the most basic principles of successful gardening is adding compost to the soil often. This improves soil structure, makes many nutrients more available to plants and helps conserve water. An interesting fact sheet on how to improve garden soil can be found at: http://extension.usu.edu/files/publications/factsheet/HG_H_01.pdf.

Recommended planting dates are not absolute and how warm or cold the growing season has been should be considered when planning the garden. The last two springs have been unusually cool. Because of this, normal planting times have been later than usual due, in part, to lower than normal soil temperatures. These lower temperatures can make seeds more susceptible to rotting in the soil and can delay germination. This is the most likely reason many who have had success with using seeds in the past may have not seen optimal results this year. Most warm season vegetables such as melons, squash and corn should be planted when soil temperature are at least be 50 degrees F. The same holds true for warm season vegetable transplants such as tomatoes and peppers.

Sowing seeds, especially small seeds, too deeply greatly reduces germination rates because emerging plants do not have enough energy to push through the soil. How deep to plant is usually given on the seed pack itself. Otherwise, many resources are available to help know how far into the soil seeds should be placed. One publication, available online for free, is entitled Home Vegetable Garden Variety Recommendations for Utah. It is available at http://extension.usu.edu/files/publications/publication/HG_313.pdf. This publication not only gives planting information but lists vegetable varieties suited for use in Utah.

A final and still important factor to consider when using garden seed is proper irrigation. Once in the soil, seeds should not be allowed to dry out. Allowing them to become excessively dry rapidly kills newly emerged and tender plants. Conversely, soil should not be kept muddy-wet either. Over-watering drives air out of the soil and causes seeds to rot. Purchased seeds are tested for quality annually by law, and so it is probably not the garden centers fault when seeds do not geminate successfully.