

Importance of Seed in Agriculture

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Seeds are the keystone of agriculture. Expertise has restructured farming's to a great extent in day-to-day operations, but without a sturdy supply of high-quality seed, yields and crop eminence would be greatly decreased. Achieving and maintaining high seed quality is the goal of every professional seed producer. Seed is the most vital, crucial and cheapest input in crop production. A true seed is a fertilized matured ovule, medium for rapid rehabilitation of agriculture after natural disasters as well as propagating material for agriculture, sericulture, silviculture and horticultural plants used for sowing or planting purpose. The importance of quality seeds has been recognized from the time immemorial. The old scripture, Manu Smriti says “Subeejam Sukshetre Jayate Sampadyathe” i.e., Good seed in good soil yields copiously. In 5th century, Kautilya Artha Shashtra, mentioned seed dressing with milk, cow dung and honey to protect the seed during germination.

Rice, barley, wheat and maize are all seeds. How many loaves of bread, cobs of corn or bowls of rice do we gobble in a week?

Many people wonder what does seed quality mean. The practical definition of seed quality can differ depending on the end user. For example, a farmer may desire high-quality seed that produces rapid uniform plants with high yielding capacity under a wide range of field conditions. A producer of oil seed crop, where oil would be used for industrial purposes such as making soap, cosmetic products or lubricants may desire seed with a particular stable fatty acid profile as a measure of high quality.

The seed quality and seed structure are the pioneer requisite during seed production. Knowledge of seed structure can help in understanding how seeds respond during harvesting, conditioning, germination, and seedling emergence. *Seed quality* describes the potential performance of a seed lot.



The farmers are using poor seeds in crop production due to its unavailability in the local area and lack of awareness about the importance of seed in crop production which will affect the productivity in their local agro-climatic zones. The basic purpose of the production and sale of certified seed is to make genetically pure crop seed available to farmers. All the way through careful breeding and selection, the levels of seed storage reserves can be modified. In this era of biotechnology, it may be possible to breed a “designer” seed plant with the correct levels of carbohydrate, lipids, and protein to meet human nutritional and industrial needs.

In general, the quality seed is measured in terms of genetic and physical purity, germination, vigour, uniformity in sizes and freedom from seed-borne diseases. Success in producing quality seed of a particular crop in one area and failure in another area illustrates the importance of environmental influence on seed development and maturation. The stage of seed development at harvest also affects seed quality. Harvesting too early or too late may reduce the quality of the seeds. In summary, the production of high quality seeds does not happen by chance. Each step in the production system from planting the proper variety in appropriate time to following weed control practice, fertility program and harvest in the right time, cleaning the seeds, storage, and shipping is critical for achieving high quality seeds.