Potato

Propogation

Selection of Seed Tuber

Potato is mostly cultivated by planting tubers. Purity of the cultivars and healthy seed tubers are the primary requirements for a successful crop. However, seed tuber is the costliest input in potato cultivation. The tuber seed should be disease free, well-sprouted and 30-40 g each in weight. It is advisable to use the entire seed tuber for planting. Hill tuber seeds are split into pieces and planted late in winter when they do not decay due to mild temperatures. The main objectives of cutting large size tubers are to reduce the cost of seed and to obtain uniform sprouting. Tubers should be cut longitudinally through the crown eye and the weight of the cut piece should be around 30-40 g. Usually the seed tubers are cut with a knife just and treated with a fungicide before planting. Before cutting the seed tuber, the knife should be disinfected with Potassium Permanganate solution.

The shortage of good quality seed tubers, high seed cost, transportation of bulky potato seed, and virus infiltration in seed tubers are some of the important problems associated with use of seed tubers as planting material.

True Potato Seed (TPS)

To overcome the above problems True Potato Seed (TPS) is used as planting material. TPS is a botanical seed developed in the berry of the plant as a result of fertilization. The technology basically consists in production of TPS and raising commercial potato crop from it. It has been shown that the use of TPS seedling transplants and seedling-tubers as seed are economical and successful approaches to commercial potato production. In TPS technique, the normal seed rate (2.5 t/ha) of potato is drastically reduced to only about 200g of TPS, thereby, saving huge quantities of food material for table purposes. About 100 g of TPS costing Rs.3000/- is sufficient to plant one hectare of potato as against 2-3 tonnes of seed tuber per hectare costing Rs.20,000-30,000/-

Potato crop can be raised from TPS using seedling transplants or through seedling-tubers produced in preceeding crop season. In former method, the TPS seedlings raised in nursery beds are transplanted in the field and grown to maturity. While, in latter, the TPS seedlings are grown to maturity in nursery beds to obtain seedling-tubers. These seedling-tubers are used as a seed for raising normal potato crop in next season.

TPS technology is likely to gain momentum in future particularly in the non-seed producing areas viz. Karnataka, Maharashtra, Madhya Pradesh, Orissa and the states of north-eastern region where good quality seed tubers are either not available or are too expensive.