

Open Pollinated Seed Production

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Agriculture plays an important role in the overall economic development of Fiji whereby vegetable sector alone contributes a good percentage of the country's GDP.

Significant increase in yield and quality of vegetable crops depend upon a number of factors. The inputs such as irrigation, fertilizers, plant protection measures and appropriate agronomic practices contribute significantly towards increasing yield and quality of the produce. If good quality seed is not used, the full benefit of such inputs and husbandry practices cannot be realized.

The cost of seed represents 2-3% of the total cost of production, but the quality of seed plays a critical role in influencing the growers' profitability. Quality seeds, therefore, is the basic critical input upon which all other inputs will depend for their full effectiveness. Seed quality is that one which has genetic purity, physical purity, is healthy and has a good germination percentage. A good quality seed is therefore essential to grow a strong and healthy crop. Healthy seeds can be bought from local seed dealers who mostly sell hybrid seeds. Farmers can also produce and save their own seeds for next seasons planting.

Seeds of hybrid crop are not suitable to be produced and saved because they will lose their characteristic over 2 or 3 generations. However, seeds of open pollinated varieties can be successfully produced and used in the following season. In that case, seed selection can be used to improve the quality of seeds.

There are several diseases that are transmitted via the seeds. If seeds from an infested field are used to grow the next crop, these seed-borne diseases will immediately cause serious problems. Seed selection should thus start by obtaining seeds from healthy plants.

Small, shrivelled and broken seeds contain less nutrition for the developing seedling. By removing these inferior seeds, the farmer is able to grow stronger and healthier seedlings.

Even if seeds are selected carefully, they still may carry diseases. In these cases seed treatment could be used to further improve the quality of the seeds.

While seed selection is mainly aimed at obtaining healthier seeds, it can be used also to maintain and improve the quality of the crop variety. In a crop field, there are always differences between plants. Some plants may have characteristics that are more suitable than those of other plants. During the growing season, the farmer can try to observe these differences and mark preferred plants with a ribbon or a stick. During harvest, the seeds of these plants can be reserved for growing the next crop. In this way, the farmer can slowly improve the quality of his variety.

The selection of these plants may be based on characteristics such as the size of the plant, colour or size of the fruits, number of grains per ear, etc. Selections can also be done to keep

seeds of plants that suffered less attacks by insects or diseases. Farmers in this way will select at harvest time the best seeds to be kept for the next seasons planting.

The Ministry of Agriculture in Fiji has been producing good quality seeds of open pollinated vegetable varieties at its Sigatoka Research Station for a number of years. The continuous varietal maintenance work carried by the Researchers ensures production of good quality foundation seeds that are used to produce farmer seeds for sale to commercial growers. Farmers purchase these seeds and produce their own for 2 to 3 seasons before buying them again. This will ensure seeds are always available with the farmer when he decides to plant his crop.

Seeds of some of the crops that are produce in the Research Station include:

- Eggplant
- Chillies
- Tomatoes
- Sweetcorn
- Maize
- Cowpea
- Pigeon pea
- Mungbean

Farmers can easily reproduce seeds of these crops in their farms for their own use.

In order to formularize Fiji's seed sector, the Ministry of Agriculture has drafted a National Seed Policy. The objective of the policy is to make good quality seeds readily available to farmers at a cheaper price. The policy will create the necessary environment for more investment in Fiji's seed industry to further develop and modernize the agricultural sector in Fiji.