



FAO SSA Training

Handout 0 - Session 3 (Seed systems)

Seed and Variety. Definitions

SEED

Some basic definitions

- A seed is an embryo, a living organism embedded in the supporting or the food storage tissue and seed coat which when planted produces normal seedling capable of growing into a plant.
- Any part of the plant that can, when planted, produces normal seedlings capable of growing into a plant.
- Plant parts with potential to germinate and grow into a plant include sowing e.g. Grains, tubers, bulbs, rhizomes, roots, cuttings, vines

Classes of seed

- **Breeder seed** - the source for the production of seed of the other classes in a formal plant breeding/formal seed system.
- **Foundation seed** - The progeny of breeder seed, used as planting stock for registered and certified seed.
- **Certified seed** - Seed of a prescribed standard of quality, produced under a controlled multiplication scheme, either from basic seed or from a previous generation of certified seed. It is intended either for the production of a further generation of certified seed or for sowing to produce food, forage, etc.
- **Quality Declared Seed**

VARIETY (CULTIVAR)

Variety (Cultivar) - an assemblage of cultivated plants which is clearly distinguishable by a group of characters (morphological, physiological, cytological, chemical or others) and which, when reproduced (sexually or asexually), retains its distinguishing characteristics.”



Four different varieties of groundnut that could be distinguished by seed color

Open-pollinated variety (OPV) - A heterogeneous variety of a cross-pollinated crop that is allowed to inter-pollinate freely during seed production; in contrast to hybrid seed production representing controlled crosspollination.

Hybrid variety - A hybrid is created by crossing two unique parents. Crossing involves taking the pollen from the male and transferring it to the female. The first generation of offspring from this cross all looks and acts the same. They also show what's known as hybrid vigor: these plants come out stronger than their parents. But you can't plant their seed in order to raise these plants the following year. The seed collected from a hybrid plant will either resemble one of the parents, or be sterile.

- Hybrid seeds don't "reproduce true-to-type" in the second generation. That means that if you save the seeds produced by F1 hybrid plants and plant them, the plant variety that will grow from those seeds (known as the second generation) may or may not share the desired traits you selected for when creating the first generation hybrid seed.

Improved (modern) varieties – varieties which have been bred for specific traits such as high yields, resistant to pest and diseases, tolerant to drought or other stresses. These can be OPVs or Hybrids. Improved OPVs can be certified or not.

Local or tradition varieties or landraces – these are varieties that have evolved over time and farmers have come to recognize them with some features.

Bibliography and references documents on seeds in FAO web resources, available at:

http://www.fao.org/agriculture/crops/core-themes/theme/seeds-pgr/know_res/en/