

Agronomy: Harvesting

This discussion will cover these areas:

- Crop maturity
- Fodder Crops
- Methods of harvesting
- Harvesting watch-outs

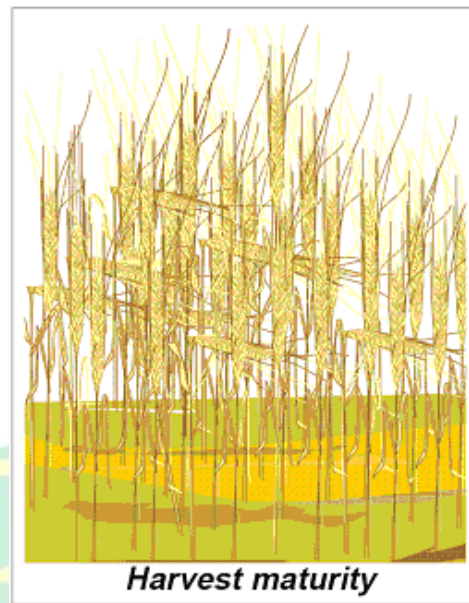
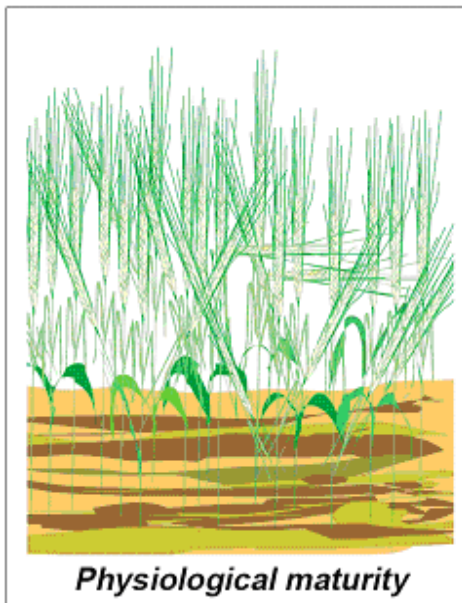
Removal of an entire plant, or its economic parts, after maturity from the field is known as harvesting. The economic product may be grain, seed, leaf, root or the entire plant. Portions of the stalk that are left in the field are called stubble.

Timely harvesting is essential. Readiness for harvesting is calculated on the basis of the moisture content of grain. Early harvest gives immature grains with high moisture content. Such grain is difficult to store because it is susceptible to pests. In such cases, the yield, the quality of grain, as well as the germination potential are reduced. Late harvesting, on the other hand, may cause the grain to shatter. In addition, crops harvested at very low moisture may lead to damage of seeds while threshing

Crop Maturity

Crops are harvested either at physiological maturity or at harvest maturity. Physiological maturity is the stage at which translocation of food matter to the economic part stops. That is, after this stage, no further increase of dry matter occurs in the economic part. Moisture content in cereal grains is very high during the milking stage (when the grain is barely formed) and it gradually decreases (from 40 to 20 percent). At this stage, translocation of carbohydrates is stopped due to the formation of a hard ring (known technically as an abscission layer) at the neck of the grain (rachis).

Harvest maturity occurs approximately 7 days after physiological maturity (depending on the prevailing weather conditions). The important process during this period is loss of moisture from the plants. The general symptoms of harvest maturity are yellowing of leaves and drying of grain pods. Physiological maturity harvesting is advisable only if the field needs to be vacated for the next crop. Otherwise, harvest maturity is recommended.



Fodder Crops

For fodder crops, additional aspects have to be considered such as the presence of toxins, nutritive value, purpose of harvest and single or multicut. Grazing by animals in pastures is another method of harvesting. Three methods are available for this form of harvesting:

- Continuous,
- Rotational, and
- Rational.

Continuous grazing is allowing livestock on the pasture throughout the growing season. Rotational grazing is where the field is divided into sub units and animals are allowed to graze in one sub unit after another. Rational grazing, also known as strip grazing, involves providing only a day's ration for the herd. On the next day, the herd is moved to forage on a new day's ration of fresh supply.

Methods of Harvesting

Harvesting may be done either manually or mechanically.

The sickle is the most important tool in manual harvesting. A knife may also be used for plants with woody stems.

Mechanical harvesting is done with the help of combines. Combines perform several operations such as cutting the crop, separating the grain from the straw, cleaning it of chaff and transporting it to the storage tank. The combine reaps two to nine rows at a time and is usually equipped with an 8-10 HP engine.



Manual harvesting



Harvesting with tractor

Harvesting Watchout

Problems may occur when harvesting coincides with heavy rain or cyclones. The crop may be submerged and the seeds may start germinating on the plant itself. Presence of weed heads at the same level as the economic part of crop makes the use of combines difficult. When the economic part of the crop is underground, harvesting is difficult if the soil dries up.

Sources and Links

- Department of Primary Industries, Victoria, Australia. Available online at:
- <http://www.dpi.vic.gov.au/dpi/nreninf.nsf/childdocs/-2BAF4D73531CD1544A2568B3000505AF-57D1EB72F146450ECA256BC80004E8DD-966D71ECF369B7C44A256DEA0027B670-CEF81C761FD5A8F8CA256BCF000BBE82?open>
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