Oregon seed producers are equipped to harvest seed under dry conditions normally encountered in the Willamette Valley. When unusual wet weather occurs during harvest, special precautions should be followed in seed handling. The purpose of this report is to identify those precautions.

MEASURING SEED MOISTURE

Seed viability or germination is quickly reduced when stored under high moisture conditions. Therefore, the seed moisture content at time of storage is critical. Grass seed at or below 12% moisture is safe for bulk storage. This is below the 14% at which grain can be stored. Grass seed at 15% or above will quickly heat without artificial drying. Seed above 12% moisture is often encountered in wet seasons and requires special attention.

One of the first steps in handling high moisture seed is accurately determining the moisture content. One rapid and accurate method is to heat a seed sample in an oven at 265° F until dried to a constant weight, which usually takes 90 to 120 minutes. An accurate scale must be used to weigh the seed sample. Seed moisture content percentage is determined as follows:

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\frac{(\text{Wet seed weight}) - (\text{Dry seed weight})}{(\text{Wet seed weight})} \times 100
\]

In addition to the oven method, several types of moisture testers are available for determining moisture content using a heat source to dry the sample. These units are quite accurate, usually limited by the precision of the weighing scale. They can be used on a wide range of

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crops and do not require charts to interpret results. The major advantage of the oven or heat method is its accuracy, but it is slower than electronic testers.

Several electronic moisture testers are marketed. These units are designed primarily for use on grains. They are less accurate on grass seeds because seed cannot be compacted sufficiently in the test chamber for testing. Tests comparing the oven dry method and electronic testers with grass seed often differ by as much as 2 to 4%. This difference is more than enough to cause serious problems, particularly if the reading is on the low side. Electronic devices have the advantage of speed, but they are often inaccurate for grass seed and few are properly calibrated or have conversion charts for all grass seed crops.

**MONITORING SEED IN STORAGE**

Seed with a moisture content that is marginal for safe storage should be checked with a thermometer on a probe thrust into the seed pile to determine seed temperature. Hot spots can develop and seed viability quickly destroyed. Any temperature above 100° F and rising is a cause for concern. Seed should be moved or aerated immediately to lower the temperature.

Running seed over a cleaner will remove wet green material and may lower the temperature slightly, but will do little to lower moisture content of the seed itself.

Bagging cleaned seed in burlap bags rather than paper or plastic bags and stacking loosely to permit air circulation will aid in cooling and permit slow seed drying. This is only an insurance procedure and not a recommended method of seed drying.

Seed that has a moisture level above 12% should be subjected to some type of drying procedure. Seed can be dried by passing air through the seed bulk. Air movement is necessary to displace the saturated vapor surrounding the seed. The addition of heated air will increase the rate of moisture displacement. Heat will lower the relative humidity of the air and will speed the drying. Temperature of the air should not exceed 90-110° F at the point of entrance into the seed.