SMALL GRAIN SEED PRODUCTION

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There are a number of things common to any good seed production program, whether it be small grains or any other crop. Production of good quality seed begins in the field. Field selection is the first step and a very important one because it sets the stage for everything else related to production of the seed crop.

Field Selection

Seed are more valuable than grain; therefore, our most productive fields should be devoted to seed production. Potential weed problems should also be given high priority. It is much simpler to avoid a weed problem than it is to try to remove the weed seed from the grain in the cleaning process. Problem weed species vary from one area to another. Wild garlic and wild onion are widespread. Vetch or similar species are weed problems in small grains and are also fairly widespread. Other weed species may be problems in specific areas. Information about localized problem species would be available from Seed or Crop Improvement Associations and Extension Services.

Weed Control

At the present time control of wild garlic is poor to impossible. Fields where this weed is present should be avoided for seed production.

Ryegrass is a problem in many areas. Chemical control measures are available in some but not all areas. Small grains mature before ryegrass in the Southeast. Green ryegrass seed and other plant parts, if not removed before storage, can cause heating to the point that seed are killed.

Where herbicides are used, proper and timely application is important, sometimes critical. Localized recommendations are available from

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your Extension Service or Agricultural University. Localized recommendations are very important because rates and reactions vary from one area to another and crop damage can occur.

It may be necessary to inspect fields a year in advance of planting to be sure that there are no unmangeable weed problems. A knowledge of prior herbicide usage is also necessary. The triazines on corn or sorghum and Zorial on cotton are some examples where residues may be damaging to the following grain crop.

Other factors to consider in field selection are relative ease of harvest, location in relation to storage and other facilities and location as to requirements for isolation.

Cultural Practices

Seed bed preparation can determine what kind of stand you get and can also determine seeding rate. In Mississippi, recommendations on seeding rates are based, in part, on the type of seed bed preparation. If seed are planted with a grain drill on a well prepared seed bed, 60 pounds of seed per acre are adequate. If seed are broadcast and disked in, 90 pounds of seed per acre are required, and if the seed are flown onto soybeans prior to leaf drop (with no seedbed preparation), 120 pounds of seed per acre are necessary. Seeding rate recommendations vary from area to area. Localized recommendations are available.

Seed treatment can improve seedling survival 10 to 15% by reducing the effect of seed rots and seedling diseases. Smut can be a problem and can be controlled only by seed treatment. A systemic fungicide such as Vitivax is recommended. Systemic fungicides are usually used in combination with other protectant type fungicides.

Fertilization is extremely important in optimizing yields. As with other practices base your fertility program on local recommendations. Soil testing is an excellent way to know what is actually needed. Timing of nitrogen is important. The early stages of plant development require little nitrogen. The greatest demand begins at the time of stem elongation and continues through grain maturity. Over-fertilization with nitrogen will delay maturity, cause lodging and make plants more susceptible to disease. In fact, it may be desirable in some areas to apply a little less nitrogen than is required for maximum yield to minimize lodging and disease problems.

Disease Control

Disease control may also be necessary to optimize yields. Application of fungicides for the control of such diseases as rust, Septoria,
powdery mildew in the south and other diseases in other areas may be required.

Isolation

Isolation is required to maintain purity. Isolation distances vary depending on what species is being produced. Greater distance is required for rye, for example, than wheat because rye is cross-pollinated. Requirements for isolation are established by the respective seed or crop improvement associations and are available on request.

Insect Control

Insect control may be necessary in some areas. This, too, will depend on local conditions and recommendations. Aphids, greenbugs, in some areas, army worms and other insects can reduce yield. Hessian fly is generally controlled by planting dates.

Harvesting

Timely harvesting is necessary with small grains. Although small grain seed may not be as susceptible to weathering damage as for some other crops, seed quality can be reduced by delayed harvest. Like many other crops, small grains can be harvested at moisture contents that are too high for safe storage and dried thus eliminating a great deal of potential weather damage. Although small grain seed are not susceptible to mechanical damage as soybeans, for example, proper adjustment of harvesting and handling equipment is necessary to prevent mechanical damage.