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TALL FESCUE SEED PRODUCTION IN KENTUCKY

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Producing tall fescue seed has traditionally been a profitable venture for many Kentucky farmers. It can still provide additional income if: (1) it is properly managed and fertilized and (2) it is integrated into a total farming program which in most cases includes livestock.

In past years with favorable prices, Kentucky farmers have made money producing tall fescue seed on nearly all classes of land. Under our present seed prices, however, this can no longer be done. Likewise, farmers cannot afford to use class I and II land only for tall fescue seed production, especially when good yields of corn, soybeans, alfalfa, and other higher income crops can be produced on this land. This means tall fescue seed production must be aimed at higher yield levels and combined with a forage-livestock farming operation on rolling land (class III or steeper). In this manner tall fescue can be utilized year-round, and seed produced can act as a valuable economic supplement to the entire farming operation.

Even though Kentucky farmers incorporate tall fescue seed production into a forage-livestock farming operation, they cannot expect good economic returns at today's prices without proper management. Tests at the Kentucky Agricultural Experiment Station indicate that two management practices are of primary importance when producing high yields of tall fescue seed:

1. Clipping to remove excessive growth immediately after the seed crop is harvested.
2. Applying nitrogen fertilizer during the very late fall or winter months.

Results have indicated that these practices can substantially increase yields for tall fescue seed.

Seed Production Potential

Estimates are that Kentucky has approximately six million acres of pasture land established in tall fescue, one-third of which is level enough for seed production purposes. The Kentucky Crop and Livestock Reporting Service estimated that 55,000 acres were harvested for tall fescue seed production in 1971. Estimated yield was 255 pounds per acre which totals approximately 14 million pounds of seed for the year.

This is approximately 2 million pounds less than were harvested in Kentucky in 1969 and 1970. Kentucky seed dealers shipped nearly 7 million pounds of "rough" tall fescue seed into the state in 1971, which was later processed and marketed. Many of these seedsmen indicate that they would prefer locally produced tall fescue seed, but it is no longer available. Supplying our seed dealers with tall fescue seed offers an excellent opportunity for Kentucky farmers to gain additional income as a sideline to a forage-livestock farming operation.

Seed Field Selection

Farmers should carefully select the fields they are planning to use for tall fescue seed production. Factors to be considered in field selection are previous concentrations of orchardgrass, wild onion, and other weed contaminants. It is difficult for seedsmen to sell tall fescue seed with wild onions or orchardgrass present. Therefore, if the farmer is planning to sell his seed, it is always helpful to consult seed dealers or buyers during field selection. They may suggest procedures regarding timing of harvest and handling that will help the farmer save more seed and improve seed quality.

Removal of Excess Growth

Following seed harvest, tall fescue should be clipped to a height of 3 to 4 inches and excess herbage removed preferably by baling. Clipping encourages the development of new tillers and improves utilization of new growth as pasture. These tillers develop during late summer, fall, and early winter months and are responsible for the following year's seed crop. Tests at the Kentucky Agricultural Experiment Station show that substantial increases in seed yields occurred in fields which were clipped immediately after harvest compared to fields where the residue was not removed. If the fescue was not harvested for seed the previous year, and is intended for seed the next, accumulation of large amounts of herbage in summer and fall should be avoided. Grazing is probably the most practical means of utilizing this growth. Other methods include mowing and storing either in loose stack storage or bales. The round baler is one of the most efficient methods since foliage may be left where dropped and will remain in good condition into the winter. The bales can then be utilized by livestock along with accumulated summer and fall growth.

Grazing Seed Fields

New growth which occurs immediately after clipping may be grazed moderately in tall fescue seed fields. However, these seed fields can produce excellent fall and winter grazing for livestock if they are properly fertilized. Likewise, the aftermath growth can be left in the field to fit into a forage-livestock program for grazing with field stored bales or stacks throughout the winter months.

Cattle management becomes an important factor in tall fescue seed production. For maximum seed yields tall fescue should never be overgrazed, and grazing pressure should be light from August through November. After the first of December, grazing pressures may be increased, and field stored bales and aftermath growth can be fed. Cattle should be removed from seed fields between March 15 and April 1 in Kentucky or seed yields are likely to be reduced.

Fertility

Proper fertilization is instrumental in increasing total number of individual seeds and eventual seed yield. Nitrogen is primarily responsible for how well seed heads fill and the eventual seed yield. If tall fescue is used only for seed, it should be topdressed with 60 to 70 pounds of nitrogen (about 200 pounds of ammonium nitrate) per acre during late November or December. Later applications until March 1 give satisfactory yields but not as high as December application. If nitrogen is applied too late (after March 1) it can cause excessive lodging and vegetative growth rather than seed head development.

When late fall and winter grazing is planned for seed fields, the time and rates of applying nitrogen should be changed. To provide the best pasture for winter grazing, approximately 60 pounds of nitrogen should be applied August 1 - 15 which could then be followed by an additional 60 pounds of nitrogen in early December. The reason for a split application is that nitrogen applied in early fall will be utilized by the plant for vegetative growth and will not be as effective for seed production. Therefore, when fields are used for winter grazing and seed production the next year, a split application is recommended.

The pH level of the soil should be maintained between 6.0 and 7.0. Phosphate and potash should be maintained at medium to high levels. A soil test will help determine how much P & K are necessary. Fall is an excellent time to apply lime, phosphorus, and potash to the soil. These nutrients may be applied as a complete fertilizer with nitrogen.¹

Harvesting Methods

Tall fescue seed may be harvested by direct combining or windrowed and then combined. The seed of tall fescue shatters easily when ripe. Shattering due to rain, wind, and delays caused by unavailability of harvesting equipment can easily reduce yields by 50% or more. Favorable conditions, extreme care and a skilled combine operator are necessary to prevent serious losses.

Direct combining is a feasible method of harvesting if acreage of tall fescue seed is small, and the combine is readily available. Direct combining should begin when five to fifteen percent of the seed are immature. Many of the late heads will still be immature, but the majority of seed heads should be straw colored by this time. Harvesting with more than 20% immature seed usually results in lower yields and excessive seed moisture which will cause heating and weak seedling vigor.

For larger acreages or where combining equipment is not readily available, windrowing and curing the seed in the windrow is the recommended method. This seed can then be thrashed by a combine with a pickup attachment when completely dry. Tall fescue can be windrowed at an earlier stage of seed head maturity than when it is direct combined. Windrowing should be started when an occasional seed shatters on earliest maturing heads in the field. If windrowing is delayed, however, direct combining may be essential to prevent loss of seed due to shattering. The windrower should be set so that only the stemmy portion of the plant is harvested and

¹"Lime and Fertilizer Recommendation Guide," University of Kentucky Extension Service Circular 619, Revised 1972.

little vegetative growth removed. This permits the seed bearing stems to be placed on top of the stubble which allows air circulation and decreases drying time.

The combine should be set according to manufacturer's instructions regardless of the method followed. Aggressive cylinder action is not necessary. Chaff should be examined for tall fescue seed from time to time as harvesting proceeds.

Seed Storage and Curing

Handling of seed after combining to prevent heating is nearly always a problem. This will depend somewhat on the method of combining used. If the seed is direct combined it should be cleaned immediately if possible to remove green material. When the seed cannot be cleaned immediately, it should be spread out to dry in bins, lofts, or tobacco warehouses. In Kentucky seedsmen often rent tobacco warehouses, buy green seed (direct combine) and dry it in these warehouses. If the seed begins to heat during drying, it should be stirred or turned. Temperatures in the seed must not exceed 110 F. or germination loss can occur.

Seed harvested from the windrow will be dry at harvest time and requires much less care by the farmer or seedsman for storage prior to final cleaning and bagging. Likewise, the farmer will not be required to pay the seedsmen for the necessary drying when selling green seed.

Varieties and Seed Certification

Two varieties of tall fescue, Kenwell and Ky 31, are presently recommended and certified by Kentucky Seed Improvement Association. Since certified seed is genetically pure and usually of higher seed quality, it commonly demands a premium over common uncertified tall fescue seed.

Factors to be considered when reaching a decision on whether to certify tall fescue seed fields are: (1) Classes and source of seed eligible, (2) land requirements and (3) isolation. In most cases with very little effort by the farmer or seedsmen, tall fescue seed fields can be certified provided the above requirements have been met. Many older fields of Ky 31 or recent plantings which have been seeded with certified seed are eligible for certification. For detailed information on certification requirements, farmers should contact their local county extension agents or Kentucky Seed Improvement Association, 929 S. Limestone St., Lexington, Ky.

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