UNIT - FORAGES

Lesson 10: Pasture Renovation

TEACHING PROCEDURES

A. Review

Review the previous lessons.

B. Motivation

Explain to the students that old pastures produce less forage with lower quality. This consequently brings less profits to the producer. With the present concern over fescue toxicity, many land owners are looking for ways to renovate old toxic fescue pastures. Research has shown that renovating permanent pastures will improve production from two to five times, depending on conditions.

C. Assignment

D. Supervised Study

E. Discussion

1. Ask the student to give examples of conditions and characteristics that would indicate that a permanent pasture needs renovation. Have the students discuss the reasons for pasture renovation. Make sure to emphasize that renovation is usually less expensive than putting in new pasture and the renovated pasture can be grazed sooner. (TM 6)

Why do you need to renovate pastures?

1) Characteristics of permanent pastures indicating that renovation is needed
   a) Poor growth of forages due to lack of fertility, lack of moisture, weeds, diseases and insects, and improper grazing management
   b) The disappearance or suppression of legumes due to the domination of grasses
   c) Apparent loss in weight gains, milk production and number of livestock that can be grazed on existing pasture
   d) Pasture determined to have fescue toxicity

2) General advantages of pasture renovation
   a) Control of weeds
   b) Control of disease and insects
   c) Increased yields and carrying capacities of pastures
   d) Increased animal output
   e) Succulent grazing during entire growing season
   f) Establishment of desirable composition of grasses and legumes
3) Advantages of renovating pastures (including those with adequate grass stands) with legumes
   a) Increases average gain of animals
   b) Increases weaning weight of calves
   c) Increases cow conception rates
   d) Lessens grass tetany risks
   e) Lessens herd health problems
   f) Provides greater protein yield per acre
   g) Furnishes nitrogen for themselves and the companion grass
   h) Provides a higher quality hay than grass alone
   i) Produces more forage in July and August to offset the summer slump of grasses
   j) Decreases pasture production costs
   k) Can be established in grass sods without plowing and without completely losing one year's production

2. Discuss the three different methods of renovating pastures with legumes. Point out that all three methods are similar in that the established grass is controlled so that the new legume can compete.

What are the methods of renovating pastures with legumes?

1) Method 1
   a) Overgraze grass during fall and early winter.
   b) Apply lime, phosphorus and potassium during overgrazing.
   c) Do not apply nitrogen because it stimulates grass growth.
   d) Broadcast legumes early enough in the winter to be covered by freezing and thawing.
   e) Seedings made in February have 50 percent greater chance of survival than those made in April.
   f) Overgraze early grass growth in spring.
   g) Clipping will usually not substitute for overgrazing.

2) Method 2
   a) Till sod in late fall or early winter so that 40 to 50 percent of the sod is disturbed.
   b) Broadcast, drill seed, or use band applicator.
   c) Apply phosphate as a starter.

3) Method 3
   a) Use a chemical to retard grass growth.
   b) Seed with no till seeders.
   c) In most cases, a non-selective herbicide is used and, since it is a contact killer, seeding must be done in growing season (early spring or late summer).
   d) Too much herbicide will over-retard grass and allow summer weeds to invade, causing competition.

4) Factors affecting the success of renovation methods
   a) Adequate moisture
   b) Adequate light
   c) Adequate fertility
3. Emphasize to the students that since fescue pastures are abundant in Missouri, special consideration needs to be taken in their renovation. Also with the recent emphasis on fescue toxicity problems, renovation is absolutely necessary with toxic pastures.

What are some specific methods of renovating fescue pastures?

1) Sodseeding legumes in fescue helps reduce the following problems.
   a) Poor fescue stand
   b) Low forage quality
   c) Fescue foot or grass tetany
   d) Nitrogen needed for the soil
2) Some cultivation or herbicide is required before seeding grasses or legumes into fescue. (This reduces competition from fescue.)
3) Sodseeding sorghum-sudan hybrids in fescue improves yield.
   a) Use Paraquat to reduce competition of fescue.
   b) Use band seeding with fertilizer.
   c) The combined yields of fescue and sodseeded Sudex were 60 percent greater than with fescue alone.

4. Discuss with the students how special care of renovated pastures is needed to assure that these pastures will come to their full production potential and that time and costs involved in renovation will not be wasted.

How do you manage newly renovated pastures?

1) Graze the renovated pasture in the spring after grass has begun to grow and it is dry enough so that trampling won't occur.
2) Graze the established grass down to where livestock just begin to bite off young legumes.
3) Rest the pasture for four to five weeks.
4) After the rest period, follow with rotational grazing until September. (Don't overgraze.)
5) Avoid grazing a new stand of legumes from September to when cold weather begins.

Other Activities

Competency

Describe when and how to renovate a pasture

Answers to Evaluation

1. T
2. T
3. T
4. F
5. F
6. F
7. To retard the growth of the established grass until the legume can be firmly established