

Irrigated Pasture for Sheep and Cattle

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How Much Water is Needed?

An acre of irrigated pasture will require the application of approximately 800,000 to one million gallons of water during the six months' irrigation season. The water source may be a dam, a stream, or a well.

A dam should have a capacity of four acre-feet (1,296,000) gallons for each acre to be irrigated. Evaporation from the surface of the lake is included in this estimate.

A pump producing five to six gallons per minute operated on a 20-hour per day schedule will supply adequate water for one acre of irrigated pasture.

How to Prepare a Seed Bed

A well prepared seedbed is necessary. The soil should be plowed to a depth of six to eight inches. Disking in both directions with a harrow behind the disk should provide an ideal seed bed. Cross disking and harrowing may be necessary.

When to Plant

Irrigated pastures may be seeded either in the fall or early spring months. A fall seeding should be done between October 1 and October 15. Two or three irrigations at this time of year

should germinate seeds prior to heavy winter rains. A spring seeding should be completed by May 15. Irrigation frequency should be on a four-to-six day schedule or as needed until plants are established.

How to Seed a Pasture

Mix the various seed before broadcasting. Small acreages, up to ten acres, can be seeded using a broadcast seeder operated by hand. This type of seeder will normally broadcast seed over a 15- to 20-foot wide swath. Each swath should overlap so that distribution is uniform.

The broadcasted seed should then be covered by a ¼ inch of soil. This may be accomplished by ring rolling, or by using a spike tooth harrow with the teeth sloped at a 45-degree angle. A less desirable method would involve dragging the field with a 2' x 12' board about ten feet long.

DO NOT DISK the field to cover seed, as this will place seed too deep to emerge. It is advisable to use the no-till method of seeding, as opposed to disking and ripping the soil first. Disturbing the soil can bring up unwanted plant species.

The use of a no-till drill will give excellent results without disturbing the soil.

What to Plant

Seeding rates per acre:

2 lbs Trefoil (inoculated)

4 lbs White Dutch Clover (inoculated)

4 lbs Kenland Red Clover (inoculated)

4 lbs Orchard Grass

6-10 lbs Perennial Ryegrass

Approximately 20-30 lbs. *Total

Seeding rates will vary, depending on whether you are seeding a new pasture or improving an established pasture. Fewer pounds of seeds per acre are needed on an established pasture. Inoculation of sub clovers is crucial in establishing a good stand of clover. Only accept clovers that have been inoculated within the last two months. Inoculating the clovers yourself, assures higher counts of effective rhizobium, which means greater success.

Note: Traditionally, fescue has also been used in horse pastures. Some fescues, in some areas of the country, may contain an endophytic fungus, a potential cause of reduced performance in livestock.

Irrigation

Irrigation will be required between April and October, depending on the amount of rainfall. The peak water use will be in July and August. Plants used in irrigated pastures are rather shallow-rooted, so a 10 to 14 day schedule is recommended. Apply two inches of water at each irrigation, during cool weather. An application of about three inches of water is recommended during hot weather.

Fertilization

Most of our soils are deficient in nitrogen and phosphorous. The use of 400 pounds per acre or 10-20-0 at time of planting will supply adequate nitrogen and phosphorous for establishment. A yearly application of eight to ten yards per acre of poultry manure, or 200 pounds of 16-20-0 per acre is recommended. *If weeds are a potential problem, establishment of pastures with 20-400 pounds per acre of 0-22-0-8 may be in order; nitrogen application may stimulate weeds at first.

**Cow manure can also be used at 16 to 20 cubic yards per acre.*

When Should Pasture be Grazed?

Soil moisture and growth determines when grazing should start on a newly seeded pasture. Grasses should be at least four to six inches high and the top two to three inches of soil should be dry. The irrigated pasture should be divided into a minimum of two fields by a fence. Grazing and irrigation should be rotated so that horses are not in the field being irrigated.

For cattle, adjust stocking rate so that re-growth is six to eight inches high when cattle are moved into a new field.

For sheep, adjust stocking rate so that re-growth is three to four inches high when sheep are moved into a new field.

Food Value of Forage Produced

An irrigated pasture produces an excellent source of nutrients for horses. Alfalfa hay, oat hay, or other appropriate feed sources, fed during the spring flush of growth, will extend the utilization of the forage.

Acres Needed per Cow/Five Sheep

One mature cow, or five sheep, will eat four and a half to five tons of hay, or its forage equivalent, on a yearly basis. This amount of forage can be supplied from one acre of well fertilized irrigated pasture. An irrigated pasture will produce 80 percent of its yearly production from March through October.

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