

# TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE

Portland, Oregon

SOIL CONSERVATION SERVICE

RANGE No. 17

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## YEAR-ROUND PASTURE MANAGEMENT IN WESTERN OREGON

Most improved pastures are grazed only during the growing season, but to keep them productive and to protect the soil and water resources they require year-round management. This Technical Note contains some basic information to use when assisting operators plan and apply pasture management throughout the year.

### Spring

Pastures should be lightly dragged with a spring-tooth harrow to break soil surface crusts and to scatter accumulations of waste hay left from winter feeding.

**Fertilizer** - Fertilizer and trace elements should be applied as indicated by annual soil tests. Apply one-half of the needed Phosphorous and Potassium in April (apply the other half in autumn). Fertilize each pasture with Nitrogen (N), as long as moisture is present, just after removing the animals at the end of each grazing period. Usually this means applying about 35 percent of the needed N in April, 20 in May, 20 in June and 25 in September. These split applications improve year-round fertilizer effectiveness, reduce the loss of nutrients through leaching and runoff, and minimize the risk of surface and groundwater contamination. Take into account the amount of N excreted by the grazing animal (about 0.4 lbs. per day) and when applying manure, account for its N content in satisfying the pasture requirements. The efficiency of nutrient uptake depends on the vigor of the forage plants. Allow three weeks from the time of liquid manure application until regrazing.

**Grazing Rotation** - Grazing should be deferred until the soil is firm and forage plants are 6-8" tall. This will help reduce soil compaction and maintain healthy, productive plants. A good rotation system of grazing will produce up to 30 percent more forage than will continuous grazing. Pastures should be divided into at least four paddocks of equal forage production and sized for a grazing period of 5-7 days per grazing cycle.

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A rule of thumb for estimating pasture stocking rates based on equivalent hay yields:

$$\begin{array}{l} \text{Expected hay yield} \quad \times 2.2 = \text{AUM's/acre for the} \\ \text{(tons/acre)} \qquad \qquad \qquad \text{growing season*} \end{array}$$

$$\frac{\text{AUM's/acre}}{\text{length of grazing season}} = \text{stocking rate in AU's** for the grazing season}$$

\* An animal unit month (AUM) is equivalent to 900 pounds of air-dry forage which is the amount of forage a 1000 cow with a small calf would consume in one month.

\*\* An animal unit (AU) is the 1000 pound cow with calf, or their weight equivalent.

#### Use Plant Stubble Height To Time Rotation

Plant Species	Begin Grazing	End Grazing
Tall fescue	6-8 inches	3-4 inches
Smooth brome	8-10	3-4
Reed canarygrass	12	6
Meadow foxtail	6-8	3
Orchardgrass	6-8	3-4
Timothy	8-10	3-4
Annual ryegrass	6	2-3
Perennial ryegrass	6	2-3
Intermediate wheatgrass	8-10	4-6
Pubescent wheatgrass	8-10	4-6
Tall wheatgrass	8-10	4-6
Alfalfa	10-12	3-4
Alsike clover	6-8	3-4
Ladino clover	6-8	3-4
New Zealand clover	6-8	3-4
Red clover	6-8	3-4
Subterranean clover	4-6	3-4
White Dutch clover	4-6	2-3
Birdsfoot trefoil	8-10	3-4

Note: Allow a minimum of 21 days of regrowth between grazings.

Clipping each pasture at the end of a grazing period aids in weed control as well as encouraging more uniform grazing. Late spring, before plants bloom, is a good time for chemical or mechanical weed control.

### Summer

Continue rotation grazing paying close attention to stubble height.

Follow the fertilization schedule.

Manure droppings and gopher mounds should be scattered with a harrow several times during the season. Ideally, do this right after animals are removed from the pasture.

Check for weeds and control as needed.

### Autumn

**Fertilizer** - Apply lime now if it is needed (pH less than 5.4), according to the soil test. Apply final N when the autumn rains are expected. Also apply the other half of the split application of Phosphorous and Potassium.

The animals should be removed from the pasture by November 1 to allow the forage plants to produce leaf growth for winter protection and to build up root reserves. Plants closely grazed in the autumn are subject to winter damage and also are slower to start growth in the spring.

### Winter

Confine livestock to a well drained holding area that has all-weather access for feeding, and protection from the weather. Animals left on wet pastures damage plant roots and root crowns with their hooves and compact the soil. Nitrogen laden surface runoff caused or increased by soil compaction may drain to streams, rivers or other water bodies and result in the degradation of water quality.

If livestock must be wintered on pasture, choose a paddock which will be reseeded and concentrate the animals there. The second choice is the best drained paddock(s).