

DRAFT
Subject to Field Testing

August, 2016

FORAGE SUITABILITY GROUP – WESTERN OREGON

VERY POORLY DRAINED

Number: G-004AY019OR

MLRA: A4A Sitka Spruce Belt

Climate: Average annual precipitation ranges from 50 to 100 inches (127 to 254 centimeters). Precipitation occurs every month, is heaviest November through March, and relatively dry July and August. In most of this area, snow falls only a few days each year. Average annual temperatures vary from 51 to 53 degrees Fahrenheit (10.5 to 11.7 degrees Celsius). Average freeze-free-period is 209 to 284 days.

Vegetation: The native vegetation is generally an overstory of trees and an understory comprised of dense shrubs and herbaceous plants. Generally the following tree species occur: Sitka spruce, Western hemlock, and Douglas fir. The following plants may be found in the understory: Devil's club, huckleberry, salmonberry, Oregon oxalis, and sword fern among other annual and perennial herbaceous plants. Once cultivated for pasture or hay, the areas that have low level or no management, tend to show an increase in brushy species such as blackberry, Scotch broom, and gorse. Also tansy ragwort and St. Johnswort may increase on sites with low level or no management.

Soil Suitability Group Description:

Soil Description: These very poorly drained soils are deep, and are generally formed in alluvium or estuarine deposits. Textures are silt loam, silty clay loam, and muck. Rooting depth is variable due to high water table. It can vary from 12 inches due to high water table to more than 60 inches.

Landscape position: Flood plains, estuaries, tidal flats/marshes, deltas

Depth to seasonal water table: from 0 inches to 24 inches.

Available Water Holding Capacity: 6.5 inches to 8.8 inches.

pH range: 3.5 – 7.3.

Frequency and duration of flooding and ponding: Flooding is rare to frequent and of very brief to long duration. Ponding is frequent and of long duration.

Frost heave potential: Soils in this group have no frost heave potential.

Degree of stoniness: Fragments > than 3 inches are typically none.

Trafficability parameters: These soils may become slippery when wet. These soils lose strength when wet and driven on repeatedly.

Typical soils: Coquille, Langlois, Clatsop, and Chetco.

Adapted Forage Species List:

Grazing Use:

Common Name	Scientific Name
Tall Fescue	Festuca arundinacea
Alsike Clover	Trifolium hybridum
White Clover	Trifolium repens
Birdsfoot Trefoil	Lotus corniculatus
Reed Canarygrass*	Phalaris arundinacea

*Use only when Reed Canarygrass is already present in field

Suggested seeding season: Spring or Fall

Production Estimates: Based on Animal Unit Months, and high level of management

Grazing use:

Non-irrigated –

1.5 AUMs/Acre/Year (**Chetco** and **Clatsop** soils) (@ 35% Harvest Efficiency – 100% of Growth Curve)

Base Production by Soil Fertility Level (Lbs./Acre/Year)

Very Low	Low	Moderate	High	Maximum
1170	1560	2350	3520	3910

6 – 9 AUMs/Acre/Year (**Coquille** and **Langlois** soils) (@ 35% Harvest Efficiency – 100% of Growth Curve)

Base Production by Soil Fertility Level (Lbs./Acre/Year)

Very Low	Low	Moderate	High	Maximum
6260	8340	12510	18770	20860

Irrigated –

6 – 12 AUMs/Acre/Year (@ 35% Harvest Efficiency – 100% of Growth Curve)

Base Production by Soil Fertility Level (Lbs./Acre/Year)

Very Low	Low	Moderate	High	Maximum
7820	10430	15640	23460	26070

Machine Harvest:

Non-irrigated –

2 Tons/Acre/Year (**Chetco** and **Coquille** soils) (@ 70% Harvest Efficiency – 90% of Growth Curve)

Base Production by Soil Fertility Level (Lbs./Acre/Year)

Very Low	Low	Moderate	High	Maximum
1910	2540	3810	5710	6350

6 Tons/Acre/Year (**Langlois** soils) (@ 70% Harvest Efficiency – 90% of Growth Curve)

Base Production by Soil Fertility Level (Lbs./Acre/Year)

Very Low	Low	Moderate	High	Maximum
5710	7620	11430	17140	19050

Irrigated –

3.5 Tons/Acre/Year (**Chetco** and **Coquille** soils) (@ 70% Harvest Efficiency – 90% of Growth Curve)

Base Production by Soil Fertility Level (Lbs./Acre/Year)

Very Low	Low	Moderate	High	Maximum
3330	4440	6670	10000	11110

10 Tons/Acre/Year (**Langlois** soils) (@ 70% Harvest Efficiency – 90% of Growth Curve)

Base Production by Soil Fertility Level (Lbs./Acre/Year)

Very Low	Low	Moderate	High	Maximum
9520	12700	19050	28570	31750

Growth Curve: Pasture & Hayland - High Level Management

Growth Curve Number: **4IVPHN**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	10	10	10	15	15	15	10	10	5	0

Growth Curve: Pasture & Hayland - Medium Level Management

Growth Curve Number: **4IVPMN**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	10	10	10	15	15	15	10	10	5	0

Growth Curve: Pasture & Hayland - Low level Management

Growth Curve Number: **4IPDLN**

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	0	5	10	15	15	15	15	10	10	5	0

Management:

Limitations: Wetness generally limits the suitability of these soils for deep-rooted crops. Most crops on these soils are adversely affected by excess moisture. Excessive tillage can result in the formation of a tillage pan. Grazing and machine use should be restricted when soils are saturated. Grazing while soils are wet results in compaction of surface layer poor tith, and excessive runoff.

Vegetation Management: Move livestock by plant height. Move livestock onto a field when forage is at least 6 to 8 inches tall. Discontinue grazing when the average height of the pasture is down to 2 to 4 inches. Avoid grazing when soil is wet and before pasture stand is fully established. Remaining stubble height is the more important of these two measurements.

Season of use: To avoid damage to plants and compaction of wet soils in the winter months caused by animals, any livestock on pasture should be removed when the soils are saturated, which generally occurs for long periods between November and March.

Facilitating Practices:

Cross-fencing: Cross fencing will help achieve higher forage yields and more uniform grazing use through more intensive management.

Water developments: Water is critical to livestock gains and general health. Generally, the best source of water in a field is a trough with water piped from a well or a spring. If piped water is not available, allow only restricted access to rivers or streams. If livestock only have a small access area for watering, the amount of manure and sediment in the water will be minimized. Additionally, bank erosion problems will be minimized, and streamside vegetation will be protected, which will keep the water cooler.

Minerals: Salt should be provided in the field for livestock. The salt block or box should be up off the ground and under cover so it will not dissolve by rain or dew. Salt should be placed away from watering areas to reduce livestock concentration areas and encourage more uniform grazing.

Clipping and dragging: Clip and drag pasture as often as required to encourage uniform grazing and pasture vigor. Clipping and dragging is best done after each grazing period and a minimum of twice annually.

Fertilization: Take soil samples to determine nutrient levels. An application of nitrogen in the spring is generally necessary for optimum forage production, but tests have shown that two applications one in fall and one in winter will optimize forage production. Fertilization will increase both the production and the nutritive value of the forage for livestock, but too much fertilizer can build up toxic level of certain minerals (such as nitrate and potassium) in forages.

Weed control: Weed control can be accomplished mechanically, chemically, biologically, or with a combination of these methods. The recommendations for chemicals can change, so it is always best to contact the local county extension office.

Reseeding: Reseeding should always be the last option. It is expensive, and takes a pasture out of production for most of a year. Additionally, the need to reseed is usually a symptom of a need to change livestock management practices. If management problems or a change in stocking rate or season of use are not addressed first, newly seeded pastures will soon look like the ones they replaced. Species selection is very important. If the species is not adapted to the site, the best seedbed preparation in the world will not make the seeding successful. Generally, a mix of one grass species and one legume is recommended. This cuts down on patch grazing of grasses caused by palatability differences. If multiple species are desired, make sure that the species of grass all have approximately the same growth schedule. It is very important to keep the animals off of a new seeding until well established. Otherwise, the new seedlings probably will be damaged or killed, and the time and money invested in the seeding will be wasted.