

Forage, Seed,
& Specialty Crop
Variety
Recommendations
for Oregon

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May 1957

AGRICULTURAL EXPERIMENT STATION

Oregon State College • Corvallis

Forage, Seed, and **Variety Rec**

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Specialty Crop Recommendations for Oregon

VARIETIES RECOMMENDED in this publication have performed satisfactorily in trials conducted by the Farm Crops staff and by the branch experiment stations throughout the State. It is recognized that the list does not include all crop varieties now being grown. Some varieties now recommended will be replaced soon by others proving to be superior in experimental trials. The list of recommended crops will be revised as necessary.

To simplify the crop variety recommendations, Oregon has been divided into distinct crop areas. Within these areas, there is usually sufficient similarity in climate to permit general uniformity of crop varieties. There may, however, be sufficient variation in other conditions to modify the general recommendations. For example, variations in soil moisture and soil type, or extremes of acidity or alkalinity, may make it necessary to modify crop recommendations. Information on crops and crop varieties for special conditions within any area is available from your County Extension Agent.

Recommendations are based on experiments conducted on the central and branch experiment stations, and by the Soil Conservation Service. The Farm Crops staff, the branch station superintendents, and representatives of the U. S. Department of Agriculture have collaborated in the preparation of this material. These recommendations supersede those published in 1953 as Station Bulletin 533.

Coast

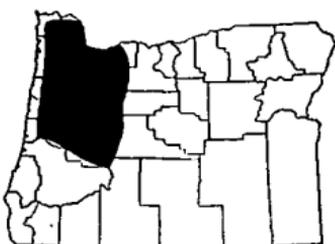


Crop	Variety
Alfalfa	Not recommended
Red clover	Not recommended
Alsike clover	Recommended
Ladino clover	Not recommended
White clover	New Zealand
Strawberry clover	Not recommended
Subclover	Tallarook Nangeela Mt. Barker
Crimson clover	Not recommended
Sweet clover	Not recommended
Birdsfoot trefoil	Granger
Big trefoil	Columbia Beaver
Vetches	Purple Hairy Willamette Common
Austrian and Romack field pea	Not recommended
Perennial burnet	Recommended
Rape	Dwarf Essex
Sunflower	Not recommended
Tall fescue	Alta
Chewings fescue	Recommended
Red fescue	Rainier Illahee Pennlawn
Sheep fescue	Not recommended
Hard fescue	Not recommended
Tall oatgrass	Tualatin

Crop	Variety
Orchard grass	Common Akaroa S.143 Potomac
Ryegrass	Common H-1 Perennial
Bentgrass	Seaside Astoria Highland
Meadow foxtail	Recommended
Reed Canary grass	Recommended
Smooth brome	Not recommended
Mountain brome	Not recommended
Field brome	Not recommended
Crested wheatgrass	Not recommended
Beardless wheatgrass	Not recommended
Streambank wheatgrass	Not recommended
Intermediate wheatgrass	Not recommended
Pubescent wheatgrass	Not recommended
Tall wheatgrass	Not recommended
Slender wheatgrass	Not recommended
Big bluegrass	Not recommended
Kentucky bluegrass	Not recommended
Bulbous bluegrass	Not recommended
Timothy	Not recommended
Sudan grass	Not recommended
Fiber flax	Not recommended
Seed flax	Not recommended
Hops	Not recommended
Peppermint	Not recommended
Spearmint	Not recommended

Be Sure To
Check Variety Descriptions
For Detailed Recommendations
Within This Area

Willamette Valley



Crop

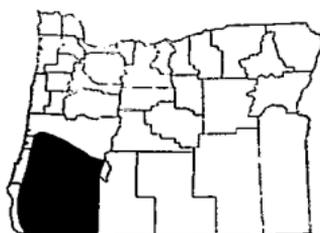
Variety

Crop	Variety
Alfalfa	Talent Ranger Grimm Vernal Du Puits Narragansett Rhizoma
Red clover	Kenland Pennscott
Alsike clover	Recommended
Ladino clover	Recommended
White clover	New Zealand Kentish Wild White Dutch
Strawberry clover	Not recommended
Subclover	Tallarook Nangeela Mt. Barker
Crimson clover	Dixie Reseeding Common
Sweet clover	Willamette
Birdsfoot trefoil	Granger
Big trefoil	Columbia Beaver
Vetches	Hairy Willamette Common Hungarian
Austrian and Romack field pea	Recommended
Perennial burnet	Recommended
Rape	Dwarf Essex
Sunflower	Advance Mammoth Russian
Tall fescue	Alta
Chewings fescue	Recommended
Red fescue	Rainier Illahee Pennlawn

Crop	Variety
Sheep fescue	Not recommended
Hard fescue	Not recommended
Tall oatgrass	Tualatin
Orchard grass	Common Akaroa S.143 Potomac
Ryegrass	Common Perennial Welsh S.23
Bentgrass	Seaside Astoria Highland
Meadow foxtail	Recommended
Reed Canary grass	Recommended
Smooth brome grass	Not recommended
Mountain brome grass	Not recommended
Field brome	Recommended
Crested wheatgrass	Not recommended
Beardless wheatgrass	Not recommended
Streambank wheatgrass	Not recommended
Intermediate wheatgrass	Not recommended
Pubescent wheatgrass	Not recommended
Tall wheatgrass	Not recommended
Slender wheatgrass	Not recommended
Big bluegrass	Not recommended
Kentucky bluegrass	Merion
Bulbous bluegrass	Not recommended
Timothy	Drummond Climax
Sudan grass	Greenleaf Piper Sweet Common
Fiber flax	Cascade
Seed flax	Bison
Hops	Fuggles Brewers Gold Bullion
Peppermint	Mitcham
Spearmint	Scotch

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Southern Oregon

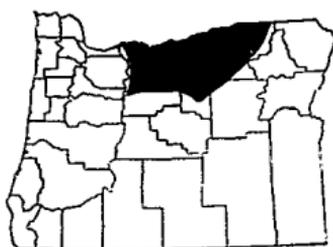


Crop	Variety
Alfalfa	Talent Lahontan
Red clover	Kenland Pennscott
Alsike clover	Not recommended
Ladino clover	Recommended
White clover	Not recommended
Strawberry clover	Not recommended
Subclover	Tallarook Nangeela Mt. Barker
Crimson clover	Dixie Reseeding Common
Sweet clover	Willamette
Birdsfoot trefoil	Narrowleaf Granger Douglas
Big trefoil	Not recommended
Vetches	Purple Hairy Hungarian Willamette Common
Austrian and Romack field pea	Not recommended
Perennial burnet	Recommended
Rape	Dwarf Essex
Sunflower	Advance Mammoth Russian
Tall fescue	Alta
Chewings fescue	Recommended
Red fescue	Rainier Illahee Pennlawn
Sheep fescue	Not recommended
Hard fescue	Not recommended
Tall oatgrass	Tualatin

Crop	Variety
Orchard grass	Common Akaroa S.143 Potomac
Ryegrass	Common Perennial Welsh S.23
Bentgrass	Seaside Astoria Highland
Meadow foxtail	Recommended
Reed Canary grass	Recommended
Smooth brome	Not recommended
Mountain brome	Not recommended
Field brome	Recommended
Crested wheatgrass	Not recommended
Beardless wheatgrass	Not recommended
Streambank wheatgrass	Not recommended
Intermediate wheatgrass	Not recommended
Pubescent wheatgrass	Not recommended
Tall wheatgrass	Not recommended
Slender wheatgrass	Not recommended
Big bluegrass	Not recommended
Kentucky bluegrass	Merion
Bulbous bluegrass	Not recommended
Timothy	Drummond Climax
Sudan grass	Greenleaf Piper Sweet Common
Fiber flax	Not recommended
Seed flax	Not recommended
Hops	Late Clusters
Peppermint	Mitcham
Spearmint	Scotch

Be Sure To
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Within This Area

Columbia Basin



Crop	Variety
Alfalfa	Ranger Orestan Ladak Vernal Lahontan Narragansett Nomad Rhizoma
Red clover	Kenland Pennscott
Alsike clover	Recommended
Ladino clover	Recommended
White clover	White Dutch
Strawberry clover	Recommended
Subclover	Not recommended
Crimson clover	Not recommended
Sweet clover	Willamette Spanish Madrid
Birdsfoot trefoil	Granger Narrowleaf
Big trefoil	Not recommended
Vetches	Hairy
Austrian and Romack field pea	Recommended
Perennial burnet	Not recommended
Rape	Not recommended
Sunflower	Advance Mammoth Russian
Tall fescue	Alta
Chewings fescue	Recommended
Red fescue	Rainier Illahee Pennlawn
Sheep fescue	Recommended
Hard fescue	Recommended
Tall oatgrass	Tualatin

Crop	Variety
Orchard grass	Common Akaroa S.143 Potomac
Ryegrass	Not recommended
Bentgrass	Seaside Astoria Highland
Meadow foxtail	Recommended
Reed Canary grass	Recommended
Smooth brome grass	Manchar Achenbach Lincoln
Mountain brome grass	Bromar
Field brome	Not recommended
Crested wheatgrass	Desert Siberian Fairway
Beardless wheatgrass	Whitmar
Streambank wheatgrass	Sodar
Intermediate wheatgrass	Greenar
Pubescent wheatgrass	Topar
Tail wheatgrass	Recommended
Slender wheatgrass	Primar
Big bluegrass	Sherman
Kentucky bluegrass	Common Merion
Bulbous bluegrass	Not recommended
Timothy	Drummond Climax
Sudan grass	Sweet Common
Fiber flax	Not recommended
Seed flax	Not recommended
Hops	Late Clusters
Peppermint	Mitcham
Spearmint	Scotch

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Blue Mountains



Crop

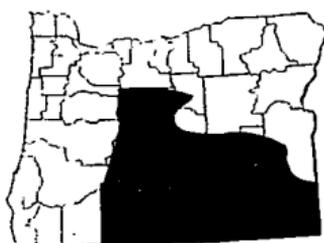
Variety

Crop	Variety
Alfalfa	Ranger Orestan Ladak Vernal Lahontan Narragansett Nomad Rhizoma
Red clover	Kenland Pennscott
Alsike clover	Recommended
Ladino clover	Recommended
White clover	White Dutch
Strawberry clover	Recommended
Subclover	Not recommended
Crimson clover	Not recommended
Sweet clover	Willamette Spanish Madrid
Birdsfoot trefoil	Granger Narrowleaf
Big trefoil	Not recommended
Vetches	Not recommended
Austrian and Romack field pea	Recommended
Perennial burnet	Not recommended
Rape	Not recommended
Sunflower	Advance Mammoth Russian
Tall fescue	Alta
Chewings fescue	Recommended
Red fescue	Rainier Illahee Pennlawn
Sheep fescue	Recommended
Hard fescue	Recommended
Tall oatgrass	Tualatin

Crop	Variety
Orchard grass	Common Akaroa S.143 Potomac
Ryegrass	Not recommended
Bentgrass	Seaside Astoria Highland
Meadow foxtail	Recommended
Reed Canary grass	Recommended
Smooth brome	Manchar Achenbach Lincoln
Mountain brome	Bromar
Field brome	Not recommended
Crested wheatgrass	Desert Siberian Fairway
Beardless wheatgrass	Whitmar
Streambank wheatgrass	Sodar
Intermediate wheatgrass	Greenar
Pubescent wheatgrass	Topar
Tall wheatgrass	Recommended
Slender wheatgrass	Primar
Big bluegrass	Sherman
Kentucky bluegrass	Common Merion
Bulbous bluegrass	Recommended
Timothy	Drummond Climax
Sudan grass	Sweet Common
Fiber flax	Not recommended
Seed flax	Not recommended
Hops	Not recommended
Peppermint	Not recommended
Spearmint	Not recommended

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Central Oregon



Crop	Variety
Alfalfa	Ranger Ladak Vernal Lahontan Narragansett Nomad Rhizoma
Red clover	Kenland Pennscott
Alsike clover	Recommended
Ladino clover	Recommended
White clover	White Dutch
Strawberry clover	Recommended
Subclover	Not recommended
Crimson clover	Not recommended
Sweet clover	Willamette Spanish Madrid
Birdsfoot trefoil	Granger Narrowleaf
Big trefoil	Not recommended
Vetches	Hairy
Austrian and Romack field pea	Recommended
Perennial burnet	Not recommended
Rape	Not recommended
Sunflower	Advance Mammoth Russian
Tall fescue	Alta
Chewings fescue	Recommended
Red fescue	Rainier Illahee Pennlawn
Sheep fescue	Recommended
Hard fescue	Recommended
Tall oatgrass	Tualatin

Crop	Variety
Orchard grass	Common Akaroa S.143 Potomac
Ryegrass	Not recommended
Bentgrass	Seaside Astoria Highland
Meadow foxtail	Recommended
Reed Canary grass	Recommended
Smooth brome	Manchar Achenbach Lincoln
Mountain brome	Bromar
Field brome	Not recommended
Crested wheatgrass	Desert Siberian Fairway
Beardless wheatgrass	Whitmar
Streambank wheatgrass	Sodar
Intermediate wheatgrass	Greenar
Pubescent wheatgrass	Topar
Tall wheatgrass	Recommended
Slender wheatgrass	Primar
Big bluegrass	Sherman
Kentucky bluegrass	Common Merion
Bulbous bluegrass	Not recommended
Timothy	Drummond Climax
Sudan grass	Not recommended
Fiber flax	Not recommended
Seed flax	Not recommended
Hops	Not recommended
Peppermint	Mitcham
Spearmint	Scotch

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Snake River Valley



Crop	Variety
Alfalfa	Ranger Orestan Ladak Vernal Lahontan Narragansett Nomad Rhizoma
Red clover	Kenland Pennscott
Alsike clover	Recommended
Ladino clover	Recommended
White clover	White Dutch
Strawberry clover	Recommended
Subclover	Not recommended
Crimson clover	Not recommended
Sweet clover	Willamette Spanish Madrid Hubam
Birdsfoot trefoil	Granger Narrowleaf
Big trefoil	Not recommended
Vetches	Not recommended
Austrian and Romack field pea	Recommended
Perennial burnet	Not recommended
Rape	Not recommended
Sunflower	Advance Mammoth Russian
Tall fescue	Alta
Chewings fescue	Recommended
Red fescue	Rainier Illahee Pennlawn
Sheep fescue	Recommended
Hard fescue	Recommended
Tall oatgrass	Tualatin

Crop	Variety
Orchard grass	Common Akaroa S.143 Potomac
Ryegrass	Not recommended
Bentgrass	Seaside Astoria Highland
Meadow foxtail	Recommended
Reed Canary grass	Recommended
Smooth brome	Manchar Achenbach Lincoln
Mountain brome	Bromar
Field brome	Not recommended
Crested wheatgrass	Desert Siberian Fairway
Beardless wheatgrass	Whitmar
Streambank wheatgrass	Sodar
Intermediate wheatgrass	Greenar
Pubescent wheatgrass	Topar
Tall wheatgrass	Recommended
Slender wheatgrass	Not recommended
Big bluegrass	Sherman
Kentucky bluegrass	Common Merion
Bulbous bluegrass	Recommended
Timothy	Drummond Climax
Sudan grass	Sweet Common
Fiber flax	Not recommended
Seed flax	Not recommended
Hops	Late Clusters
Peppermint	Mitcham
Spearmint	Scotch

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RECOMMENDED FORAGE AND SEED CROP VARIETIES

Alfalfa

Ranger. Highly resistant to alfalfa wilt. Forage in the Willamette Valley; forage and seed on irrigated lands in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Orestan. Highly resistant to alfalfa wilt. Forage and seed on irrigated lands in the Columbia Basin, Blue Mountains, and Snake River Valley areas.

Vernal. Highly resistant to alfalfa wilt. Fine stemmed and leafy. Forage in the Willamette Valley; forage and seed on irrigated lands in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Lahontan. Highly resistant to alfalfa wilt, leaf and stem nematode, and spotted alfalfa aphid. Forage and seed on irrigated lands in the Southern Oregon and Snake River Valley areas; seed on irrigated lands in the Columbia Basin, Blue Mountains, and Central Oregon areas.

Ladak. Moderately resistant to alfalfa wilt. Forage and seed on dry lands receiving 12 inches or more annual rainfall, and on irrigated lands where the water supply is likely to be short in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Talent. Resistant to stem nematode. Not resistant to alfalfa wilt. Early growth in spring. Rapid recovery after cutting. Forage in the Willamette Valley; forage and seed in the Southern Oregon area.

Du Puits. Susceptible to alfalfa wilt. A coarse-stemmed, rapid grower. Forage in the Willamette Valley.

Narragansett. Susceptible to alfalfa wilt. Stands are almost invariably short-lived in wilt-infested areas. Forage in the Willamette Valley. Seed in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Grimm. Not resistant to alfalfa wilt. Being replaced by better adapted, new varieties. Forage in the Willamette Valley.

Rhizoma. Not resistant to alfalfa wilt. Fine stemmed and leafy. Forage in the Willamette Valley.

Grazing type alfalfas. Have pasture possibilities. Rhizoma and Nomad varieties appear to be suited for dryland grazing on the more favored sites in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas. Certified Nomad seed is being grown in the above areas.

Subclover

Avoid planting in rotations with low growing row crops, such as strawberries, because of its free volunteering habit.

Nangeela. Distinguished from other varieties by an exceptionally conspicuous leaf marking. Has a longer productive season than either Mt. Barker or Tallarook. Forage or seed on nonirrigated lands of fair to good drainage that may be depleted in fertility in the Coast area, Willamette Valley, and higher rainfall sections of Southern Oregon.

Tallarook. Is more productive than Mt. Barker on the better lands. A late maturing variety for forage or seed on nonirrigated lands of fair to good drainage that may be depleted in fertility in the Coast area, Willamette Valley, and higher rainfall sections of Southern Oregon.

Mt. Barker. A midseason variety for forage or seed on nonirrigated lands of fair to good drainage that may be depleted in fertility in the Coast area, Willamette Valley, and higher rainfall sections of Southern Oregon.

Crimson Clover

Dixie. Is a reseeding variety in great demand in the seed-consuming regions. Early fall planted for seed, forage, or winter cover crop on well drained soils that may be depleted in fertility in the Willamette Valley and in the northern part of Southern Oregon.

Sweet Clover

Willamette. Less susceptible to stem rot than common white. Short-lived pasture, green manure, or seed in the Willamette Valley and Southern Oregon areas; irrigated lands, and land having at least 15 inches of rainfall annually in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Spanish (White) and Madrid (Yellow). Madrid is slightly earlier maturing than white sweet clovers and is useful on the lighter textured, more droughty soils. Short-lived pasture, green manure, or seed for irrigated lands or where yearly rainfall is at least 15 inches in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Hubam. White-flowering summer annual for green manure and late bee pasture in irrigated sections of the Snake River Valley area.

Red Clover

Kenland. Seed and forage in the Willamette Valley and irrigated sections of all other areas except the Coast. This variety is recommended for major clover-growing areas of the United States.

Pennscott. Seed and forage in the Willamette Valley, and irrigated sections in all other areas except the Coast.

Alsike Clover

Tolerant of poor drainage and acid soils. Forage in the Coast area; seed and forage in the Willamette Valley and irrigated sections of the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas. *Should not be grown in Ladino seed-producing areas.*

Ladino Clover

Use of certified seed is recommended because the seed looks the same as white clover seed. Not adapted on poorly drained lands, or to strongly acid or highly alkaline soils, or on soils with limited water-holding capacity. Lacks winter hardiness in dry areas unless fall irrigated. Forage and seed under irrigation in all areas except the Coast and Klamath Basin.

White Clover

(Should not be grown in Ladino
seed-producing areas.)

Commercial "white Dutch." Adapted in mountain meadow reseeding at high elevations. Survives with less moisture and fertility than Ladino. For seed with irrigation or on fertile, nonirrigated lands in the Willamette Valley. Forage on irrigated nonalkaline meadows in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

New Zealand white and Kentish wild white clovers. These improved varieties are greatly superior to "white Dutch" in the Coastal and Willamette Valley areas, and are much less injured by slugs than Ladino. Certified New Zealand white for forage in the Coastal area; on nonirrigated, deep, fertile lands, and irrigated pastures where slugs are out of control in the Willamette Valley. Seed in the Willamette Valley.

Strawberry Clover

For moist or seepy areas and under irrigation on alkali lands in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas. Will tolerate poor drainage.

Birdsfoot Trefoil

(Should not be grown in Ladino or alsike clover
seed-producing areas.)

Broadleaf (*Lotus corniculatus*.) Generally more vigorous than narrowleaf. Granger is the recommended variety. In Douglas County a local, uncertified strain commonly known as Douglas (Parker) is grown with good results. Adapted at high elevations. Forage and seed with or without irrigation in the Coast, Willamette Valley, and Southern Oregon areas. Forage on irrigated alkaline lands in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Narrowleaf (*Lotus tenuis*.) Forage and seed on irrigated heavy soils in Southern Oregon. Forage on poorly drained alkaline soils in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Big Trefoil

(*Lotus uliginosus*)

Columbia (smooth) and Beaver (hairy) are the two varieties in common use. Adapted to strongly acid soils. Tolerant of prolonged winter submergence, especially the Columbia variety. Forage and seed on diked tidelands, tussock lands, and hill lands in the Coast area; tussock bottoms and better hill lands at higher elevations in the northern Willamette Valley, and irrigated lands in the Willamette Valley.

Vetches

Hairy (smooth type). Forage and winter cover crop on hill and valley soils having fair to good drainage in the Coast, Willamette Valley, and Southern Oregon areas; orchard winter cover crop in the Columbia Basin. Seed in the Willamette Valley and Southern Oregon areas, and northwest corner of Central Oregon.

Willamette and common. Forage and winter cover crop on fertile, well-drained soils in the Coast, Willamette Valley, and Southern Oregon areas. Seed in the Willamette Valley and Southern Oregon areas.

Hungarian. Seed, forage, or winter cover crop on poorly drained soils in the Willamette Valley and Southern Oregon areas.

Purple. Seed on well-drained lands in the Coast and Southern Oregon areas.

Field Peas

Austrian Winter and Romack. Seed, forage, or winter cover crop on fertile, well-drained soils in the Willamette Valley. Seed on irrigated lands in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas; seed on good dry lands where annual rainfall is at least 18 inches in the Blue Mountain area.

Perennial Burnet

Burnet is a forb, not a legume. Two general types are available; California and European. Most Oregon-grown seed is of the European type. For seed and in pasture mixtures on well-drained soils in the Coast, Willamette Valley, and Southern Oregon areas.

Rape

Dwarf Essex. This variety is much superior to turnip rape. May be sown in spring or early fall. Avoid sowing on poorly drained land. Winter annual or biennial pasture in the Coast, Willamette Valley, and Southern Oregon areas.

Sunflower

Advance. This dwarf variety is recommended for turkey pasture and shade. It is a hybrid variety. Use first generation seed.

Mammoth Russian. This is recommended for silage in the Willamette Valley and Southern Oregon, and irrigated sections of the Columbia Basin, Blue Mountain, Central Oregon, and Snake River Valley areas.

Tall Fescue

Alta is the variety recommended. Forage, seed, and erosion control in all areas of Oregon. Endures strong acidity and has greater alkali tolerance than most other cultivated grasses adapted in Oregon. Is long-lived and highly productive of forage. Has numerous deep roots that are effective in control of erosion. Shade tolerant. Is widely used for pasture.

Avoid planting on poorly drained or swampy sites, on drylands where rainfall is less than 15 inches (18 inches on shallow or light soils), where elevation is over 5,000 feet, and where deep snow cover remains for 100 days or more.

Chewings Fescue

A low forage producer; is long-lived and resistant to heavy grazing. Requires good drainage. Tolerant of shade. Makes an attractive, durable, dense turf in all crop areas in Oregon. Forage and erosion control in the Coast, Willamette Valley,

and Southern Oregon areas and in the forests of the Columbia Basin, Blue Mountains, and Central Oregon areas. Recommended for fern land reseeding in the Coast and Willamette Valley areas. Seed in the Willamette Valley and Southern Oregon and in the higher rainfall areas of the Columbia Basin and Blue Mountains. Also seed in irrigated sections of the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas. Good for turfgrass mixtures in all areas of Oregon.

Red Fescue

Illahoe. Especially suited for lawns in most parts of Oregon. Not a forage or general utility grass. Shade tolerant. Requires good drainage. Seed production in the higher rainfall areas of the Columbia Basin and Blue Mountains, and areas under irrigation in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Pennlawn. A new improved strain having high turf quality. Recommended for lawns wherever red fescue grows well. Is shade tolerant. Requires good drainage. Seed in the Willamette Valley, in the higher rainfall areas of the Columbia Basin and Blue Mountains areas, and under irrigation in all areas except the Coast.

Rainier. A general utility strain. More productive and better quality forage than Chewings fescue, but less tolerant of adverse conditions. Requires good drainage. Shade tolerant. Useful for lawns in most parts of Oregon. Forage and erosion control in the Coast, Willamette Valley, and Southern Oregon areas. Recommended for fern lands in the Coast and Willamette Valley. Seed in the Willamette Valley and Southern Oregon areas, in the higher rainfall areas of the Columbia Basin and Central Oregon, and under irrigation in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Sheep Fescue

Valuable as an understory grass in combination with the wheatgrasses or dryland alfalfa. Well suited for revegetation plantings on sagebrush lands and in the drier forest areas. Makes acceptable dryland lawns. Produces an extremely dense root system which is of value in conservation plantings. Forage, seed, turf, and erosion control where annual rainfall is less than 15 inches in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Hard Fescue

A variety of sheep fescue used as an understory grass with alfalfa in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas. Seedlings are stronger than those of sheep fescue. Has a dense root system. The leafy plants provide surface protection to the soil. Has been successfully used to reseed burned-over or depleted ranges in the Ponderosa pine zone.

Tall Oatgrass

Tualatin is the recommended variety. Requires good drainage. Is very palatable to livestock. Needs careful management and moderate utilization for long life. Thrives at both low and high elevations, except where dwarf bunt is a problem. Moder-

ately tolerant of both acid and alkali soils. For forage and erosion control in all areas of Oregon where the annual rainfall is 15 inches or more. Seed in all areas except the Coast. Especially useful in reseeding burned forest lands in the Columbia Basin, Blue Mountains, and Central Oregon areas.

Avoid planting on pastures that are likely to be heavily grazed, and in rotations with row crops, because of its free-volunteering habit.

Orchard Grass

Potomac, Akaroa, and Welsh S. 143 are available improved varieties. Tolerant of shade. Responds to lime on strongly acid soils. Thrives at low and high elevations (except Akaroa and S.143, which are not winter hardy at high elevations). A valuable, long-lived pasture plant. Is a good companion grass with alfalfa. Forage and erosion control in all areas of Oregon where the annual rainfall is 15 inches or more. Seed in all except the Coast area.

Avoid planting on poorly drained sites, on strongly acid soils, and on highly alkaline or salty soils.

Ryegrass

Common ryegrass. Is short-lived, vigorous, and becomes established rapidly. Is a heavy competitor, palatable to livestock, and tolerant of poor drainage. Forage and erosion control in the Coast, Willamette Valley, and Southern Oregon areas; seed in the Willamette Valley. **H-1 or New Zealand Short Rotation** ryegrass is a leafy, vigorous, short-lived perennial that closely resembles common ryegrass but is longer lived. It is especially valuable for forage in short rotation pastures in the Coast area.

Perennial ryegrass. Becomes established quickly, but is not extremely long-lived. Tolerates poor drainage. Not a high producer but palatable and well adapted. Appears to depress growth of companion plants. Forage and erosion control in the Coast, Willamette Valley, and Southern Oregon areas; seed in the Willamette Valley. **Welsh S.23** is an improved variety having greater leafiness and crown density, longer life, and lower seed yields than Oregon perennial ryegrass.

Bentgrasses

Seaside creeping. Seldom planted for forage. Principally used as a fine turf for lawns and golf greens. Adapted to most places in Oregon where water is adequate, except on highly alkaline soils. Seed is produced in the Coast, Willamette Valley, and Southern Oregon areas.

Astoria. Principally used for fine turf in lawns and golf courses. Adapted for lawn use in most parts of Oregon where water is adequate, except on alkaline soils. Is not relished by livestock but is persistent under heavy use and other unfavorable conditions. Planted to some extent for forage and erosion control on poor hill lands in the Coast and Willamette Valley areas. Seed is produced in the Coast, Willamette Valley, and Southern Oregon areas.

Highland. Principally used for fine turf in lawns and golf courses. Good for lawns in most parts of Oregon, given adequate water, except on alkaline soils. Is not relished by livestock, but is persistent under heavy use and other unfavorable conditions. Volunteer stands are used for forage in the Wil-

lamette Valley and Southern Oregon areas. Planted to some extent for forage and erosion control in the Willamette Valley. Seed is produced in the Willamette Valley.

Penncross (creeping). A new, improved variety developed solely to produce seed for high-class turf, such as golf putting greens. Seed is produced from fields established by interplanting stolons or fragments of sod of three vegetative lines. Seed production is a highly specialized enterprise. Little is known about seed production of Penncross bent in Oregon.

Meadow Foxtail

Tolerant of long submergence in winter and early spring, but will not endure prolonged summer flooding. Thrives at high altitudes under prolonged snow cover, making it well suited for moist, mountain-meadow plantings. Adapted on both strongly acid and highly alkaline soils. Preferred by livestock. Is a good companion grass with alfalfa on irrigated lands. Forage, seed, and erosion control on irrigated or poorly drained lands in all zones of Oregon. Especially adapted on diked tidelands in the Coast area.

Reed Canary Grass

Tolerant of prolonged, cool weather submergence. Endures summer drought after becoming established. Adapted to moist, alkaline soils. Not readily consumed by livestock when growth is rank. Will not endure close pasturing. Good stands are difficult to obtain. Forage and erosion control on fertile, wet land subject to prolonged flooding in all zones of Oregon.

Smooth Bromegrass

Manchar. This variety is recommended for forage in Oregon. Requires good drainage and moderate to high soil fertility. Tolerant of moderate alkali when soil moisture is adequate. Adapted at high elevations under prolonged snow cover. Does not endure continuous close pasturing. Southern varieties such as Lincoln and Achenbach are good seed yielders, and these seeds are in demand in the large seed-consuming areas of the Northeast and Midwest. Forage, seed, and erosion control, with irrigation, or where rainfall is 15 inches or more annually, in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Mountain Bromegrass

Bromar. This variety is recommended for short-rotation pastures and green manure in combination with sweet clover in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas. Is shorter lived than slender wheatgrass but makes more growth when soil moisture is adequate. Adapted on the heavier soils having clay subsoils.

Field Brome

Bromus arvensis. A true winter annual. Utilized for winter cover crop in the Northeastern States. Seed shatters badly at maturity. Treatment of seed for smut control required before planting. For seed in the Willamette Valley and Southern Oregon areas.

Crested Wheatgrass

Especially valuable for retirement of cultivated lands of moderate to low fertility in low rainfall areas, and for revegetation in the sagebrush and bunchgrass areas below the Ponderosa pine zone. Not tolerant of heavy alkali or high altitudes with prolonged snow cover. Three species are now recognized, namely desert wheatgrass, Siberian wheatgrass, and Fairway crested wheatgrass.

Desert wheatgrass. Formerly known as standard crested wheatgrass. Generally less productive of forage than Siberian wheatgrass in Oregon during dry years. Forage, seed, and erosion control on drylands of less than 15 inches annual rainfall in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas. **Nordan**, an improved variety having large seeds and high seedling vigor, is in demand in the northern Great Plains.

Siberian wheatgrass. Closely related to desert wheatgrass and has similar uses. Its chief value is that in years of low rainfall, and on the lighter, poorer soils, it produces more forage than desert wheatgrass and the seedlings are more vigorous. Forage, seed, and erosion control on drylands of less than 15 inches annual rainfall in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Fairway crested wheatgrass. Little used for forage, but is useful for roadside plantings and general control of weeds, dust, and erosion in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Beardless Wheatgrass

Whitmar. This is the only variety in use. Valuable for revegetation in the areas where crested wheatgrass is used. Provides later summer grazing and earlier fall grazing than crested wheatgrass. Forage, seed, and erosion control where the annual rainfall is less than 15 inches in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Streambank Wheatgrass

Sodar, an improved variety, is recommended. A long-lived, drought-tolerant sod grass that is used as an understory with dryland bunchgrasses for range reseeding. Is easy to establish. Spreads rapidly by rhizomes, but is not weedy. Is a good ground cover when planted alone to protect banks, irrigation canals, and airport surfaces. Forage, seed, and erosion control on drylands of less than 15 inches of rainfall annually, and with supplemental irrigation in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Intermediate Wheatgrass

Greenar is the recommended variety. Well adapted for hay mixtures with alfalfa. Becomes established rapidly. Requires good drainage and moderate to high soil fertility. Forage, seed, and conservation plantings with irrigation, and on drylands where annual rainfall is 15 inches or more in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Pubescent Wheatgrass

Topar is the recommended variety. More widely adapted than intermediate wheatgrass. Tolerant of drought and moder-

ate alkali. Is persistent on shallow soils of low fertility, and on rocky, mountainous ridges. Withstands prolonged snow cover. Better adapted for pasture than for hay. Forage, seed, and erosion control where annual rainfall is less than 15 inches in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Tall Wheatgrass

A long-lived, coarse, late-maturing bunchgrass having greater tolerance to alkali than any other forage grass cultivated in Oregon. Has special adaptation on moist, heavy alkaline soils. Used for both hay and pasture, but does not endure continuous close pasturing. Forage and seed in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Slender Wheatgrass

Primar is the variety used in Oregon. Valuable for short-lived pastures. Used for green manure in combination with sweetclover on lands that are too light textured or too droughty for Mountain brome grass. Forage, seed, erosion control, and green manure on croplands where annual rainfall is 15 inches or more in the Columbia Basin, Blue Mountains, and Central Oregon areas.

Big Bluegrass

Sherman is the variety recommended. Used in hay and conservation plantings with the wheatgrasses and with alfalfa. Must be grazed lightly to avoid serious injury. Forage, seed, and erosion control where annual rainfall is 10 inches or more in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas.

Kentucky Bluegrass

Seldom recommended for forage in Oregon because higher yielding pasture grasses are available. Volunteers profusely where moisture is plentiful and soils are not strongly acid or highly alkaline. Is often confused with Canada bluegrass, a lower yielding species. Sometimes used in alpine meadow reseedings. Lawns, turfs, erosion control, and seed, with irrigation, in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas; seed on fertile soils in the Willamette Valley and Southern Oregon.

Merion. An improved turf variety. Occupies most of the seed-producing acreage in Oregon.

Delta. A small amount of seed is grown.

Bulbous Bluegrass

Makes little forage, but is an early grower. Useful under arid conditions on steep or rocky terrain where seedbeds cannot be prepared, and as an understory grass for erosion control. Is a good competitor with cheatgrass. Natural reseeding is required for perpetuation. Forage and erosion control at elevations below 4,000 feet in the Blue Mountains and Snake River Valley areas.

Timothy

Climax is satisfactory. **Drummond** is recommended. Forage, erosion control, and seed on irrigated nonalkaline soils in the Columbia Basin, Blue Mountains, Central Oregon, and Snake River Valley areas; for revegetation on forest lands in the Columbia Basin, Blue Mountains, and Central Oregon areas, and eastern portion of the Willamette Valley and Southern Oregon; for seed in the Willamette Valley and Southern Oregon.

Sudan Grass

Sweet and Piper. These improved varieties are most widely used in Oregon.

Greenleaf is the best forage yielder in recent tests. It is a new variety from Kansas. Like Piper, it has low prussic-acid-forming properties. Sudan is a warm-season grass, and a high yielder of forage when temperatures are favorable and soil moisture and fertility are adequate. It requires irrigation in Oregon where annual rainfall is less than 30 inches, and may develop prussic acid following prolonged drought or frost, resulting in usually fatal poisoning of cattle and sheep consuming the fresh forage. Forage and seed in all areas except the Coast and Central Oregon areas; summer green manure in the Willamette Valley and Snake River Valley.

FORAGE AND SEED CROP VARIETIES NOT RECOMMENDED

Meadow fescue. This grass is short-lived and inferior to Alta fescue for long-term pastures.

Sorghums (other than Sudan grass). Best suited to regions where temperatures during the growing season are higher than are found in most parts of Oregon. Good yields of forage sorghums can be obtained in the Hermiston and Ontario regions. Corn is usually more productive for silage purposes. In other parts of the State, cool weather and a short growing season limit growth.

Miscellaneous unadapted grasses:

Bahia grass, Bermuda grass, Bluestems or Andropogons, Buffalo grass, Buffel grass, Dallis grass, Grama grasses, Johnson grass, Kikuyu grass, Lovegrasses, Smilo grass, Starr millet, Switchgrass, Zoysia.

Southern (nonhardy) alfalfas. These are seldom hardy enough for Oregon conditions. They include Arizona Chilean, Argentine, Italian, Peruvian, African, Indian, and common alfalfas from Arizona, New Mexico, Oklahoma, and California.

Miscellaneous unadapted legumes:

Burclover, Castor bean, Chickpea or Garbanzo, Cowpea or Blackeyed pea, Crotalaria, Dwalganup subclover, Grass pea or Lathyrus, Horsebean or Fava bean, Kudzu, Lespedeza, Mungbean, Pigeon pea or Guar, Sainfoin, Sour Clover, Soybean, Velvet bean.

Other forages not recommended:

Buckwheat, Comfrey.

RECOMMENDED SPECIALTY CROP VARIETIES

Fiber Flax

Cascade. A tall, late-maturing, blue-flowering variety. It is a high yielder of straw and fiber and resistant to wilt and rust. Recommended for fiber flax production in the Willamette Valley.

Seed Flax

Bison. A blue-flowering, high-yielding, wilt-resistant, seed flax variety. Recommended for seed flax production in the Willamette Valley.

Hops

Fuggles. Highly resistant to downy mildew, medium maturity. Recommended for irrigated and nonirrigated sections of the Willamette Valley.

Late Clusters. Very susceptible to downy mildew, late maturity. Recommended for the irrigated sections of the Southern Oregon, Columbia Basin, and Snake River Valley areas.

Brewers Gold. Somewhat resistant to downy mildew, medium to late maturity. Irrigated sections of the Willamette Valley.

Bullion. Somewhat resistant to downy mildew, medium to late maturity. Irrigated sections of the Willamette Valley.

Peppermint

Mitcham. A dark-green, strong-stemmed, high-yielding variety producing oil of good flavor. Irrigated sections of all areas except the Coast and Blue Mountains.

Spearmint

Scotch. A light-green, strong-stemmed, high-yielding variety with hairy leaves. Produces oil of good flavor. Irrigated sections of all areas except the Coast and Blue Mountains.

MINT VARIETIES NOT RECOMMENDED

American or wild peppermint. Similar to Mitcham but lighter green leaves and stems. Yields only about one-half as much as Mitcham.

Common or wild spearmint. A shiny leafed variety, less vigorous and lower yielding than Scotch spearmint.