



### Grazing

Orchardgrass has high forage quality potential and can be grazed by all species of forage consuming animals. Rotational stocking is the best grazing method to achieve good yield, adequate quality and persistent stands. This grass can be grazed heavily during the flush growth of spring, but overgrazing must be avoided. Studies have shown that close grazing or cutting is a prime cause of slow regrowth and reduced stand persistence. **Regardless of “turn-in height,” the grass should not be grazed below 3.5 to 4 inches.** This stubble height will result in quicker recovery and more persistent stands. Heavy continuous grazing during the fall can reduce root reserves and increase winter injury.

### Hay/Silage

For the best compromise between obtaining high forage yield and high forage quality, orchardgrass should be harvested in spring during the boot to early flowering stage. Beyond this point, forage digestibility drops at a rate of approximately 0.5 percent per day. In addition, protein and other

forage quality components important to animal nutrition and performance also decline. Aftermath growth can be harvested at 4 to 6 week intervals as weather and growth permits. Total seasonal yield and cutting frequency are greatly affected by soil moisture, temperature, fertility, diseases and insects. As with grazing height, cutting height can have a dramatic impact on stands. **For best results it is best to not harvest lower than 3.5 to 4 inches.** Repeating cuttings at lower cutting heights will slow regrowth and reduce stand persistence.

### Mixture

Orchardgrass is an excellent grass choice to grow in combination with alfalfa or red clover. When grown in mixtures for pasture, rotational stocking is recommended. When grown for hay or silage with alfalfa or red clover, cutting date decisions should be made based on the legume. Ideally, legumes should be harvested when in the late bud to early bloom state of growth.

### Quality and Animal Performance

Orchardgrass can produce high quality pasture, hay or silage when managed properly, and can provide excellent quality feed to forage-consuming animals. The forage quality of pasture or stored feed is influenced by many factors including fertility, pests, growing conditions (temperature-moisture) and management. The single most important factor influencing orchardgrass quality is stage of maturity (plant age) when harvested. In the vegetative (leafy) stage, orchardgrass forage is high quality, but it declines rapidly as the plant matures. Studies at many universities as well as extensive farmer experience demonstrate that improved protein, total digestible nutrients, average daily gains, weaning weights and milk production on orchardgrass pasture and hay or silage result when the forage is utilized at an early stage of growth.

### Summary

Orchardgrass has played an important role in animal agriculture in the U.S. for almost two hundred years. It is a cool-season perennial bunchgrass that has the potential to produce high yields and excellent quality. It is widely adapted and can be grown alone or in mixtures. It is versatile and can be used for pasture, hay or silage. With adequate management, it can produce excellent quality forage and high level animal performance.

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## Oregon Orchardgrass

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# Oregon Orchardgrass





**Orchardgrass** (*Dactylis glomerata* L.) is a tall-growing, cool-season, perennial bunchgrass that plays an important role in forage-based agriculture in the U.S. It is a versatile plant that can be used for pasture, greenchop, silage and hay. It is the grass that is most frequently grown with alfalfa and is an important component in horse pasture mixtures. It has the potential to produce high forage yields and, with proper management, can produce high quality forage and result in good animal performance from many species of forage-consuming animals.

### ORCHARDGRASS AT A GLANCE

<b>Origin:</b>	Europe
<b>Characteristics:</b>	Perennial bunchgrass
	Grows 2-5 feet tall
	Stem flattened at base
	Produces high quality forage and good yield
	Well suited for mixtures with red clover or alfalfa

### Origin

Orchardgrass is native to Europe but has been grown in the U.S. since the early 1800's. The first record of orchardgrass in the U.S. was of plants growing in an orchard on the Henshaw farm in Orange County, Virginia. Seed from this orchard field was planted on a farm in Oldham County, Kentucky by Mr. Phillip Henshaw in 1830. Seed from that field was planted on other farms and Oldham County, Kentucky was a major commercial orchardgrass seed producing area for many years. Today 97 percent of the orchardgrass seed produced in the U.S. is grown in the Willamette Valley of Oregon.

### Characteristics

Orchardgrass starts growth in early spring, develops rapidly and produces seedheads in late April-early May. It produces soft, lush, bright green forage that is relished by grazing animals. Orchardgrass is more tolerant of shade, drought and heat than timothy and bluegrass. Although shade tolerant, it grows well in full sunlight. It is adapted to well drained soils and because it produces an open sod is especially well suited to be grown in mixtures with legumes such as alfalfa and red clover. It will usually persist longer than timothy in properly managed mixtures with alfalfa or red clover.

### Varieties

Selecting the best variety or varieties for an individual farm and field is an important management decision. Varieties should be adapted to the area in which they will be planted, and should be capable of producing acceptable forage yields over a number of years.

Orchardgrass varieties can vary in maturity by two or more weeks. Consideration should be given to later maturing varieties when grown in association with alfalfa or red clover because they will be at a more optimum stage of maturity and will better match with maturity of legume to enhance forage quality potential.

Many universities and private companies conduct extensive variety testing. As an example, at the University of Kentucky, 48 different orchardgrass varieties have been tested at multiple locations with yields ranging from 1 to over 6 tons per acre per year. Results from such tests are usually available on university forage websites and from the Extension Service.



### Establishment

Orchardgrass can be seeded in pure stands, in pasture mixes with other grasses and with legumes. It is relatively easy to establish when seeded in an adequate seedbed at the right seeding depth, rate and date. Orchardgrass can be seeded in late winter-early spring or late summer-early fall. Late summer seedings are usually preferred when moisture is adequate. Seeding rate recommendations among states vary from 6 - 25 lbs per acre; however, use of 10 - 15 lbs per acre is common when it is seeded in pure stands. Seeding rates can be reduced to 4 - 8 lbs per acre when seeding with legumes such as alfalfa or red clover.

Orchardgrass is a small seeded grass with approximately 416,000 seeds/lb and 14 lbs/bu. Cultipacking after seeding will firm the soil to ensure good seed-soil contact and help to hasten seed germination and seedling emergence. Orchardgrass can be successfully seeded using no-till techniques, assuming all conditions required for conventional prepared seedbed seedings are met (i.e. soil fertility, use of high quality seed and planting at the proper seeding depth, rate and date) and ensuring adequate control of weed competition. In some areas farmers seed a small grain companion crop with an orchardgrass-legume mixture in late summer-early fall. While this practice has generally been quite successful, careful management considerations are required to prevent the "companion crop" from becoming a "competition crop." To reduce the likelihood of competition, the small grain seeding rate should be significantly reduced and the small grain spring growth should be removed as early as possible by grazing or by taking an early cutting of baleage or hay.



### Management

#### Fertility

Orchardgrass is relatively easy to grow and manage. It needs a soil pH of around 6.0 to 6.5 and adequate soil levels of phosphorus and potassium. A soil test should be taken to determine lime and fertilizer needs. Orchardgrass responds well to fertility,

especially timely applications of nitrogen. Nitrogen applied at seeding, along with split applications over the growing season, can greatly increase total dry matter production. Local Extension offices can provide specific state recommendations on dates and rates of nitrogen that should be applied. Yields can be dramatically reduced during drought years.

#### Pests

Orchardgrass is susceptible to some leaf diseases, especially during drought. Diseases can reduce forage yield, forage quality and persistence. To minimize the potential for disease problems it is important to choose varieties that have resistance/tolerance to various leaf diseases and to minimize plant stress with timely harvest management.

#### Harvest

Orchardgrass can be harvested as pasture, greenchop, silage or hay. The approach used to harvest orchardgrass as either grazing or stored feed can have a marked impact on yield, quality and stand persistence.

