



# Species

## Cool-Season Grass

# Orchard

# Illinois

### General Information

Orchard grass is a cool-season grass that grows in clumps, producing an open sod. Native of Europe, but has been grown in North America for more than 200 years. However, not widely accepted in the United States until 1940.

Orchard grass is leafy, productive and adapted to a wide range of environmental conditions. Seedlings are competitive enough to withstand competition from weeds and other plants. Once established, Orchard grass will survive many years if properly managed. Suited for pasture, hay, green chop and silage. Can be utilized alone or in a combination with legumes.

Orchard grass is commonly found growing in shady places, such as orchards, undoubtedly led to its most widely known common name. Also is known as cocksfoot, due to shape, especially in the British Isles.

### Adaptability

In the United States, orchard grass is found from Maine to the Gulf states and from the Atlantic coast to the eastern Great Plains. It is common throughout the Appalachian Mountains. It also is found in the high rainfall regions of the western mountains and in irrigated areas throughout the West.

### Characteristics

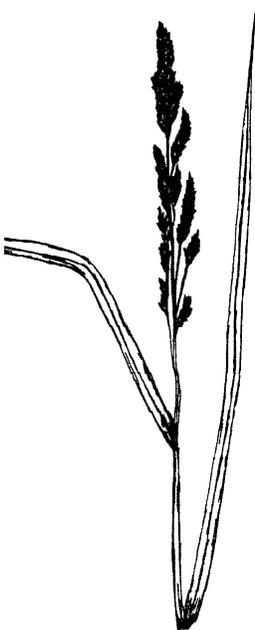
Orchard grass starts growth in early spring, develops rapidly, and flowers during late May or early June. Leaves are folded in the bud, and in a cross section appear V-shaped. The sheath is distinctly flattened and strongly keeled. Orchard grass reproduces by seed and tiller formation. Tillering occurs almost continuously. In field conditions, the production of new tillers gives orchard grass its perennial character.

Like other grasses, orchard grass produces a fibrous root system. The root system is extensive and deeper than those of Kentucky bluegrass and timothy, but not as well distributed as that of smooth brome grass.

If soil fertility is low, a large portion of the total production of orchard grass occurs in the spring, whereas at high fertility levels, production is well distributed throughout the growing season. Orchard grass is more heat tolerant than timothy or Kentucky bluegrass, but is less heat tolerant than smooth brome grass or tall fescue. Grows rapidly in cool temperatures and is especially productive in early spring, and reasonably productive in late fall, but less so than tall fescue.

The optimum daytime temperature for growth of orchard grass is about 70 degrees. However the combination of a daytime temperature of 71.5 degrees and a nighttime temperature of 53.5 degrees is most favorable for the production of top growth. Temperatures above 82 degrees greatly reduce growth and tillering. Orchard grass is shade tolerant, and is found growing in many areas where there is reduced light. Orchard grass can also withstand high light intensity.

Orchard grass is more drought tolerant than either timothy or Kentucky bluegrass, but smooth brome grass is more drought tolerant than orchard grass and is better adapted to areas that have a combination of low rainfall and high temperature. Drought tolerance of orchard grass probably is related to its extensive root system. Orchard grass persists



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## Characteristics

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and grows well on soils that have moderately poor drainage, but does not tolerate flooding or wet soils as well as reed canary grass.

Orchard grass will persist on shallow, rather infertile soil and be moderately productive, yet is responsive to fertilizer applications, especially nitrogen, and becomes very competitive when nutrients are available. Tall fescue and timothy will compete successfully with orchard grass only when nitrogen and potassium are lacking. In the area of adaptation, orchard grass becomes the dominant species when an abundance of nutrients is available.

At the vegetative growth stage, orchard grass approaches the feeding value of alfalfa. At full bloom, about half the value of alfalfa. Aftermath forage is leafy and generally does not decline in feeding value. Thus, time of harvest is much less important with aftermath than with the first crop.

## Establishment

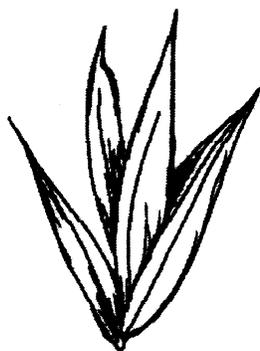
In the area of adaptation, orchard grass usually is established with ease. Orchard grass is recommended to be seeded in early spring or late summer. Contact your local NRCS or University Extension office for specific seeding recommendations.

Oats are frequently used as a companion crop with an orchard grass/legume seeding. The oats are harvested for hay, silage or grain during the summer, and the grass/legume mixture is harvested the next year.

When planting orchard grass, the seedbed should be loose on top and firm underneath. The seed should be planted no deeper than one-fourth of an inch. Press wheels or a cultipacker help ensure stand survival.

## Management

Orchard grass is well suited to early spring pastures due to growth characteristics and better suited to rotational grazing than to continuous grazing. When grazed continuously, animals tend to graze the same areas until the plants are weakened by frequent removal of leaves. Close cutting or grazing, especially when reserves are low, is detrimental to orchard grass. Cutting several times at ground level or continuous close grazing almost always results in a reduction of reserves and serious stand injury, especially at high rates of nitrogen. Orchard grass should not be grazed until eight inches tall, and then no closer than three inches.



Ladino or white clover is well suited for use in combination with orchard grass for pasture. Clover provides the nitrogen for the grass, and if properly managed, both species will remain productive for many years. When grazing is delayed, excessive competition from grass may cause elimination of the legume. Orchard grass should be grazed when eight to twelve inches tall to provide an acceptable balance between yield and persistence of white clover.

Orchard grass may be grown for hay either in pure stands or with legumes. When pure stands are used for hay production, it is imperative that nitrogen be used in combination with other nutrients for high yields. Split applications of nitrogen will help prevent lodging, and tend to give better distribution of forage during the growing season. Nitrogen at a rate of 50 to 75 pounds per acre in early spring and after each cutting is generally recommended; however, application of nutrients should be based on a soils test.

Legumes and orchard grass can be grown successfully in mixed stands if care is taken to favor the legume. Nitrogen or manure should not be applied because it stimulates growth of orchard grass, often at the expense of the legume. High rates of potassium should be applied to enhance legume vigor and survival.

## Where To Get Help

For more information about orchard grass, contact your local office of the USDA Natural Resources Conservation Service, listed in the telephone directory under "U.S. Government," or the University of Illinois Extension.

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