A close-up photograph of a dense field of yellow pasture legumes. The plants have small, bright yellow flowers and green, trifoliate leaves. The background is a soft-focus green, suggesting a large field of similar plants.

A3787

Identifying pasture legumes

**Dennis Cosgrove
Dan Undersander**



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Dennis Cosgrove and Dan Undersander

Legumes are an important component of Midwestern pastures. They increase yield and quality of grass pastures and provide nitrogen to grasses through fixation of atmospheric nitrogen. This booklet identifies the nine most common legumes in Midwestern pastures.

This guide will help you identify legumes the first year, when you need to know if a seeding was successful. It will also help you identify legumes in established pastures so you can make informed decisions about pasture management, fencing and renovation.

This booklet is organized in three parts:

- Seed and seedling identification for new plantings,
- Identification of established plants (with flowers), and
- Information about growth habit and management for each legume.

What is a legume?

A legume is defined as a plant with seeds in a pod that splits into two distinct halves. Some common examples are peas, beans and peanuts. The plants discussed in this booklet have this characteristic and are therefore classified as legumes. We rarely see the seedpods on these plants as they are usually harvested well before they form. Many legumes have compound leaves (more than one leaflet per leaf) and fix nitrogen. This is not a good description of a legume however as many non-legumes also possess these traits.

Using this guide

Before you plant

Before purchasing legume seeds, you may want to consult the legume management section of this booklet. It describes the ideal uses for each species and outlines the best techniques for successful establishment, management and harvest. The species information chart on page 46 summarizes seeding rates and relative tolerance to drought, grazing and cold temperatures.

Identifying seeds and seedlings

The best time to identify seedlings is in the 3- to 4-leaf stage. At this time vegetative characteristics should be easily seen. Forage legumes exhibit significant variation among populations of the same species and often grow in mixed stands of several species. For this reason it is best to examine several plants to determine if the identifying characteristics you observe are consistent.

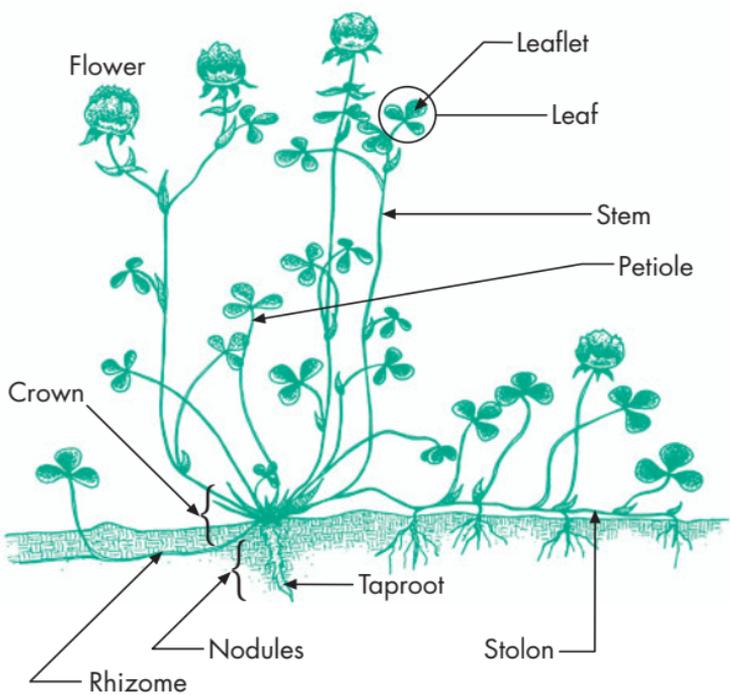
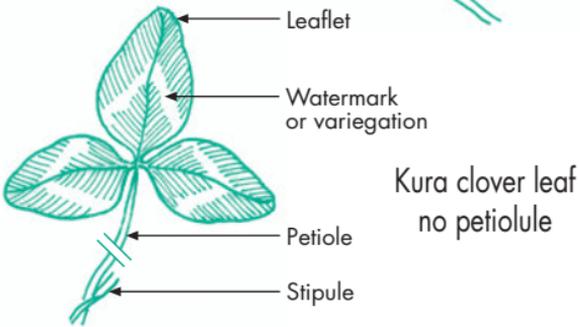
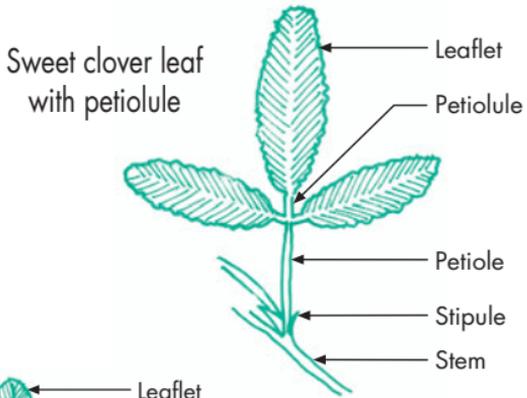
Identifying vegetative legumes and flowers

We have organized the legumes in this section according to leaf characteristics. Determine if the leaf has a petiolule. Then use the guide to compare other vegetative characteristics. If the plant is flowering, the flower type and color may also be helpful.

Variety selection

For more information on variety selection, consult Extension publication Forage Variety Update for Wisconsin (A1525) or visit www.uwex.edu/ces/crops/uwforage/uwforage.htm

Parts of a legume plant



Glossary

Head A dense inflorescence of flowers without stems.

Inflorescence The arrangement of flowers on the floral axis.

Internode Area of the stem between the nodes.

Node The point on the stem where leaves are attached.

Petiole The stalk of a leaf which connects the leaf to the stem.

Petiolule Extension of the petiole into the leaflets of a compound leaf.

Pubescence Small hairs on the surface of leaves and stems.

Raceme An inflorescence in which flowers are mounted on short stems along a central axis.

Rhizome An underground stem which is capable of producing new plants at the nodes.

Stipule Small, pointed, leaf-like structures at the base of the petiole.

Stolon A prostrate above-ground stem which is capable of producing new plants at nodes.

Tendrill A slender modified leaflet used for support.

Umbel An inflorescence in which flowers are mounted on short stems all arising from a common point.

Variation A pattern of lighter colored tissue on a leaf.



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