

Identification of Legumes











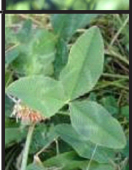

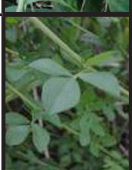





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Correct identification of legumes in hay fields and pastures is important when making agronomic decisions. Although legumes are much easier to identify when flowering, identifying legumes in vegetative stages is possible when key and unique leaf features are known.

In order to identify vegetative legumes, one must consider the number of leaflets that make up the leaf, leaf margins, stipules, and petioles. Most legumes have three leaflets; an exception is birdsfoot trefoil which has five. Leaf margins can be serrated (toothed) or entire (smooth). Stipules are a growth at the base of petioles, and the petiole connects the leaflets to the stem. All true clover leaflets are attached to the petiole at the same point. Alfalfa and sweetclover leaflets are attached to the petiole via a petiolule. Sweetclover is not a true clover because of the petiolule. Red, white, and alsike clovers are true clovers.

Table 1 provides additional agronomic information. Table 2 (page 7) further outlines how to identify commonly found legumes and briefly describes their agronomic characteristics.

Table 2. Agronomic characteristics of commonly found legumes.

Species	Life Cycle & Growth Habit	Identifying Characteristics	Leaf*	Flower**	Other Identifying Characteristics	Agronomic Characteristics
Alfalfa (<i>Medicago sativa</i>)	Perennial Upright	Trifoliolate leaf. Serrated edges only on upper 1/3-1/2 of leaflet; pubescent on underside. Blue or purple flowers.			Stipules have marginal teeth and sharply pointed tip.	Requires a soil pH of 6.5-7.0, high soil fertility; cannot withstand water logged soils or flooding. Can cause photosensitivity in horses.
Sweetclover (<i>Melilotus species</i>)	Perennial Upright	Trifoliolate leaf. Leaflets have serrated edges extending almost to base. Leaflets are smooth on underside.			Stipules small with smooth edges. Sweetclover is not a true clover.	Yellow sweetclover has yellow flowers. White sweetclover has white flowers. Can cause bleeding in livestock if sweetclover becomes moldy in hay.
Red Clover (<i>Trifolium pratense</i>)	Perennial Upright	Trifoliolate leaf. Leaflets are hairy and not toothed. Hairy stems; red or purple flowers.			V-shaped watermark always present, not always distinct. Young leaflets tend to be heart-shaped.	Best suited for poorly drained areas. Not recommended for hay production. Can cause photosensitivity and slobbers in horses.
White Clover (<i>Trifolium repens</i>)	Perennial Upright (small stature) and spreading	Trifoliolate leaf. Leaflets have serrated edges from tip to base. Stems and leaflets do not have hair. Leaflets are shiny on underside. White to pink flowers.			V-shaped watermark present, not always distinct. Young leaflets tend to be heart-shaped. Intermediate sized stipules. Reproduces and spreads from stolons (above ground stems).	Not recommended for hay production. Can cause photosensitivity in horses.
Alsike Clover (<i>Trifolium hybridum</i>)	Perennial Upright	Trifoliolate leaf. Finely-serrated leaflet edges. Leaflet and stems smooth. Leaflets dull on underside. White to pink flowers.			Leaflets lack inverted V-shaped watermark. Stipules are large.	Not recommended for hay production. Can cause photosensitivity in horses.
Kura Clover (<i>Trifolium ambiguum</i>)	Perennial Upright and spreading	Trifoliolate leaf. Leaflets and stems are not hairy but leaflet margins are acutely serrated at the edges. Leaflets are oblong; white to pink flowers.			V-shaped watermark always present, not always distinct. Reproduces and spreads from rhizomes (underground stems).	Has great persistence under grazing. Very winter hardy. Can be difficult to establish.
Birdsfoot Trefoil (<i>Lotus corniculatus</i>)	Perennial Prostrate	Five leaflets per leaf, three in a trifoliolate at the tip of leaf blade and two at base. No hair. Yellow flowers.			Commonly used by highway departments for roadside seeding. Can be difficult to establish, but persists via reseeding.	Best suited for acidic, poorly drained soils. Provides high quality forage, even at or after maturity. Does not cause bloat in cattle.
Cow Vetch (<i>Vicia cracca</i>)	Perennial Prostrate vine	Pinnately compound. 8-12 pairs of opposite leaflets with apical tendrils. Blue-violet to purple flowers; arranged in a crowded, one-sided arrangement.			Can be confused with hairy vetch (purple flowers with lower white flowers), and crown vetch (pink-purple flowers in crown shape).	Primarily used for soil improvement, along roadsides, and for bank stabilization. Suitable for dry, sandy soils.
Cicer Milkvech (<i>Astragalus cicer</i>)	Perennial Somewhat upright to prostrate vine	Pinnately compound. 8-17 pairs of opposite leaflets. Yellow to white flowers. Flowers originate in leaf axils.			Reproduces and spreads by rhizomes.	Strong stand persistence. Very winter hardy. Can be difficult to establish. Reduced voluntary intake (palatability) can be observed.

*Photograph credits: Krishona Martinson, University of Minnesota (all except alsike clover leaf and flower) and the University of Minnesota Stand Memorial Herbarium (alsike clover leaf and flower).