

SAINFOIN: Sainfoin originated in Europe and Asia. It is a deep-rooted legume with pink flowers. Sainfoin is well-adapted to all soil textures, and to high pH (up to pH 8) sites. Not suitable to saline or acidic soils (less than pH of 6). It is heat, drought and cold resistant. Sainfoin is not adapted to areas which are wet, frequently irrigated, or with high water tables. It grows to heights of three feet or more. Stems are hollow and coarse, but quite nutritious. Relatively easy to establish but effective nitrogen-fixing bacteria (rhizobia) have not been found. As a result nitrogen fertilization may be required. Has a tendency to bolt quickly (send up a tall stalk with few leaves) along the front range.

Use for Hay: Sainfoin is well-suited to hay harvesting as it grows upright and is cut easily. Since regrowth is poor, cut at about the half- to full-bloom stage.

Use for Pasture: Sainfoin has excellent use in pastures and is grazed in preference to alfalfa. It does not cause bloat. Grazing in the bud or early bloom stage and keeping the grazing height above eight inches (or 30 percent of the plant left as stubble) will extend stand life. Sainfoin grows ahead of alfalfa in the spring (in March) to provide early, high-protein grazing.

Varieties: 'Eski' and 'Remont'

SWEET CLOVER: Sweet clover belongs to a different plant family than the true clovers. It was introduced into North America as early as 1739. It is used for pasture, hay, disturbed lands, and as a green manure crop. It is salt-resistant and has an aggressive tap root which breaks up hard soils. Sweet clover is a biennial. From ten to 36 inches of growth occurs the season of seed, three to five feet the second year when seeds are produced and the plants die. It reseeds itself well if not crowded out by perennial grasses.

White flowered sweet clover is taller, coarser-stemmed and with coarser leaves than the yellow-flowered type. Yellow sweet clover has greater drought tolerance and seedling vigor, and flowers earlier. Sweet clovers are adapted best to well-drained, heavier soils. Grows best on neutral or alkaline soils, and is one of the best legumes to grow on highly alkaline soils. Seed only scarified seed that is inoculated with the proper nitrogen-fixing bacteria.

A high coumarin content makes sweet clover less palatable to livestock than many other legumes. Some varieties have low coumarin levels. Plants decline in quality as they reach maturity and become woody and stemmy.

Use for Hay: Since it is a biennial, sweet clover

must be planted the year before they are to be cut for hay. Fair quality hay is acquired if plants are cut in the bud stage (13 percent crude protein). Leave at least 12-inch stubble if regrowth is desired.

Most sweet clover hay is safe to feed, but improperly cured or moldy hay should be fed only after being tested for dicoumaril content. Dicoumaril can develop from coumarin under poor curing conditions. Dicoumarin causes 'sweet clover disease' in livestock in which blood loses its clotting ability and death results from internal bleeding or other complications. This danger can be lessened by feeding sweet clover for two weeks, followed by two weeks of other forage.

Use for Pasture: Sweet clover provides excellent, early spring grazing. Good yields are provided well into June and July. Maintain a stubble height of twelve inches to allow for rapid regrowth and good quality. Heavier grazing can occur in late autumn. First season growth can be grazed after it is about 10 to 12 inches tall. High animal stocking rates are needed to keep plants grazed down and encourage new growth. Turn livestock in early, when plants are six to eight inches tall.

Variety: 'Madrid'

TREFOIL, BIRDSFOOT: This legume is native to Europe and parts of Asia. It is a long-lived perennial with a deep taproot and many laterals. It is leafy with fine stems which are prostrate to erect and one to two feet in length. Flowers are bright yellow with orange to red-tinged areas. It performs much better than alfalfa on poorly-drained, clay soils. It does well on low-fertility and alkaline soils with a pH less than 8. It reseeds itself well, even if closely grazed. However, it takes two years to become established and should be used lightly during this time. Seedlings should be protected from weedy growth. Minimum annual water requirement is 12 to 13 inches, once established. It is winter hardy.

Use for Hay: Erect types are suited to hay harvesting. It generally yields about two-thirds as much as alfalfa. Stems contain a high amount of water and are more difficult to dry than alfalfa. Quality is comparable to alfalfa.

Use for Pasture: Does not cause bloat in livestock. Withstands grazing better than most other legumes. Palatability is high which means good pasture management is required. Production is well distributed throughout grazing season. Allow four to six weeks between grazings to obtain a regrowth of six to ten inches.

Varieties: 'Empire', 'Viking', 'Maitland', 'Fergus', and 'Tretane'