

11. Roses, Legumes, and Other Families

ROSACEAE, ROSE FAMILY

FLOWERS with 5 petals and numerous stamens. Our weedy representatives possess compound leaves.

The Rosaceae include many important fruit crops, e.g. apples, peaches, cherries, plums, strawberries. There are relatively few weeds in the family.

Potentilla, Cinquefoil. Leaves palmately compound; leaflets toothed. Flowers yellow. Pistils numerous in each flower, ripening into achenes, 0.7-0.8 mm. across, flattened, semicircular, covered with curving ridges.

p92 *Potentilla norvegica*, Rough cinquefoil, Strawberry weed. Plants biennial. Leaves with three leaflets. Petals small, shorter than calyx lobes. Achenes brownish. Pastures, forage grasses, gardens. Summer. Seeds common in commercial timothy seed.

p92 *Potentilla recta*, Sulphur cinquefoil. Perennial. Leaves with 5 to 7 leaflets. Flowers with petals much exceeding calyx lobes. Achenes black. Habitat similar to above but less common.

p93 *Rosa*, Wild rose. Plants low, prickly shrubs. Leaves pinnately compound. Flowers white or pink. Fruit a fleshy berry-like structure. Seeds large, shaped somewhat like a section of an orange, smooth, bony in appearance, light or dark brown. Roadsides, waste areas, small grains. Summer. Seeds present in seed oats and rye.

RANUNCULACEAE, BUTTERCUP FAMILY

p94 *Ranunculus*, Buttercups. Flowers yellow, with numerous stamens and pistils. Leaves palmately dissected or lobed. Weeds mostly of wet pastures, ditches, and open woodland. Mostly of eastern states. Some species are poisonous to livestock.

PAPAVERACEAE, POPPY FAMILY

Argemone. *Argemone polyanthemus (intermedia)*, Prickly poppy. Large annual with very prickly stems and leaves. Juice orange-colored. Flowers white, 1 dm. across. Fruit a many-seeded capsule. p95
Rangeland and uncultivated ground, southwestern part of area only.

LEGUMINOSAE, LEGUME FAMILY

Leaves alternate, compound with three leaflets, or pinnately compound. Stipules present. Flowers irregular with a large upper petal (standard), two side petals (wings), and two inner petals which are fused (keel) and enclose the pistil and stamens. Fruit a pod, 1-celled, several-seeded and dehiscent (e.g. bean pod), or 1-seeded and indehiscent (sweet clover).

The Leguminosae is a major economic family, possibly second only to the grasses. To it belong many of our major forage and soil conservation plants as well as kinds important for human food and industrial products. Contrariwise, it has but few weeds, none of especial significance in the North Central States. There are, however, some leguminous weeds in other parts of the United States. In the Southwest, especially western Texas, mesquite (*Prosopis juliflora*), a small leguminous tree, has invaded overgrazed rangeland. In many areas this mesquite forms almost solid stands; the cost of its eradication is a major problem in reclaiming the land. Camelthorn (*Alhagi camelorum*), a thorny shrub, has been introduced in California and sporadically elsewhere. Because of its potential ability to invade grazing land, large sums of money have been spent in an attempt to eradicate it. Species of *Astragalus* (locoweed) and *Lupinus* (lupines) are important poisonous plants to stock in the western Great Plains and mountains.

The following primarily constitutes a review of important field crop legumes of the North Central States.

Glycyrrhiza. *Glycyrrhiza lepidota*, Wild licorice. Perennial with creeping rootstocks. Leaves with numerous leaflets. Flowers white. p96
Fruit spiny, cocklebur-like. Sporadic in prairie and plains states, most common West. Roadsides, pastures, ranges, usually wet land.

Lespedeza. *Lespedeza stipulacea*, Korean lespedeza. Annual. Plants semiprostrate or erect in dense stands. Stipules conspicuous, brown-membranous. Flowers axillary, lavender. Calyx persistent around base of fruit. Pod ovoid, 1-seeded, short-pointed at the apex, brown, covered with a network of black lines. Seeds flattened-ellipsoidal, purplish-black, smooth and shiny. Grown in southern portion of range. p96
Commercial seed may consist of seeds within the persistent pods, the hulled seeds, or a mixture of both.

Medicago, Alfalfa and related kinds. Terminal leaflet longer-stalked than lateral ones. Flowers in short spikes.

- p97 *Medicago sativa*, Alfalfa. Plants perennial. Stipules toothed, broader than in sweet clover. Leaflets toothed only on upper half. Flowers purple or varicolored, dull yellow to purplish. Pods several-seeded, spirally coiled, brownish. Seeds yellowish (turning orange-red with age), most commonly bean-shaped with the hilum on the side, but frequently irregularly ovoid, and similar to those of red clover or sweet clover. Distinguishing characters of doubtful alfalfa seeds: angular or lumpy, frequently pointed at end, longitudinal furrow not parallel to margin, seed coat not shiny. Grown for forage throughout range, often independently established along roadsides and waste places.
- p97 *Medicago lupulina*, Black medick, Yellow trefoil. Usually annual or biennial. Flowers yellow. Pods 1-seeded, black with curving lines. Seeds similar to those of alfalfa but shorter and with a distinct projection from middle of one side. Pastures, meadows, lawns, about buildings. Summer. More common in east. A weed with limited forage value.
- Melilotus*, Sweet clover. Plants biennial or annual, tall and branching. Stipules narrowly lanceolate, usually not toothed. Terminal leaflet longer-stalked than lateral ones; leaflets toothed along sides and at apex. Flowers in long spikes. Pod ovoid, one-seeded, indehiscent, light brown, covered with a network of lines or ridges. Seed flattened-ellipsoidal, only slightly notched or lobed (immature seeds may appear 2-lobed); longitudinal furrow directed nearly parallel to margin; surface dull yellow or yellowish-green (turning dull reddish-brown in age), not shiny. Common forage and green manure crop, also weedy along roadsides and waste areas.
- p97 *Melilotus alba*, White sweet clover, Hubam clover. Flowers white. Seeds not usually mottled. Pods with a coarse network of ridges.
- p97 *Melilotus officinalis*, Yellow sweet clover. Flowers yellow. Pods appearing cross-ribbed rather than net-nerved. Some of seeds (5 to 40 per cent usually) mottled with small dark dots.
- p98 *Glycine*. *Glycine max*, Soybean. Plants annual, similar to the ordinary garden bean in general appearance. Flowers white to purple, in small axillary clusters. Pods flattened, hairy, 2- to 4-seeded. Seeds large, spheroid. Extensively cultivated.
- Trifolium*, Clover. Terminal leaflet not longer-stalked than lateral leaflets (compare with alfalfa and sweet clover). Flowers in spherical heads. Pods thin, one-seeded, enclosed within the withered corolla. Seed roughly rounded-ovoid in shape, usually distinctly 2-lobed or apically notched; hilum located at the "end" of the seed, or in a notch on the side; color various.
- p99 *Trifolium hybridum*, Alsike clover. Stems ascending or erect, nearly glabrous. Stipules broad, usually greenish. Heads on short stalks from leafy stems. Flowers white or pinkish.

Seeds smaller than those of red clover, sweet clover, or alfalfa, heart-shaped, greenish-black when mature, green or yellowish-green when immature. Cultivated, widely escaped, and to some extent weedy.

Trifolium pratense, Red clover. Biennial or short-lived perennial. Stems erect, hairy. Stipules large, hairy, nerved. Flower heads red. Seeds mitten-shaped, with a large terminal lobe and a shorter lateral one, yellow and purple mottled in color, occasionally solid yellow or nearly solid purple-black; surface smooth and shiny. Widely cultivated and frequently escaped along roadsides.

p99

Trifolium repens, White clover, Dutch clover, Ladino clover. Stems glabrous, prostrate, rooting at nodes. Leaves long petioled. Stipules at first greenish, soon becoming white-membranous. Flower heads on long, leafless stalks arising directly from the prostrate stems. Flowers white. Seeds yellow (turning orange-red in age), heart-shaped, averaging slightly smaller than those of alsike, but otherwise essentially similar. Planted in pastures and lawns and much escaped.

p100

Lotus. *Lotus corniculatus*, Birdsfoot trefoil. Plants perennial. Leaves with 5 leaflets, the two lowest next to the stem and resembling stipules. Flowers yellow in stalked clusters. Pods several-seeded. Seeds irregularly rounded, brownish, frequently speckled. Cultivated, especially permanent pastures in southern part of area.

p100

Vicia, Vetch. Leaves pinnately compound with several leaflets, terminating in tendrils. Flowers purple, solitary in leaf axils or in racemes. Pods several-seeded. Seeds spheroid or lens-shaped. Several species; some essentially weeds; some cultivated, often escaped and growing as weeds. Mostly southern and western. As weeds, grain fields, and waste areas.

p100

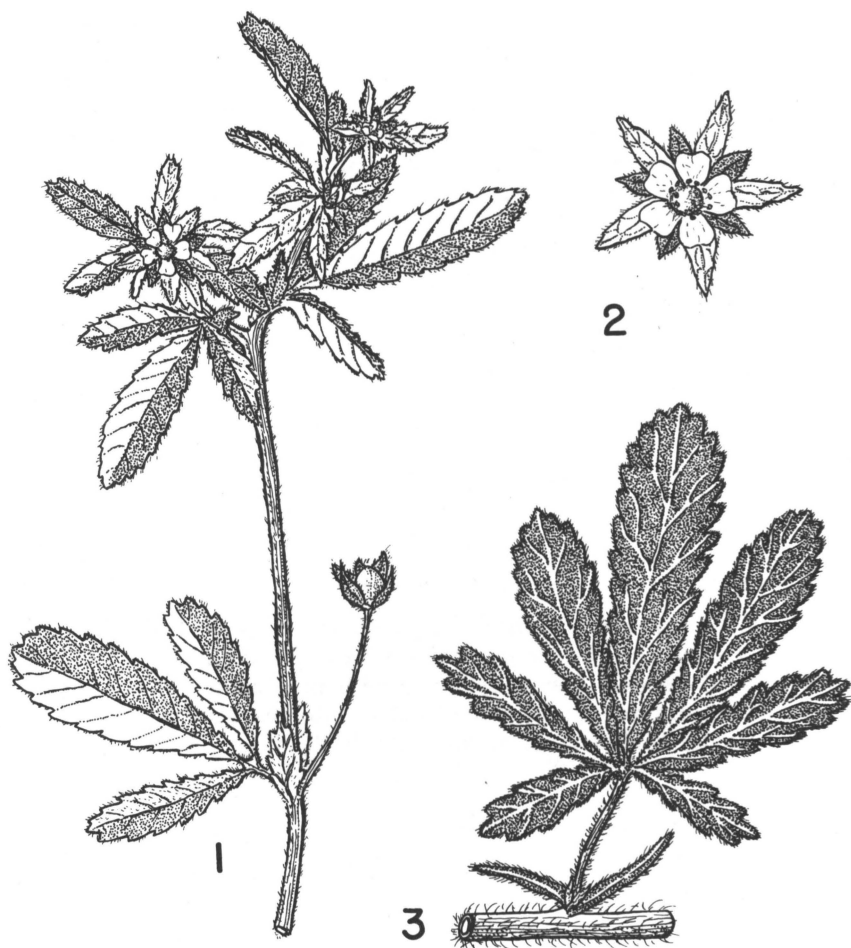


PLATE 42

Potentilla norvegica 1. Apex of plant x2/3. 2. Flower x1.
Potentilla recta 3. Leaf x2/3.

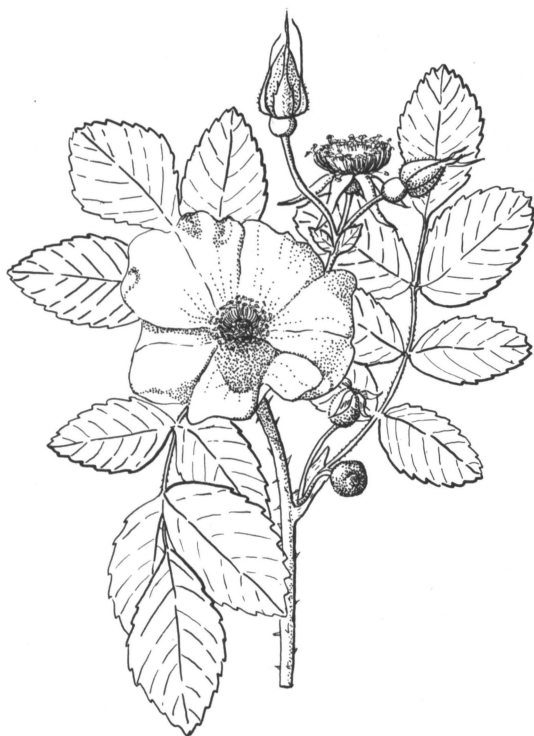


PLATE 43

Rosa sp. Flowering branch x2/3.

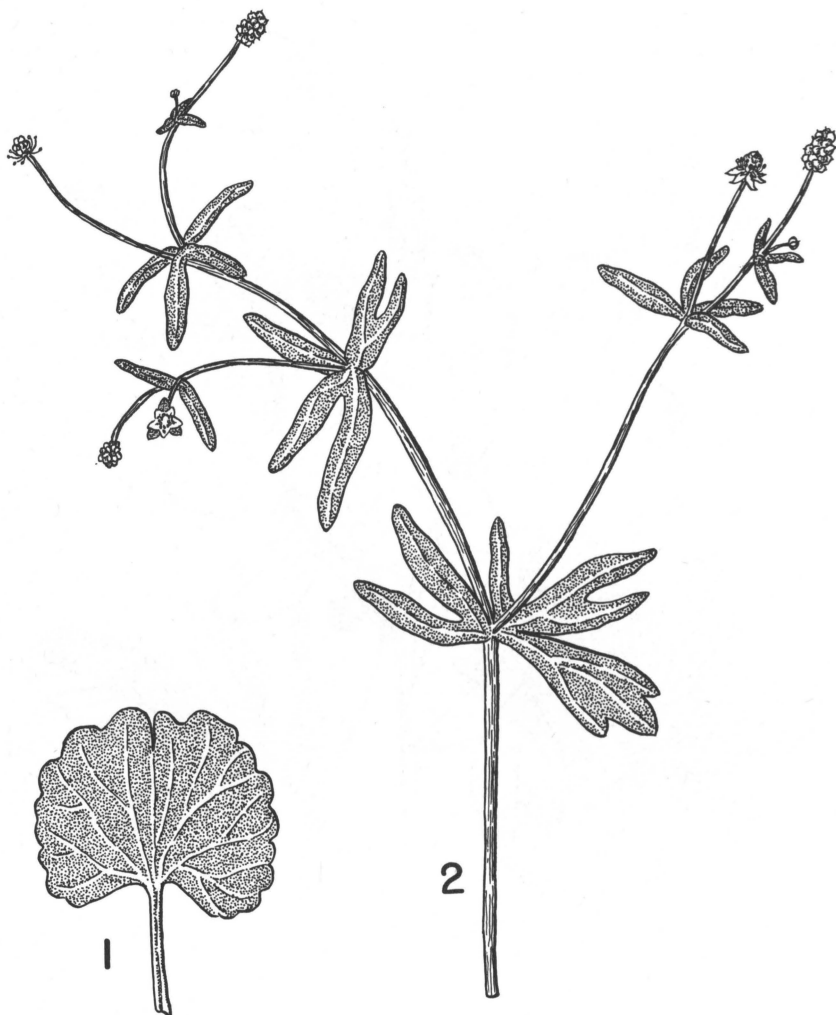


PLATE 44

Ramunculus abortivus 1. Basal leaf $\times 2/3$. 2. Apex of plant $\times 2/3$.

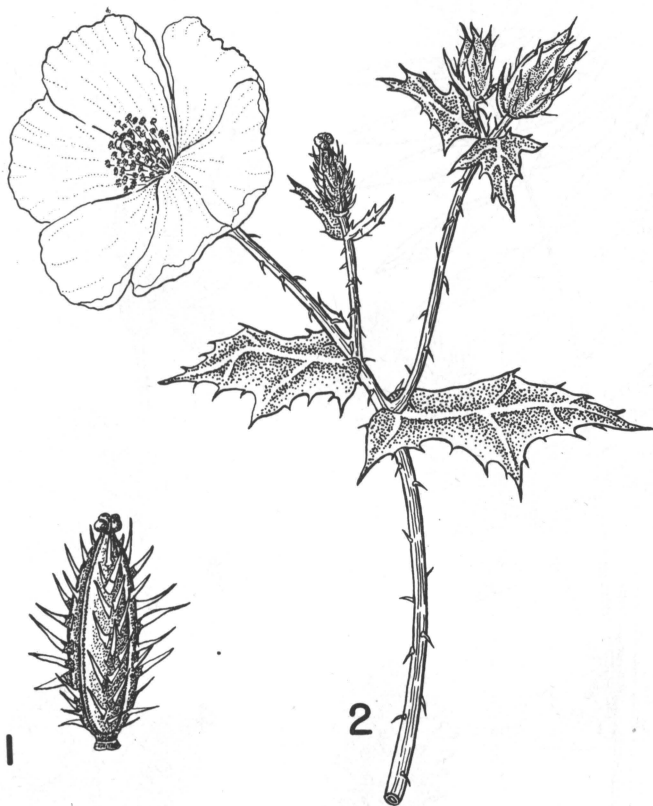


PLATE 45

Argemone polyanthemos 1. Fruit x2/3. 2. Flowering branch x2/3.

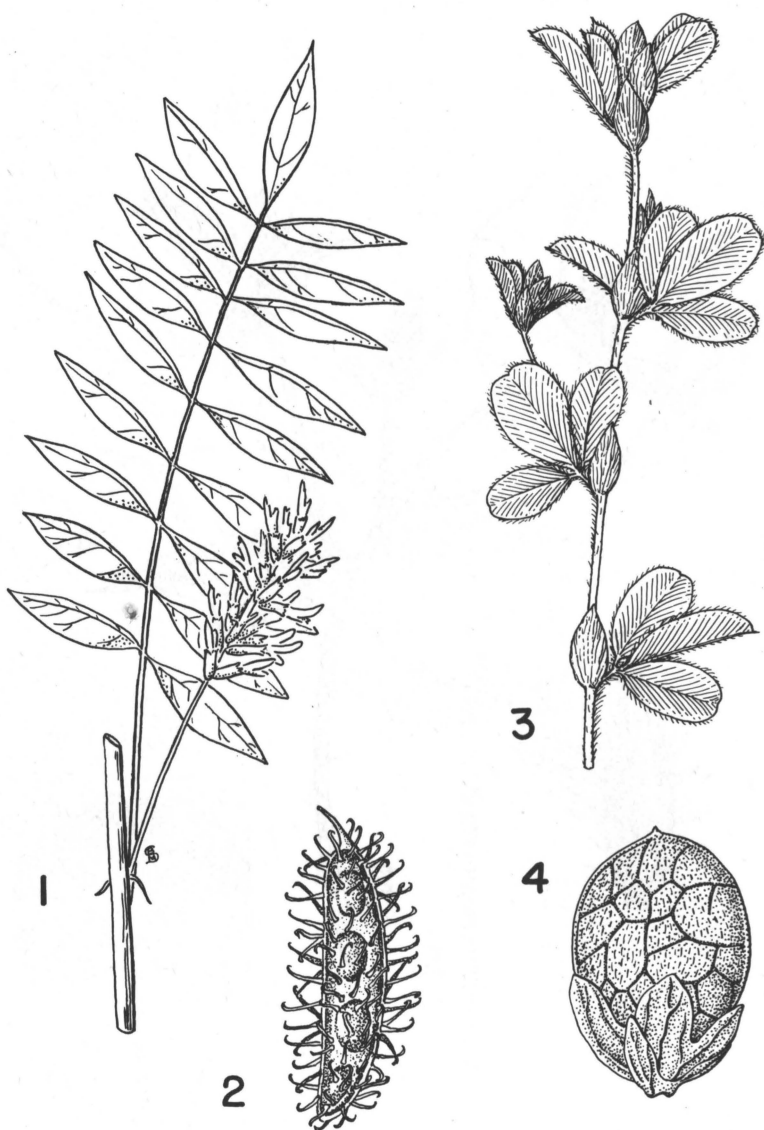


PLATE 46

Glycyrrhiza lepidota 1. Leaf and inflorescence x2/3. 2. Pod x2.
Lespedeza stipulacea 3. Habit x1 1/2. 4. Pod with investing calyx x10.

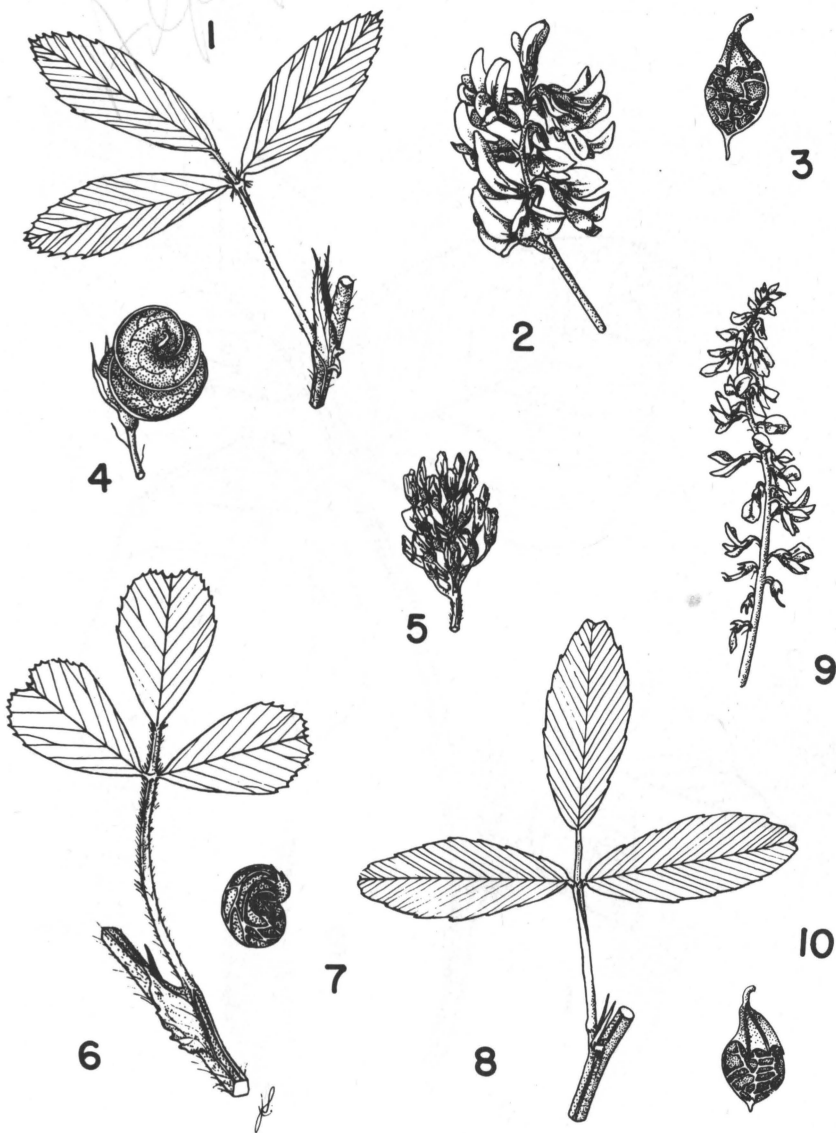


PLATE 47

- Medicago sativa* 1. Leaf and stipule x1 1/2. 2. Flower cluster x1 1/3. 4. Pod x2.
Medicago lupulina 5. Flower cluster x3. 6. Leaf and stipule x2. 7. Pod x5.
Melilotus alba 3. Pod x3.
Melilotus officinalis 8. Leaf and stipule x1 1/2. 9. Inflorescence fragment x1.
10. Pod x3.

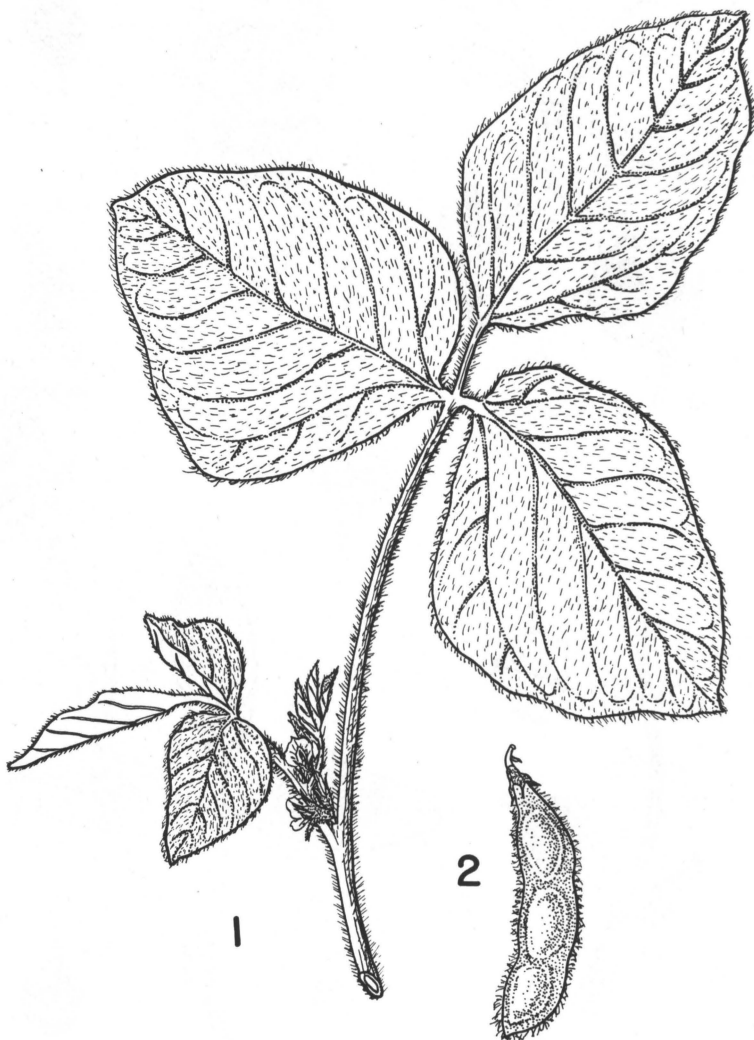


PLATE 48

Glycine max 1. Leaf $\times 2/3$. 2. Pod $\times 2/3$.

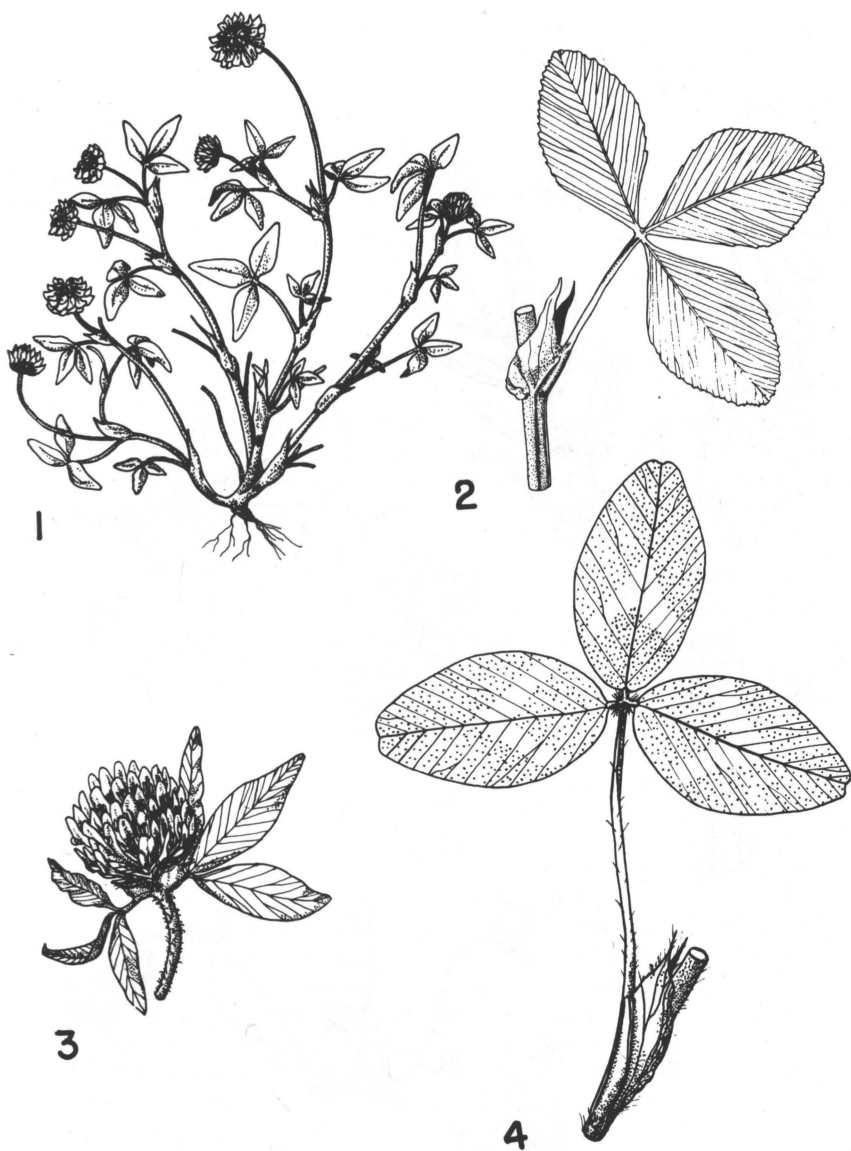


PLATE 49

Trifolium hybridum 1. Habit x1/3. 2. Leaf and stipule x1.

Trifolium pratense 3. Flower head x2/3. 4. Leaf and stipule x1.



PLATE 50

Vicia villosa 1. Inflorescence and leaf $\times 2/3$.
Lotus corniculatus 2. Flower cluster $\times 2/3$. 3. Leaf $\times 1\ 1/3$.
Trifolium repens 4. Flower head $\times 1$. 5. Habit $\times 1/3$.