WEEDS OF THE NORTHEAST

BY C. E. PHILLIPS
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AIDS TO THEIR IDENTIFICATION
BY
BASAL-LEAF CHARACTERISTICS

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The 340 weeds described and illustrated in this manual are all to be found in agricultural situations in the Northeastern States. A few of them are common only to the southern part of the region and a few others only to the northern part. The descriptions and drawings were made from plants which were for the most part collected by the authors. In collecting this material all states in the Northeast were visited.

In the descriptions the use of botanical terms has been avoided in so far as possible. Those that are used are illustrated on Page 2 by drawings. The leaf illustrations are not drawn to any particular scale and are not necessarily proportionate to each other. For the grasses, the illustration shows only a section of the blade and sheath at their juncture. This method of weed identification by leaf characteristics was first proposed by the senior author.

Using the Manual. In identifying any weed, a number of fresh plants should be examined. Select basal leaves of the shape that is most common on the plants. It is well to spread them out on a flat surface so that the shape and other characteristics can be readily determined. Turn to Page 3, Groups According to Leaf Characteristics. Starting with Group 1, proceed until a group is found that includes the shape of the leaf in hand. Where there are subgroups — A, B, C, etc.—check further details of the leaf with the subgroup descriptions until a matching one is found. Turn to the page where the weeds of this subgroup are illustrated and described. Compare the fresh leaf with the illustrations. After finding the illustration that seems to fit the leaf, check the description. Bear in mind that no two leaves are ever exactly alike. Some species vary considerably in shape and many also vary in hairiness. Some of these variations have been taken care of by separate illustrations of the same species in different groups and by showing the main varieties of some of the species separately. The use of some imagination, however, is necessary in comparing leaves with illustrations. If the leaf cannot be found in what seems to be the proper group, try the group next closest in shape and description. A magnifier should always be used to check descriptions.

Common names of weeds vary considerably even in different localities in the same state. The names here used have been more or less arbitrarily selected but all are in general use. For many of the weeds additional common names have been listed in the index.

Scientific names of weeds are more uniform than common names but frequently vary with the authority. The authorities used in this manual are as follows:


Positive identification of weeds may require the use of technical manuals that are beyond the scope of this publication. Help is readily available from most Agricultural Experiment Stations. When specimens are submitted for identification they should show all plant parts as well as different stages of development if feasible. Flowers and fruit are especially helpful. To prevent specimens from drying out they should be wrapped in plastic bags or rolled in sheets of plastic or foil. Do not add water.

1. Chairman, Emeritus, Department of Agronomy; and Assoc. Prof., Department of Plant Science, respectively; Univ. of Delaware.
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LEAF SHAPES

linear  lanceolate  oblanceolate  spatulate  oblong  ovate  obovate  triangular  sagittate

COMPOUND

hastate  roundish  reniform  cordate  rhombic  palmate  pinnate

LEAF MARGINS

pinnately lobed  dentate  crenate  entire  serrate  sinuate  palmately lobed

LEAF TIPS

obtuse  acute  acuminate  apiculate  rounded

GRASS LEAVES

rolled leaf
blade
ligule
auricles
sheath
collar
GROUPS ACCORDING TO LEAF CHARACTERISTICS

1. Leaves apparently absent ........................................... 6

2. Leaves awl-shaped or thread-like ............................... 6

3. Leaves long, slender, somewhat thickened, from a white underground bulb ........................................... 7

4. Leaves long, narrow, thin, grass-like

   A. Leaves 3-angled and arranged in 3 spirals at base .......... 7
   B. Leaves flat, ligule membranous, sheath round .............. 8
   C. Leaves flat, ligule membranous, sheath flattened .......... 9
   D. Leaves flat, ligule a fringe of hairs ....................... 11
   E. Leaves flat, ligule absent .................................... 13

5. Leaves linear

   A. Generally less than 1½ in. long .............................. 13
   B. Generally more than 1½ in. long ............................ 14

6. Leaf blades lanceolate to oval, not generally half as wide as long

   A. Less than 1½ in. long, smooth above ....................... 17
   B. Less than 1½ in. long, rough or hairy above ............. 18
   C. More than 1½ in. long, not toothed; smooth above ....... 20
D. More than 1½ in. long, not toothed; rough or hairy above
   1. With distinct petiole ........................................ 22
   2. Tapering to base (without distinct petiole) .............. 26
E. More than 1½ in. long, toothed, smooth above .......... 28
F. More than 1½ in. long, toothed, rough or hairy above
   1. With distinct petiole ........................................ 30
   2. Tapering to base (without distinct petiole) .............. 35

7. Leaf blades ovate, generally more than half as wide as long

A. Less than 1 in. long ............................................. 38
B. More than 1 in. long, not toothed on margin .............. 40
C. More than 1 in. long, toothed on margin, smooth above ... 42
D. More than 1 in. long, toothed on margin, rough or hairy above
   1. Petioles hairy or spiny ........................................ 42
   2. Petioles not hairy or spiny .................................... 45

8. Leaf blades triangular, sagittate or hastate .............. 47

9. Leaf blades roundish, cordate or reniform

A. Smooth above ..................................................... 48
B. Rough or hairy above ............................................ 50
10. Leaves pinnately lobed, not generally cut to midrib

A. Smooth above ........................................ 54
B. Rough or hairy above ................................. 56

11. Leaves pinnately lobed or cleft or compound, usually cut to midrib or almost

A. Smooth above ........................................ 58
B. Rough or hairy above ................................. 63

12. Leaves palmately parted or compound

A. Smooth above ........................................ 68
B. Rough or hairy above ................................. 70
1. Leaves apparently absent

1. Leaves in the form of cup-shaped toothed sheaths at the joints of the sterile stems only.

Plant a perennial reproducing by spores and creeping rootstocks; stems hollow, joined, tough and wiry, and of two types: fertile, whitish and unbranched with a cone-like fruiting head (coming up early in spring); sterile, green with clusters of branches arising at the joints, generally about 10 to 20 in. high. Apr.-July.

*Equisetum arvense* L. — field horsetail

Leafless, bearing a few minute scales instead of leaves.

Plant a threadlike, twining stemmed parasite without chlorophyll.

2. A. Stems yellow or orange, slender to coarse. Flower 1/8 in. long, white, waxy; scales within corolla long and fringed. Parasitic on very many hosts. July-Oct.

*Cuscuta gronovii* Willd. — swamp dodder


*Cuscuta epilinum* Weihe — flax dodder

4. C. Stems yellow or reddish, slender. Flower about 1/8 in. long, white or pinkish; scales within corolla toothed all around and curved inward. Parasitic on clover and alfalfa. June-Oct.

*Cuscuta epithymum* Murr. — clover dodder

5. D. Stems pale yellow, very slender. Flower 1/16 to 1/12 in. long, white; scales within corolla oval, deeply fringed all around. Parasitic on clover, alfalfa, lapesedeza and a number of uncultivated plants. June-Oct.

*Cuscuta campestris* Yunck. — field dodder

6. Leaves dry and scale-like, soon deciduous.

Plant prostrate to erect with flat, wide, jointed fleshy, spiny stems rooting freely at the joints. Flowers 2 to 3 in. across, yellow often with reddish center. Fruit pear-shaped, green to dull purple. June-July.

*Opuntia humifusas* Raf. — spreading prickly pear

2. Leaves awl-shaped or thread-like

7. Threadlike, 1/2 to 2 in. long, bright green, numerous, in whorls around each joint of the stem. Plant erect or ascending, branching at or near base; stems slender. Flowers about 1/4 in. across, in terminal clusters, white. May-Aug.

*Spergula arvensis* L. — corn spurry

8. Awl-shaped, 1/5 to 1 in. long, margins hairy.

Plant prostrate, spreading, branching, light green; stems 3 to 6 in. long. Flower minute, greenish. Mar.-Oct.

*Sclerantbus annuus* L. — knawel
3. Leaves long, slender, somewhat thickened, from a white underground bulb

9. Slender, 4 to 10 in. long, nearly round, grooved above, hollow at least toward base, attached to lower half of stem, garlic odor and taste.

Plant erect; single stem from a white bulb, 1 to 3 ft. high. Bulb with a thin and membranous coat. Aerial bulblets in cluster at top of stem, oval and smooth with shiny covering. Flower on short stems above aerial bulblets, many, greenish, rose or white. Reproducing from seed, aerial bulblets and underground bulblets. June.

Allium vineale L. — wild garlic

10. Slender, 4 to 15 in. long, flat, arising from base of plant only, garlic odor and taste.

Plant 1 to 2 ft. high. Old bulb with a fibrous-matted coat. Flowers few or none. Otherwise similar to A. vineale. May-June.

Allium canadense L. — wild onion

11. Slender, 6 to 10 in. long, about 1/8 in. wide, light green or white midrib, somewhat fleshy, arising from base of plant, no garlic odor or taste.

Plant 4 to 12 in. high; stems leafless, from a bulb. Flower 1 to 1 1/4 in. across, waxy, white, greenish without. May-June.

Ornithogalum umbellatum L. — star-of-Bethlehem

4A. Leaves long, narrow, thin, grass-like

3-angled and arranged in spirals of 3 at base

12. Grasslike 1/5 to 2/5 in. wide, 3-angled, closed sheaths, arranged in spirals of 3 at base, about as long as the 3-angled stem when mature.

Plant 8 to 36 in. high from tuberbearing weak stolons; stem 3-angled, yellowish. Flowers small, yellowish or yellowish-brown, arranged in narrow spikelets on an umbel-like inflorescence. Aug.-Oct.

Cyperus esculentus L. — yellow nutsedge

13. Grasslike, 1/8 to 1/4 in. wide, 3-angled, closed sheaths, arranged in spirals of 3 at base, shorter than 3-angled stem when mature.


Cyperus rotundus L. — purple nutsedge
4B. Leaves long, narrow, thin, grass-like
    flat, ligule membranous, sheath round

14. Leaves rolled; sheath round, split, usually hairy;
    auricles slender; collar distinct, divided, oblique; ligule,
    membranous, 1/50 to 1/25 in. long, toothed; blade 3 to
    12 in. long, 1/8 to 2/5 in. wide, sharp-pointed, rough
    above and generally hairy, smooth below.

    Plant green or glaucous; stems erect or curved at base,
    generally 20 to 40 in. tall; creeping yellowish rhizomes.
    June-Aug.

    *Agropyron repens* (L.) Beauv. — quackgrass

15. Leaves rolled; sheath round, split, prominently
    nerved; auricles absent; collar broad, divided; ligule
    membranous, 1/16 to 1/10 in. long; blade 4 to 16 in.
    long, 1/8 to 2/5 in. wide, flat, sharp-pointed; series of
    corms below ground.

    Plant erect, 3 to 5 ft. tall. June-July.

    *Arrhenatherum elatius* L. var. *bulbosum* (Willd.) Spren-
    ner — tuber oatgrass

16. Leaves rolled; sheath round, smooth or sometimes
    hairy; auricles absent or very small; collar broad,
    divided, often with long dense hairs on margin; ligule
    membranous, 1/12 in. long, hairy at top; blade 2 to 8 in.
    long, 1/8 to 1/3 in. wide, sparsely hairy at base, margins
    rough, sweet scented.

    Plant erect, tufted; stems slender, 12 to 24 in. high.
    May-July.

    *Anthoxantum odoratum* L. — sweet vernalgrass

17. Leaves rolled; sheath round, hairy, closed, promi-
    nently veined; auricles absent; collar narrow, divided;
    ligule membranous, 1/25 to 1/12 in. long; blade 4 to 8
    in. long, 1/10 to 1/3 in. wide, long, sharp-pointed, hairy
    above and below.

    Plant erect; stems 12 to 24 in. high. June-July.

    *Bromus commutatus* Schrad. — hairy chess

18. Leaves rolled; sheath round, closed, smooth; auricu-
    les absent; collar broad, divided; ligule membranous,
    1/8 in. long, toothed; blade 3 to 10 in. long, 1/10 to 1/4
    in. wide, sharp-pointed, long white hairs above, short
    white hairs below.

    Plant erect; stems 12 to 24 in. high. July-Aug.

    *Bromus secalinus* L. — cheat
19. Leaves rolled; sheath round, keeled, softly hairy, prominently veined, split part way only; auricles absent; collar hairy, narrow, usually divided; ligule membranous, 1/16 to 1/8 in. long, torn or coarsely hairy at top; blade 2 to 5 in. long, 1/6 to 1/3 in. wide, flat, soft hairs above and below and on margin.

Plant erect or spreading, somewhat purplish tinged; stems to 24 in. high. May-July.

*Bromus tectorum* L. — downy brome

20. Leaves rolled; sheath round, pale green or pink-tinted at base, lower generally hairy, split; auricles absent or very small; collar broad, pale green sometimes purplish; ligule membranous, 1/50 to 1/25 in. long; blade 2 to 6 in. long, 1/12 to 1/4 in. wide, flat or U-shaped, light bluish green, hairy above, margins slightly rough.

Plant erect, densely tufted, 12 to 28 in. high; inconspicuous rhizomes. June-Aug.

*Hordeum jubatum* L. — foxtail barley

21. Leaves rolled; sheath round, densely hairy, split; auricles absent; collar distinct, oblique; ligule membranous, 1/25 in. long; blade 1 to 3 in. long, 1/6 to 2/5 in. wide, flat, sparse very short hairs above.

Plant erect, tufted, 3 to 14 in. high. Late May-June.

*Hordeum pusillum* Nutt. — little barley

4C. Leaves long, narrow, thin, grass-like

Flat, ligule membranous, sheath flattened

22. Leaves folded; sheath much flattened, long hairy on margins; auricles absent; collar narrow, hairy or tufted at the edges, divided by the broad keeled midnerves; ligule membranous, hairy, 1/30 in. long; blade 6 to 16 in. long, 1/8 to 1/6 in. wide, flat, hairy near base above, margins hairy and rough.

Plant a coarse tufted perennial with solid stems 20 to 40 in. high. Sept.-Oct.

*Andropogon virginicus* L. — broomsedge

23. Leaves rolled; sheath flattened, smooth or basal ones sometimes sparsely hairy, split, tinted pink or purple; auricles absent; collar broad, few long hairs on margin, often divided; ligule membranous, 1/12 to 1/8 in. long; blade 1 to 4 in. long, 1/12 to 1/4 in. wide, flat, sparsely hairy at base above.

Plant erect or usually soon decumbent, branching, rooting at the nodes; stems to 16 in. long. Aug.-Oct.

*Digitaria ischaemum* (Schreb.) Muhl. — smooth crabgrass
24. Leaves rolled; sheath flattened, hairy, split; auricles absent; collar broad, divided; ligule membranous, 1/50 to 1/12 in. long, acute, toothed; blade 2 to 6 in. long, 1/6 to 2/5 in. wide, sharp-pointed, hairy above and below, midrib prominent below.

Plant branching and spreading, often purplish, rooting at the decumbent base; stems as much as 3 ft. long. Aug.-Oct.

*Digitaria sanguinalis* (L.) Scop. — large crabgrass

25. Leaves folded; sheath flattened, split, hairy along margins; auricles absent; collar broad, continuous; ligule membranous, 1/25 in. long; blade 2 to 10 in. long, 1/8 to 1/3 in. wide, blunt, margins rough hairy.

Plant branching at base, ascending to prostrate; stems compressed, usually less than 20 in. long. June-Oct.

*Eleusine indica* (L.) Gaertn. — goosegrass

26. Leaves rolled; sheath flattened, white or pale with pink nerves, densely hairy; auricles absent; collar hairy; ligule membranous, 1/25 to 1/12 in. long, coarsely toothed; blade about 6 in. long, 1/6 to 1/3 in. wide, grayish velvety-hairy above and below.

Plant erect, grayish velvety-hairy, 12 to 24 in. high. June-July.

*Holcus lanatus* L. — velvetgrass

27. Leaves rolled; sheath flattened, split, smooth; auricles absent; collar wide, few hairs on margin, often divided; ligule membranous, about 1/50 in. long; blade 2 to 6 in. long, 1/6 to 2/5 in. wide, sharp pointed, rough above and below.

Plant branching, spreading and decumbent at base; stems wiry, rooting at lower nodes, to 18 in. long. Aug.-Sept.

*Muhlenbergia schreberi* J. F. Grnrl. — nimblewill

28. Leaves rolled; sheath flattened, hairy on margins and toward top; auricles absent; collar narrow, sparingly hairy at top; ligule membranous, 1/20 to 1/10 in. long, sharp pointed; blade 2 to 12 in. long, 1/8 to 2/5 in. wide, folded at base, flat above, smooth or sparingly hairy above, margins rough.

Plant erect or ascending, 16 to 36 in. high, usually with several leafy shoots at base. July-Oct.

*Paspalum laeve* Michx. — field paspalum
29. Leaves folded; sheath flattened, split part way only; auricles absent; collar distinct, V-shaped; ligule membranous, white, 1/25 to 1/8 in. long, acute; blade 1 to 3 in. long, 1/16 to 1/6 in. wide, flat or V-shaped at base, boat-shaped tip.

Plant erect or spreading, bright green, sometimes rooting at lower nodes, 2 to 8 in. high. April-May.

Poa annua L. — annual bluegrass

30. Leaves rolled; sheath flattened, hairy at nodes, split; auricles absent; collar broad, continuous; ligule membranous, 1/6 to 1/4 in. long; blade 6 to 20 in. long, 1/3 to 1 in. wide, sharp pointed, smooth or hairy at base above, margins rough.

Plant erect, from creeping scaly root-stocks, 2 to 6 ft. high. July-Sept.

Sorghum baleense (L.) Pers. — johnsongrass

4D. Leaves long, narrow, thin, grass-like, flat, ligule a fringe of hairs

31. Leaves folded; sheath loose, flattened, shorter than internodes, margins hairy; auricles absent; collar broad, sparingly long hairy; ligule a fringe of hairs, about 1/25 in. long; blade to 4 in. long, 1/10 to 1/8 in. wide, rough above and on margin.

Plant much branched, ascending or spreading, 12 to 30 in. long. July-Aug.

Cenchrus pauciflorus Benth. — field sandbur

32. Leaves folded; sheath flattened, sparsely hairy; auricles absent; collar narrow, continuous; ligule a conspicuous ring of white hairs, 1/12 to 1/8 in. long; blade 4 to 8 in. long, 1/10 to 1/8 in. wide, sparingly hairy, sharp-pointed.

Plant erect or ascending, extensively creeping by scaly rhizomes or strong flat stolons; stems wiry, flattened, 4 to 16 in. high. July-Sept.

Cynodon dactylon (L.) Pers. — bermudagrass

33. Leaves folded; sheath round, usually long hairy, split with rough margins; auricles absent; collar narrow, long hairy on margins; ligule a fringe of hairs, to 1/25 in. long; blade 2 to 6 in. long, 1/12 to 1/8 in. wide, flat, generally sparsely long hairy but often smooth, upper surface dull green, lower bright green.

Plant erect, generally not more than 20 in. high; leaves at base of plant usually curled or flexuous. June-Aug.

Danthonia spicata (L.) Beauv. — poverty oatgrass
34. Leaves rolled; sheath slightly flattened, long hairy at top of split; auricles absent; collar narrow, conspicuous long hairs in front; ligule a fringe of hairs; blade 1/12 to 1/4 in. wide, dull and sometimes sparsely hairy above, glossy below.

Plant ascending or spreading, much branched at base and nodes, to 20 in. high, strong scented. June-Sept.

Eragrostis cilianensis (All.) Lutati — stinkgrass

35. Leaves rolled, sheath round, hairy, split, dull green often purple tinged; auricles absent; collar broad, sometimes indistinct, hairy; ligule a fringe of hairs, 1/25 to 1/12 in. long; blade 3 to 8 in. long, 1/3 to 3/5 in. wide, densely short hairy above and below, midrib prominent, margins rough.

Plant erect, somewhat branched; stems thick, to 3 ft. high. Aug.-Oct.

Panicum capillare L. — witchgrass

36. Leaves rolled; sheath slightly flattened, split, smooth; auricles absent; collar broad, continuous; ligule a dense fringe of hairs, 1/25 to 1/12 in. long; blade 4 to 20 in. long, 1/8 to 3/4 in. wide, sharp-pointed, rough and sometimes hairy above, glossy below with white midrib.

Plant ascending or spreading, freely branching; stems thick and flattened, to 6 ft. high. July-Sept.

Panicum dichotomyflorum Michx. — fall panicum

37. Leaves rolled; sheath round or slightly flattened, split, hairy on margins; auricles absent; collar broad, continuous; ligule a fringe of short hairs; blade to 8 in. long, 1/6 to 2/5 in. wide, sharp pointed, midvein prominent, hairy above, margins rough.

Plant erect, to 5 ft. tall; head conspicuously nodding. June-Sept.

Setaria faberii Herrm. — giant foxtail

38. Leaves rolled; sheath much flattened, smooth, split; auricles absent; collar narrow, continuous; ligule a fringe of hairs, 1/25 in. long or less; blade 2 to 12 in. long, 1/6 to 2/5 in. wide, sharp pointed, waxy film, long hairs near base above.

Plant erect, branching at base, 20 to 40 in. high. June-Oct.

Setaria glauca (L.) Beauv. — yellow foxtail
39. Leaves rolled; sheath round or slightly flattened, split, hairy on margins; auricles absent; collar broad, continuous; ligule a fringe of hairs, 1/25 to 1/12 in. long; blade to 8 in. long, 1/6 to 2/5 in. wide, sharp-pointed, midvein prominent, slightly rough above, margins rough.

Plant erect, branching at base, 8 to 35 in. high. May-Sept.

*Setaria viridis* (L.) Beauv. — green foxtail

40. Leaves rolled; sheath somewhat flattened, hairy near top of split; auricles absent; collar broad, hairy; ligule a minute fringe of hairs; blade to 8 in. long, 1/4 to 1/2 in. wide, hairy above, almost smooth below, margin slightly rough.


*Triodia flava* (L.) Smyth — purpletop

4E. Leaves long, narrow, thin, grass-like, flat, ligule absent

41. Leaves rolled; sheath flattened, split, smooth; auricles absent; collar broad, continuous; ligule absent; blade 4 to 12 in. long, 1/3 to 3/5 in. wide, smooth, keeled.

Plant erect to decumbent, branching from base; stems thick and fleshy, to 4 1/2 ft. high. Aug.-Oct.

*Echinochloa crusgalli* (L.) Beauv. — barnyardgrass

5A. Leaves linear, generally less than 1 1/2 in. long

42. Linear or oblong, 2/5 to 1 in. long, powdery bloom and creased at midrib above, keeled below, rather thick.

Plant erect, 6 to 12 in. high; stems thickly clustered, scaly at base, juice milky; creeping rootstocks. Flower small, greenish or yellowish, having petals fused in the form of a cup, growing in a terminal whorl of yellowish floral bracts that turn purplish at maturity. May-Sept.

*Euphorbia cyparissias* L. — cypress spurge

43. Narrowly linear to lanceolate, 1/5 to 1 1/3 in. long, sharp-pointed, smooth above, granular below, thickish.

Plant 5 to 30 in. high; stems smooth, very slender. Flower 1/4 to 1/3 in. long, pale violet or lavender. May-Sept.

*Linaria canadensis* (L.) Dumont — oldfield toadflax
44. Linear, 1/4 to 1 in. long, sharply acuminate, very short rough hairy above and below and on margin, in whorls of 6 or 8.

Plant 8 to 30 in. high, creeping; stem very short-hairy or smooth, 4-sided. Flower minute, yellow. May-Sept.

*Galium verum* L. – yellow bedstraw

45. Linear or lanceolate, 1/2 to 1 1/2 in. long, acute or obtuse, 1 nerved, rough above with sharp stiff hairs, whitish short hairy below, margin short hairy.

Plant 6 to 20 in. high; stem branching, densely rough-hairy. Flower 1/4 in. long, white. May-Aug.

*Lithospermum arvense* L. – corn gromwell

46. Linear to linear-lanceolate, 3/4 to 2 in. long, acute to acuminate, smooth with glistening granules above and below, base sometimes with a few hairs.

Plant 6 to 20 in. long; stem more or less prostrate, 4-angled. Flower 1/3 to 1/2 in. across, white. May-July.

*Stellaria graminea* L. – little starwort

5B. Leaves linear, generally more than 1 1/2 in. long

47. Linear, 1 1/4 to 3 1/4 in. long, bristle-pointed, stiff hairy above, stiff clinging spines on midvein below and on margins, in whorls of 6 to 8.

Plant 2 to 5 ft. long; stem sharply 4-angled, weak, reclining, barbed on angles, hairy at joints. Flowers minute, white. May-Sept.

*Galium aparine* L. – catchweed bedstraw

48. Linear-lanceolate, 1/2 to 2 in. long, acute, bloom of minute granules above and below, widest at or above middle, thin.

Plant 8 to 24 in. high, erect; stem scaly at base, smooth above, juice milky; upper leaves on branches reniform cordate, acuminate, yellowish-green. Flowers small, greenish yellow. May-Sept.

*Euphorbia esula* L. – leafy spurge

49. Linear, 1 to 2 1/2 in. long, usually not more than 3/16 in. wide, acuminate, rough above and on margin.

Plant 1 to 2 1/2 ft. high; stems slender and stiff. Flowers' bright purple, about 1 in. long. July-Sept.

*Gerardia purpurea* L. – purple gerardia
50. Linear lanceolate, to 1 1/2 in. long, 1/8 to 1/4 in. wide, bristle pointed, rounded or narrow at base; rough and short-hairy above, short-hairy below and on margin.
Plant spreading; stem squarish, hairy. Flowers very small, pink or white. June-Oct.

Diodia teres Walt. — poorjoe

51. Linear, 1 to 4 in. long, acute, punctuate-dotted and rough above and below.

Eupatorium hyssopifolium L. — hyssopleaved thoroughwurt

52. Narrowly lanceolate, 1 to 4 in. long, serrate, acute, punctuate dotted and very short-hairy above, very short-hairy below and on margin.

Eupatorium hyssopifolium L. var. laciniatum Gray — hyssopleaved thoroughwurt

53. Linear, to 4 in. long, acute, smooth above and below, margin slightly rough.
Plant 2 to 5 ft. high, bushy. Flowers 1/4 to 1/2 in. across, white or pale violet. Mid-Aug.-Oct.

Aster vimineus Lam. — small white aster

54. Linear, 1 1/4 to 2 1/2 in. long, narrowed to a petiole-like base, powdery bloom below with midvein prominent, margins thickened.
Plant upright, slender, 1 to 2 ft. high. Flowers about 1 in. long, yellow and orange. June-Oct.

Linaria vulgaris Hill — yellow toadflax

55. Linear lanceolate, 1 to 3 in. long, 1/6 to 1/3 in. wide, acute to acuminate, very short hairs above, white woolly below with midrib prominent, fragrant.
Plant erect, generally 1 to 3 ft. high. Flowers tubular, densely crowded together, white. Aug.-Nov.

Gnaphalium obtusifolium L. — fragrant cudweed
56. Linear to lanceolate, 2 to 5 in. long, acute to acuminate, smooth above, white wooly hairs below.
Plant 1 to 3 ft. high; stem white wooly; upper leaves white wooly above. Flower 1/3 in. across, in clusters 2 to 8 in. across, white with yellowish center. July-Sept.

*Anaphalis margaritacea* (L.) C.B. Clarke — pearly everlasting

57. Linear, to 7 in. long, 3/8 in. or less wide, ribbed, narrowed to margined semi-clasping petioles, rather thick, loosely hairy or smooth above, long-hairy towards base below.
Plant with unbranched leafless stems with a spike-like head, narrow leaf-bracts giving the head a bristly appearance. June-Nov.

*Plantago aristata* Michx. — bracted plantain

58. Narrowly lanceolate, 1 to 6 in. long, 1/6 to 1/2 in. wide, 3 nerved, tapering to sharp point, very short hairs above and below, margin very short-hairy and rough.
Plants 2 to 4 ft. high. Flowers very small, fragrant, crowded together, yellow. Aug.-Oct.

*Solidago graminifolia* (L.) Salis. var. nuttallii (Greene) Fern. — narrowleaf goldenrod

59. Linear, to about 5 in. long, sometimes with a few teeth, webby hairs above and below.
Plant upright, 8 to 48 in. high; stem somewhat angled and webby-hairy. Flower about 1 1/2 in. across, blue, purple or occasionally white. May-Sept.

*Centaurea cyanus* L. — cornflower

60. Linear to linear-lanceolate, 1 to 3 1/2 in. long, acute, smooth with granular bloom above and below.
Plant 8 to 30 in. high; stem slender, branching above, downy-hairy at nodes. Flower about 1/2 in. across, pink or rose, white spotted. May-July.

*Dianthus armeria* L. — Deptford pink

61. Linear or narrowly oblong, 1 to 3 in. long, rounded, smooth above and below, margin rough, faintly 3 nerved.
Plant 8 to 24 in. high; stem smooth, slender, branched at top. Flower about 1/2 in. across, 4 or 5 narrow white petals. June-Sept.

*Aster solidagineus* Michx. — whiteropped aster
6A. Leaves lanceolate to oval, blades not generally half as wide as long
Less than 1 1/2 in. long, smooth above

62. Narrowly oblanceolate to nearly linear, 2/5 to 4/5 in. long, acute or apiculate, 1 nerved, in whorls of 8 (sometimes 7, 9, or 10), smooth above and below, margin rough.
Plants 1 to 3 ft. long; stems 4-angled, weak, forming dense masses. Flowers very small, white. June-Aug.
*Galium mollugo* L. – yellow bedstraw

63. Lanceolate or oblanceolate, generally less than 1 1/2 inches long, thick, smooth with shining granules above and below, lighter colored below, margin short-hairy.
Plants 8 to 30 in. high; stem slender, sticky below joints. Flowers small, pink, open only in bright sunlight. May-Sept.
*Silene antirrhina* L. – sleepy catchfly

64. Elliptic to linear oblong, 4/5 to 1 1/5 in. long, rarely 2/5 in. wide, obtuse, smooth above with clear dots.
Plant 10 to 30 in. high; stiff stems. Flowers to 1 in. across, golden yellow. June-Sept.
*Hypericum perforatum* L. – St. Johnswort

65. Lanceolate to ovate, 1/2 to 1 1/4 in. long, obtuse, smooth above and below.
Plants 6 to 30 in. long; stems weak, often reddish. Flowers 1/4 in. or less across, pale orange. July-Sept.
*Hypericum mutilum* L. – dwarf St. Johnswort

66. Oblong-elliptic to narrowly oblong-ovate, 1 to 2 in. long, more than 2/5 in. wide, smooth above and below, covered with numerous small black dots.
Plants 1 to 3 ft. high, sparingly branched; stems often reddish. Flowers 1/3 to 2/3 in. across, yellow marked with dark lines and spots. June-Sept.
*Hypericum punctatum* L. – spotted St. Johnswort

67. Lanceolate, 2/5 to 1 1/4 in. long, acute to obtuse, powdery bloom below, veinless or inconspicuously veined.
Plants 4 to 20 in. long, prostrate, branching, forming dense mats. Flowers very small, greenish to white. June-Nov.
*Polygonum aviculare* L. – prostrate knotweed
68. Narrowly to broadly spatulate, 2/5 to 1 1/4 in. long, tapering to a scarcely noticeable petiole, dull and paler below, thick, in whorls of 3 to 8.
Plants to 12 in. long, prostrate, forming mats. Flowers very small, white. June-Nov.
*Mollugo verticillata* L. — carpetweed

69. Obovate or wedge-shaped, 2/5 to 1 3/4 in. long, obtuse or rounded, deeper green above, glistening granules below, thick, somewhat sorrel tasting.
Plants prostrate, 3 to 12 in. long, thick, often tinged with red. Flowers 1/4 in. across, yellow, open only in sunshine. June-Nov.
*Portulaca oleracea* L. — common purslane

70. Obovate to oblong, 1/2 to 2 in. long, obtuse, smooth, pale green, long petiole.
Plant 1 to 3 ft. high, much branched; stems greenish white. Flowers very small, green. July-Oct.
*Amaranthus albus* L. — tumble pigweed

6B. Leaves lanceolate to oval, blades not generally half as wide as long

Less than 1 1/2 in. long, rough or hairy above

71. Lanceolate to oblong, about 3/5 in. long, 1/5 in. wide, rough and short-hairy above, short-hairy below, margin short-hairy and sometimes few toothed.
Plant slender, simple or branched with basal rosette of leaves, to about 1 1/2 ft. high. Flowers about 1/2 in. across, white. March-June.
*Arabidopsis thaliana* (L.) Heynh. — mouseearcress

72. Oblanceolate or spatulate, to about 4/5 in. long, acute, long-hairy above and below, margin hairy.
Plant to 5 or 6 in. high, all leaves in basal rosette. Flowers 1/8 to 1/6 in. across, white. March-early June.
*Draba verna* L. — whitlowwort
73. Oblong to spatulate, 2/5 to 1 in. long, obtuse to rounded, dull and hairy above, hairy below, feebly veined.

Plants 6 to 18 in. high; stems weak, sticky-hairy. Flowers white with petals about 1/4 in. long. Early spring-late summer.

*Cerastium vulgatum* L. — mouseear chickweed

74. Narrowly elliptic to oblong, 1 to 2 1/2 in. long, acute, short hairy above and on midvein below, margin rough.

Plant spreading or prostrate; stems 8 to 30 in. long, short-hairy. Flower about 2/5 in. long, white. June-Sept.

*Diodia virginiana* L. — Virginia buttonweed

75. Oblong to ovate-oblong, 1/2 to 1 1/4 in. long, about 1/2 as wide as long, finely serrate, long-hairy and dark green and often with red spot above, long-hairy and pale below.

Plants 6 in. to 3 ft. high; stems erect and spreading, branching with milky juice. Flowers minute, white or reddish. June-Oct.

*Euphorbia maculata* L. — spotted spurge

76. Ovate to oblong, 1 to 2 in. long, obtuse to acute, dentate, short-hairy above and below and on margin.

Plant 1 to 3 ft. high; stem few-branched, sticky-soft-hairy. Flower 1/2 to 1 in. long, bright blue. Aug.-Oct.

*Lobelia puberula* Michx. — downy lobelia

77. Lanceolate, 3/4 to 1 1/2 in. long, acute, sharply and minutely dentate, sparsely long-hairy above and on principal veins below.

Plants 1 to 2 ft. high, branched; stem very hairy. Flowers about 1 in. across, pale purple. Late June-early Sept.

*Rhexia mariana* L. — Maryland meadow-beauty

78. Ovate-lanceolate, leaves about 1 1/2 in. long, acute, minutely dentate, sparsely long-hairy above and on principal veins below.

Plants 10 to 18 in. high; stem square, more or less hairy. Flowers 1 to 1 1/2 in. across, bright purple. July-Sept.

*Rhexia virginica* L. — meadow-beauty
79. Ovate, 1 to 2 in. long, obtuse, serrate, soft short hairs above and below, margin hairy, petiole hairy.

Plant 3 to 10 in. long, stem softly hairy, reclining but with end ascending, rooting at nodes. Flower 1/6 to 1/4 in. across, pale blue striped with violet. May-Aug.

*Veronica officinalis* L. — common speedwell

6C. Leaves lanceolate to oval, blades not generally half as wide as long

More than 1 1/2 in. long, not toothed, smooth above

80. Oblong, 1 1/4 to 2 1/2 in. long, rounded, smooth above and below, dark green above, whitish bloom below.

Plant 1 to 3 ft. high; stems usually 5-branched above, juice milky. Flowers 1/4 in. across, white. June-Oct.

*Euphorbia corollata* L. — flowering spurge

81. Lanceolate to oblong, 1 1/2 to 3 1/2 in. long, acute, smooth above and below, in pairs.

Plant to 6 ft. or more long; stem climbing or trailing, broadly winged. Flower 3/4 to 1 in. long, purple, pink or white. June-Sept.

*Lathyrus latifolius* L. — everlasting pea

82. Narrowly lanceolate, to 10 in. long (including petiole), tapering to both ends, smooth above, 3 to 5 ribs projecting below, margin very indistinctly toothed.

Plants 1 to 3 ft. high, all leaves in basal rosette. Flowers in a spike. May-Oct.

*Plantago lanceolata* L. — buckhorn plantain

83. Lanceolate, to 4 in. long, acute, margin wavy and short-hairy, smooth above and below, thin, crisp, very peppery tasting.

Plant 1 to 2 ft. high, erect; stem reddish. Flowers small, in clusters, green. June-Oct.

*Polygonum hydropiper* L. — marshpepper smartweed
84. Lanceolate, 3 to 8 in. long, acute, smooth above and below, usually punctate dotted, margin short-hairy, short petiole gradually broadened at base.
_Polygonum punctatum_ Ell. — dotted smartweed

85. Elliptic-lanceolate to elliptic-ovate, 3 to 4 in. long, 3/4 to 1 1/2 in. wide, acute, smooth above and below, 3 nerved.
Plant 1 to 2 ft. high; stem stout, thick, jointed. Flowers 1 in. across, pink or white. July-Sept.
_Saponaria officinalis_ L. — bouncingbet

86. Lanceolate, 1 to 3 in. long, acute, smooth above and below, midvein prominent below, other veins inconspicuous.
Plant about 2 ft. high. Flowers 1 in. across, white, with the calyx conspicuously bladdery-inflated. Apr.-Aug.
_Silene cucubalus_ Wibel — bladder campion

87. Lanceolate, 1 1/2 to 4 in. long, acute, smooth above and below, margin rough, finely translucent, punctate dotted, anise-scented when bruised.
Plants 2 to 4 ft. high; stems slender. Flowers golden yellow. Early July-Sept.
_Solidago odora_ Ait. — sweet goldenrod

88. Lanceolate, 8 to 16 in. long, acute, granular bloom above, midrib and veins prominent below, margins minutely jagged and prominently curly and wavy, somewhat sour tasting.
Plants 1 to 3 1/2 ft. high. Flowers in clusters, dark green. June-Sept.
_Rumex crispus_ L. — curly dock

89. Oblong-lanceolate to elliptic, to 9 in. long (including petiole), smooth above and below, midvein prominent below, petiole margined.
Plant to 4 1/2 ft. high; stems often purple and somewhat glaucous, smooth and shining. Flower 4/5 to 1 in. long, white or purple-tinged. May-July.
_Penstemon digitalis_ Nutt. — digitalis penstemon
90. Lanceolate, 1 1/2 to 5 in. long, acute to acuminate, may be rough above, smooth below, margin rough, sheath clasping stem.

Plant erect or decumbent; stem smooth, rooting at lower nodes. Flower 2/5 to 3/5 in. long, violet blue. June-Oct.

*Commelina communis* L. — dayflower

91. Oval to lanceolate, 2 to 5 in. long, acute, smooth above, sparingly short-hairy below, juice milky.

Plant 1 to 5 ft. high; stem reddish. Flower 1/8 to 1/6 in. long, greenish white. June-Aug.

*Apocynum cannabinum* L. — hemp dogbane

6D1. Leaves lanceolate to oval, blades not generally half as wide as long

More than 1 1/2 in. long, not toothed, rough or hairy above

With distinct petiole

92. Oval to lanceolate, 2 to 5 in. long, acute, short hairs above, dense whitish hairs below, short petiole, juice milky.

Plant 1 to 5 ft. high; stems reddish. Flower 1/8 to 1/6 in. long, greenish white. June-Aug.

*Apocynum cannabinum* L. — hemp dogbane

93. Lanceolate, 2 1/2 to 5 in. long, acute, short-hairy above and below, margin short-hairy and turned down.

Plant 2 to 4 ft. high, branching; stems slender. Flowers 1/6 to 1/4 in. across, rose-purple. July-Sept.

*Asclepias incarnata* L. — swamp milkweed

94. Ovate to obovate, 1 1/2 to 6 in. long, acute to obtuse, rough above and below and on petiole, margin rough and generally wavy.

Plant 6 in. to 6 ft. high; stem rough, generally branching. Flower 1 to 3 1/2 in. wide, petals yellow, center flat, reddish-purple. June-Oct.

*Helianthus petiolaris* Nutt. — prairie sunflower
95. Elliptic to ovate-oblong, 4 to 6 in. long, obtuse or acute, apiculate, minutely hairy above, velvety-downy below, midrib very prominent below.

Plant 2 to 4 ft. high; stems stout, usually unbranched. Flowers 1/2 in. long, dark purple. Late May-July.

Asclepias purpurascens L. — purple milkweed

96. Narrowly to broadly elliptic or oblong, 4 to 6 in. long, acute, thick, very short hairs above, soft hairs below, short hairs on margin.

Plant 3 to 5 ft. high; stems stout, soft-downy above. Flower 1/4 to 1/3 in. long, fragrant, dull purplish. June-Aug.

Asclepias syriaca L. — common milkweed

97. Lanceolate to oblong, 2 to 4 in. long, acute, hairy above and below, hairy on margin, petiole hairy.

Plant 1 to 2 ft. high, branched; stem roughish-hairy, juice slightly milky. Flower 1/2 in. or more long, orange. June-Aug.

Asclepias tuberosa L. — butterfly milkweed

98. Oblong-ovate, 1 to 3 in. long, rounded, scattered hairs above and below, margin rough, midrib white above and below.

Plant about 30 in. high; stems slender, with slender rootstocks. Flower about 1/5 in. across, white. July-Sept.

Euphorbia apocynifolia Small — flowering spurge

99. Ovate to obovate, 1 to 2 1/2 in. long, rounded, hairy above and below and on margin, very short petiole, midvein prominent and whitish below.

Plant 1 to 3 ft. high; stems usually branched above, bright green, juice milky. Flowers 1/4 in. across, white. April-Oct.

Euphorbia corollata L. — flowering spurge
100. Lanceolate or linear-lanceolate, 2 to 4 in. long, acute, short hairs above and below and on margins, short petiole.

Plant 2 to 3 ft. high, branching; stems smooth. Flower 1/2 to 1 in. across, light yellow. June-Sept.

*Ludwigia alternifolia* L. — seedbox

101. Narrowly lanceolate, 1 to 5 in. long, acute, often with dark blotch near middle, short hairs above and below and on margin.

Plant to 2 ft. high; stems smooth, often purplish. Flowers small, in clusters 1/2 to 2 in. long, deep pink or purple. June-Oct.

*Polygonum persicaria* L. — ladysthumb

102. Lanceolate, 2 to 4 in. long, acute, fine hairs above, webby hairs below, margin hairy.

Plants 2 to 5 ft. high; stems erect, fine-hairy, somewhat branching. Flower in spikes 4/5 to 1 1/2 in. long, silvery white, cottony. July-Sept.

*Fructiccia floridana* (Nutt.) Moq. — cottonwood

103. Lanceolate, to 9 in. long, acuminate, few short hairs above particularly near margin, midvein hairy below, margin short-hairy.

Plant 1 to 3 ft. high. Flowers small, in clusters 1 to 2 in. long, bright rose. Late May-Oct.

*Polygonum pensylvanicum* L. — Pennsylvania smartweed

104. Oblanceolate to spatulate, 1 to 2 in. long, more or less webby hairs above, white webby hairs below, margin generally hairy, rounded with a spine-like tip.

Plant 8 to 12 in. high; stem white hairy; much reduced lanceolate leaves above. Flowers in round heads 1/4 to 1/3 in. across, soft, white. April-June.

*Antennaria neglecta* Greene — field pussytoes
105. Spatulate, to 7 in. long, acute, few scattered long hairs above, long matted woolly hairs below particularly at base.

Plant 1 to 2 1/2 ft. high; stems long white-hairy when young, smooth when old. Flowers 3/4 to 1 in. across, golden yellow. Aug.-Oct.

*Chrysopsis mariana* (L.) Ell. — Maryland golden aster

106. Oblanceolate to narrowly elliptic, 1 1/2 to 8 in. long, long bristly hairs above and below.

Plant 6 to 18 in. high; stem with short stiff black hairs, very few much reduced leaves. Flower 2/3 to 1 in. across. Orange or reddish orange. June-Sept.

*Hieracium aurantiacum* L. — orange hawkweed

107. Narrowly oblong to lanceolate, 2 to 8 in. long, long hairs and rough above and below, midrib prominent below.

Plant 1 to 2 ft. high; stem hairy, slender rhizomes. Flower 3/4 in. across, yellow. June-Aug.

*Hieracium pratense* Tausch. — yellow hawkweed

108. Lanceolate to ovate, 1 1/2 to 4 in. long, acute, short hairs above and below and on margin, pale green.

Plant 1 to 2 ft. high; stem sticky-hairy. Flower 1 in. across, white. June-Sept.

*Lycbris alba* Mill. — white cockle

109. Lanceolate or oblanceolate, 1 to 3 1/2 in. long, acute, hairy above and below and on margin, petiole long-hairy.

Plant 1 1/2 to 4 ft. high; stem hairy, upper half with forking erect branches. Flower about 1 in. across, white. June-Sept.

*Silene dichotoma* Ehrh. — hairy catchfly

110. Oblanceolate to elliptic, 2 to 6 in. long, hairy above with depressed veins, glossy below and hairy on veins, tapering to margined hairy petiole.

Plant 1 to 3 ft. high; stem bristly-hairy. Flower 2 to 4 in. across, orange-yellow. May-Oct.

*Rudbeckia hirta* L. — hairy coneflower
111. Lanceolate to oblanceolate, 1/2 to 3 in. long, acute to rounded, rough with star-shaped hairs above and below, margin short-hairy.

Plant 1 to 3 ft. high; stem much branched at top, hairy. Flower 1/4 to 1/3 in. across, white. June-Sept.

*Berteroa incana* (L.) DC. — hoary alyssum

112. Lanceolate, 2 to 6 in. long, acute, long-hairy above and below and on margin and petiole.

Plant 1 to 3 ft. high with many stems coming from base; stem erect, generally unbranched, rough bristly-hairy, brown dotted. Flower 2/3 to 1 in. long, bright blue. June-Sept.

*Echium vulgare* L. — blue thistle

113. Lanceolate, to 6 in. long (including petiole), acute, sometimes sinuate or somewhat toothed, rough matted-hairy above and below, margin hairy, petiole hairy.

Plant 1 to 3 ft. high; stem simple or branched, rough-hairy; leaves above without petiole, sometimes toothed. Flower 1 to 1 1/2 in. across, rose-purple. June-Sept.

*Centaurea jacea* L. — brown knapweed

6D2. Leaves lanceolate to oval, blades not generally half as wide as long

More than 1 1/2 in. long, not toothed, rough or hairy above

Tapering to base (without distinct petiole)

114. Linear-lanceolate, 2 to 4 1/2 in. long, acute, long hairy above and below, margin hairy, midvein prominent below.

Plant 1 to 3 ft. high; stem densely white-hairy. Flower 1 to 2 in. across, reddish purple. June-Sept.

*Agrostemma githago* L. — corn cockle

115. Lanceolate, 1 1/2 to 5 in. long, acute to acuminate, may be rough above, smooth below, margin rough, sheath clasping stem.

Plant erect or decumbent; stem smooth, rooting at lower nodes. Flower 2/5 to 3/5 in. long, violet blue. June-Oct.

*Commelina communis* L. — dayflower
116. Lanceolate, 2 to 3 in. long, acuminate, minutely hairy above and below, margin rough.
Plant 2 to 4 ft. high; stem erect, very short-hairy at least above. Flower 1/2 to 2/3 in. across, in clusters 6 to 8 in. long, purple. June-Sept.
*Lythrum salicaria* L. — spiked loosestrife

117. Linear-lanceolate to lanceolate, 2 to 10 in. long, acuminate, short hairs above and below and on margin.
Plant 1 to 3 ft. high; stems swollen at nodes. Flowers small, in clusters 1 to 4 in. long, rose, white or greenish. July-Oct.
*Polygonum lapathifolium* L. — pale smartweed

118. Oblong-lanceolate, 2 to 4 in. long, acute, dense matted gray-hairy above and below.
Plant 16 to 32 in. high; stem erect, stout, rarely branched, matted gray-hairy. Flower about 1 1/2 to 2 in. across, red-purple. June-Aug.
*Lycniss coronaria* (L.) Desr. — Mullein-pink

119. Lanceolate-ovate, 2 to 5 in. long, acute, short hairs above and below and on margin.
Plant 1 to 3 ft. high; stems sticky-hairy. Flower about 1 in. across, opening at dusk or on cloudy days, white or pinkish. July-Oct.
*Silene noctiflora* L. — nightflowering catchfly

120. Lanceolate, 1 to 5 in. long, acute, short hairs and rough above, short hairs below, margin hairy, base claspimg around stem.
Plant 2 to 8 ft. high; stem stout, hairy branches sticky. Flower 1 to 2 in. across, violet, purplish or reddish. Aug.-Oct.
*Aster novae-angliae* L. — New England aster
121. Oblanceolate to spatulate, to 4 in. long, rounded, generally spine-tipped, very short-hairy above, matted white-hairy below, margin short white-hairy.

Plant 2 to 20 in. high; stems simple or sparingly forked, thinly woolly-hairy. Flower 1/6 to 1/4 in. long, light brown often tinged with pink or purple. May-Oct.

_Gnaphalium purpureum_ L. — purple cudweed

6E. Leaves lanceolate to oval, blades not generally half as wide as long

More than 1 1/2 in. long, toothed, smooth above

122. Lanceolate-ovate, 1 to 3 in. long, acute, sharply serrate, smooth above, few hairs on principal veins below, aromatic scented.

Plant 1 to 3 ft. high; stem 4-angled, purplish. Flowers in clusters 1 to 3 in long, pale lavender or pinkish. June-Sept.

_Mentha piperita_ L. — peppermint

123. Lanceolate-ovate, 3/4 to 2 in. long, smooth above and below, glandular dotted, sharply toothed, aromatic scented.

Plant 10 to 20 in. high, branching; stem 4-angled. Flowers in clusters 2 to 4 in. long, pale lavender or pinkish. July-Sept.

_Mentha spicata_ L. — spearmint

124. Lanceolate, 2 to 5 1/2 in. long, acute to acuminate, very sharply serrate, firm, smooth above and below.

Plant 1 to 4 ft. high; stem stout, erect, smooth, grooved. Flower 1 in. long, in clusters to 8 in. long, purple or rose. June-Sept.

*Physostegia virginiana* (L.) Benth. — false dragonhead

125. Oblanceolate, 2 to 12 in. long, generally smooth above and below, margin rough and short serrate-toothed, winged petiole generally with hairs.

Plant 1 1/2 to 4 ft. high; stems smooth and stiff. Flower heads 1/6 in. high, in clusters, golden yellow. June-Nov.

_Solidago juncea_ Ait. — early goldenrod
126. Lanceolate, 3 to 10 in. long, acuminate, few toothed, smooth above and below.

Plant 3 to 10 ft. high; stem stout. Flower 1/6 to 1/4 in. across, pale yellow. June-Sept.

*Lactuca canadensis* L. — tall lettuce

127. Oblanceolate, to 12 in. long, acute, crenate, smooth with white midrib above, midrib prickly below, margin prickly.

Plant 3 to 6 ft. high; stems ridged. Flowers 1/8 to 1/2 in. long, in heads 3 to 4 in. long, pinkish purple or lilac. July-Sept.

*Dipsacus sylvestris* Huds. — teasel

128. Lanceolate to elliptic, 4 to 8 in. long, serrate, smooth above, hairy below, net veined, all veins depressed above and prominent below, in whorls of 4's to 7's.

Plant 3 to 8 ft. high; stem stout, suffused with purple, smooth, hollow. Flowers in clusters 4 to 8 in. across, dull purple or pink. Aug.-Sept.

*Eupatorium fistulosum* Barratt. — joepyeweed

129. Linear-lanceolate, 3 to 6 in. long, coarsely serrate, acuminate, smooth above and below, margin rough.

Plants to 3 ft. high; stems pale green, smooth or slightly rough-hairy. Flowers 1/2 to 1 in. across, bright yellow. July-Oct.

*Bidens cernua* L. — nodding beggarticks

130. Lanceolate to narrowly ovate, 1 to 4 in. long, acute, dentate, mostly smooth above, somewhat hairy below at least on midrib.

Plant 1 to 5 ft. high; stem leafy, hairy. Flower heads about 1 in. across, yellow. July-Oct.

*Hieracium canadense* Michx. var. *fasciculatum* (Pursh) Fern. — Canada hawkweed
131. Lanceolate to ovate-lanceolate, 2 to 8 in. long, acute to acuminate, serrate, smooth to slightly rough above and below.

Plant to 6 ft. high; stem somewhat rough below, hairy above, generally purplish or purple spotted. Flowers small, in large flat-topped heads, purple. July-Oct.

*Eupatorium maculatum* L. — joepyeweed

132. Lanceolate to ovate, 1 to 5 in. long, coarsely toothed, acute, smooth above, midrib rough below, unpleasant aromatic odor when crushed.

Plants 2 to 4 1/2 ft. high, branching, very leafy. Flowers small, in clusters 1 to 18 in. long, green. July-Oct.

*Chenopodium ambrosioides* L. — mexicantea

133. Lanceolate, 1 to 2 in. long, sharply toothed, acute to rounded, smooth, sharply mustard tasting.

Plants 6 to 15 in. high; stems smooth or slightly downy. Flowers 1/16 to 1/12 in. across, white. May-Nov.

*Lepidium virginicum* L. — Virginia pepperweed

6F1. Leaves lanceolate to oval, blades not generally half as wide as long
   More than 1 1/2 in. long, toothed, rough or hairy above
   With distinct petiole

134. spatulate to lanceolate, 1 1/2 to 4 in. long, irregularly toothed or lobed, acute to obtuse, minutely downy above and below, margin short-hairy, mustard tasting.

Plant to 24 in. high, simple to freely branching, gray-green, minutely softly downy. Flowers 1/16 in. across, in clusters 2 to 4 in. long, white or creamy white. April-July.

*Lepidium campestre* (L.) R. Br. — field pepperweed

135. Lanceolate to linear, 1 to 4 in. long, few toothed, acute, coarsely hairy, above and below, margin short-hairy.

Plant to 7 ft. high; stems finely grooved, bristly-hairy. Flower heads 1/4 in. long, greenish white. June-Nov.

*Erigeron canadensis* L. — horseweed
136. Lanceolate, 3 to 6 in. long, acuminate, sharply serrate above the middle, rough above, short hairs below at least on midveins, margin short hairy.

Plant 3 to 8 ft. high; stem stout, hairy at least near top. Flower heads 1/6 to 1/4 in. high, golden yellow. Aug.-Oct.

Solidago gigantea Ait. — giant goldenrod

137. Lanceolate, 2 to 5 in. long, acuminate, sharply serrate, short hairs above at least near base, short hairs below and on margin, petiole short hairy.

Plant 1 1/2 to 5 ft. high; stem hairy at least above. Flower 1 to 1 1/2 in. long, lavender, pink or white. June-Sept.

Monarda fistulosa L. — wild bergamot

138. Oblanceolate, leaf and petiole to 5 in. long, few-toothed, acute, short hairs above and below, margin short-hairy.

Plant to 3 ft. high; stem ridged, very sparsely short-hairy. Flower 1/2 to 3/4 in. across, white or pinkish. May-Nov.

Erigeron strigosus Muhl. — rough fleabane

139. Lanceolate, 1 to 4 in. long, acute or acuminate, serrate, slightly rough above, very short-hairy below.

Plant to 2 ft. high; stems 4-sided, finely hairy; roots usually thickened into a tuber just below soil surface. Flower about 1/12 in. across, white or pinkish. June-Oct.

Lycopus uniflorus Michx. — oneflower bugleweed

140. Lanceolate, 1 to 3 in. long, acute, shallowly serrate, short hairy and punctate dotted above, densely hairy below, margin rough.

Plant 2 to 3 ft. high, densely downy-hairy. Flower about 1 in. long, yellowish with reddish dots. July-Oct.

Monarda punctata L. — spotted beebalm
141. Oblanceolate to lanceolate, 1 1/2 to 4 in. long, sharp spine tipped, slightly toothed, hairy above and below and on margin.

Plant to 3 ft. high; stems generally smooth sometimes hairy, spreading or ascending branches. Flower 1/3 to 1/2 in. across, white, rarely pinkish. Aug.-Nov.

_Aster pilosus_ Willd. — white heath aster

142. Ovate-oblong, 1 to 4 in. long, rounded at base, pinnately veined, irregularly dentate, acute, few short hairs near midrib above, short hairs on principal veins below, margin hairy near base, petiole hairy.

Plant to 2 ft. high; stem 4-angled, slightly hairy. Flowers in heads 2 to 4 in. long, violet or purplish. May-Oct.

_Prinella vulgaris_ L. — healall

143. Lanceolate to oblong-lanceolate, 2 to 7 in. long, acuminate, coarsely serrate, sometimes lobed at base, rough and short-hairy above, short-hairy and grayish green below, petiole grooved and rough.

Plant 3 to 7 ft. high; stems rough-hairy, grooved, 4-sided. Flower 1/6 to 1/4 in. across, violet blue. June-Sept.

_Verbena hastata_ L. — blue vervain

144. Lanceolate, 2 1/2 to 10 in. long, acute, irregularly toothed, short hairs above and below and on margin.

Plant to 3 ft. high; stem branched at top, hairy. Flower to 1/2 in. high, yellow. July-Sept.

_Picris hieracioides_ L. — hawkweed oxtongue

145. Oblanceolate to lanceolate, 3 to 10 in. long, acute to obtuse, sharp toothed, generally with sparse webby hairs above and below, bitter tasting, juice milky.

Plant 3 to 18 in. high; stem leafless; all leaves in basal rosette. Flower 1 to 2 in. across, deep golden yellow. Jan.-Dec.

_Taraxacum officinale_ Weber — dandelion
146. Oblong to lanceolate, 1 to 5 in. long, acute, coarsely toothed, sparsely hairy above and below, few long hairs on margin.

Plant 6 to 20 in. high; stem smooth above, sparingly downy below. Flower 1/12 in. across, in clusters 6 to 10 in. long, white. Jan.-Dec.

*Capsella bursa-pastoris* (L.) Medic. — shepherdspurse

147. Lanceolate, 3 to 10 in. long, acuminate, sharply serrate, slightly rough above, short-hairy below, midrib whitish and prominent below, margin rough.

Plants 3 to 9 ft. high; stem rough-hairy. Flowers 1/3 to 1/2 in. across, deep purple or violet. July-Sept.

*Vernonia noveboracensis* (L.) Michx. — ironweed

148. Lanceolate to spatulate, 1 1/2 to 4 in. long, acute to obtuse, low irregularly dentate, very short soft-hairy above and below, margin short-hairy, peppery to taste.

Plant 1 to 1 1/2 ft. high; stem branching at top, whitish-hairy; upper leaves without petioles. Flower 1/4 to 1/3 in. across in flat-topped clusters, white. June-Aug.

*Cardaria draba* (L.) Desv. — hoary cress

149. Lanceolate, 3 to 10 in. long, acute, shallowly dentate, very short-hairy above, hairy below, juice milky, bitter tasting.

Plant 1 to 3 ft. high; stem erect, branched, smooth, rigid, Flower 1 to 1 1/2 in. across, closed by noon, blue, occasionally pinkish or white. July-Oct.

*Cichorium intybus* L. — chicory

150. Lanceolate, 2 to 8 in. long, acuminate, serrate, very short-hairy above and below and on margin, petiole hairy.

Plant erect, 3 to 6 ft. high; stem rough-hairy, bushy-branched above. Flower 1/10 to 1/7 in. long, in clusters, white. Aug.-Oct.

*Eupatorium serotinum* Michx. — late eupatorium
151. Broadly lanceolate to oblong, 2 to 5 in. long, acute or short acuminate, somewhat doubly crenate-serrate, white rough-hairy above, hairy below, petiole somewhat margined.

Plants 3 to 5 ft. high; stems 4-sided, usually finely rough-hairy. Flower minute, in clusters 4 to 6 in. long, white or pale blue. June-Sept.

*Verbena urticifolia* L. — white vervain

152. Lanceolate to ovate, to 4 1/2 in. long, coarsely toothed, acute, slightly hairy above, rough below, unpleasant aromatic odor when crushed.

Plants 2 to 4 1/2 ft. high, branching, very leafy. Flowers small, in clusters 1 to 18 in. long, green. July-Oct.

*Chenopodium ambrosioides* L. — mexicantea

153. Ovate-lanceolate, 2 to 5 in. long, crenately toothed, acute or acuminate, sparsely short-hairy above, short-hairy and lighter colored below.

Plants 1 to 2 ft. high; stem stout, 4-angled, sticky-hairy. Flower 1/2 to 5/6 in. long, purple, pink or creamy white. June-Sept.

*Teucrium canadense* L. — American germander

154. Broadly lanceolate, 4 to 10 in. long, acuminate, serrate, rough above and below, petiole rough with stiff hairs.

Plant 3 to 10 ft. high; stout, erect, rough-hairy, usually branching above. Flower about 2 in. across, yellow. Aug.-Oct.

*Helianthus tuberosus* L. — Jerusalem artichoke

155. Oblong or oblanceolate, 4 to 12 in. long, shallow toothed, tapering to base, densely gray woolly-hairy above and below and on margin, thick, yellowish drab, petiole margined.

Plants 2 to 7 ft. high; stems stout, densely woolly. Flower 2/3 to 1 in. across, yellow, sometimes white. June-Sept.

*Verbascum thapsus* L. — common mullein
156. Elliptic, to 20 in. long (including petiole) and 8 in.
wide, acute, irregularly and shallowly dentate, short
hairs above, dense velvety hairs below, petiole short-
hairy, partly margined, deep narrow groove above.
Plants 2 to 6 ft. high; stem stout, densely woolly.
Flower 2 to 4 in. across, yellow. July-Sept.

*Inula helenium* L. — elecampane

157. Ovate, 2 to 8 in. long, acute, coarsely serrate with
a few large triangular teeth, very short-hairy and
somewhat puckered above, very short-hairy and veiny
below, strongly scented.
Plant 1 to 5 ft. high; stems stout, smooth or slightly
hairy when young. Flower 4 to 5 in. long, pale lavender
or white. June-Sept.

*Datura stramonium* L. — jimsonweed

6F2. Leaves lanceolate to oval, blades not generally
half as wide as long
More than 1 1/2 in. long, toothed, rough or hairy
above
Tapering to base (without distinct petiole)

158. Ovate-oblong, 1 to 3 in. long, serrate, acute, hairy
above and below; margin short-hairy, bitter and astrin-
gent taste.
Plant to 3 ft. high; stem fine-hairy. Flower 1/4 to 1/3 in.
long, calyx inflated, light blue. July-Nov.

*Lobelia inflata* L. — indiantobacco

159. Oblanceolate to narrowly obovate, 2 to 5 in. long,
margin with a few inconspicuous teeth, hairy above and
below and on margin, 3-5 nerved.
Plant to 18 in. high; all leaves in basal rosette. Flowers
small, in spike 1 to 4 in. long, dull white. Mar.-July.

*Plantago virginica* L. — paleseed plantain

160. Obovate to spatulate, 1 to 3 in. long, few-toothed,
hairy above and below and on margin.
Plant 1 to 2 ft. high; stem hairy. Flower 1 to 1 1/2 in.
across, pale blue, sometimes pink or white. April-June.

*Erigeron pulchellus* Michx. — robinsplantain
161. Obovate to spatulate, to 6 in. long, coarsely crenate-toothed or lobed, rough-hairy above, hairy below, margin short-hairy.

Plant 1 to 3 ft. high; stem often soft-hairy. Flower 1/2 to 1 in. across, rose-purple or pink. April-Aug.

*Erigeron philadelphicus* L. — Philadelphia fleabane

162. Lanceolate to oblong, 2 to 6 in. long, acute or acuminate, shallowly toothed, very short-hairy above and below and on margin.

Plant to 6 ft. high; stem stout, branched, more or less hairy. Flower 1 to 2 1/2 in. across, calyx tube often 2 in. long, yellow. June-Oct.

*Oenothera biennis* L. — common eveningprimrose

163. Lanceolate, 2 1/2 to 6 in. long, acuminate, serrate, rough above and on margin, smooth and lighter colored below.

Plant 3 to 7 ft. high; stems stout, purple, bristly-hairy. Flowers 1 to 1 1/2 in. across, pale violet or lilac. July-Nov.

*Aster puniceus* L. — purplestem aster

164. Lanceolate, 1 to 4 in. long, acute, shallowly serrate, short-hairy above and below and on margin.

Plant 8 to 36 in. high; stems procumbent or ascending, rough with fine hairs. Flowers small in many-flowered heads, white. Aug.-Oct.

*Eclipta alba* (L.) Hassk. — yerba-de-tago

165. Lanceolate, 2 to 6 in. long, acuminate, serrate, rough above, short hairs below, margin rough.

Plant 2 to 8 ft. high; stem stout, hairy. Flower 1/6 in. long, golden yellow. Aug.-Nov.

*Solidago canadensis* L. — Canada goldenrod

166. Oblanceolate, 3 to 10 in. long, acute or acuminate, very inconspicuously dentate, rough and very short-hairy above, long-hairy below.

Plant 3 to 10 ft. high; stem stout, smooth with whitish bloom. Flower 1/6 to 1/4 in. across, pale yellow. June-Sept.

*Lactuca canadensis* L. — tall lettuce
167. Lanceolate, 4 to 10 in. long, acuminate, sharply serrate, short-hairy and rough above, short-hairy below, margin rough.

Plant 3 to 8 ft. high, branching above; winged above by leaf bases that extend down the stem. Flower 1 to 2 in. across, pale yellow. Aug.-Sept.

*Verbena alternifolia* (L.) wingstem

168. Lanceolate to obovate, 5 to 9 in. long, acute, generally shallowly toothed, sparsely webby-hairy above, sparsely to densely webby-hairy below, margin weak-spined.

Plant 3 to 10 ft. high; stem branched above, angular at least above, smooth or hairy. Flower about 2 in. across, pale purple. July-Oct.

*Cirsium altissimum* (L.) Spreng. — tall thistle

169. Lanceolate, 3 to 6 in. long, acute, dentate, bristly-hairy above, usually whitish below with midrib hairy, margin sharp spined.

Plant 1 to 4 ft. high. Flower 1/2 to 1 in. across, fragrant, rose-purple. June-Sept.

*Cirsium arvense* (L.) Scop. — Canada thistle

170. Lanceolate, 2 to 8 in. long, acute, serrate, very short-hairy above and below, margin rough.

Plant to 8 ft. high; stem stout, grooved, succulent, rank odor. Flower 1/2 to 3/4 in. long, white or greenish white. July-Sept.

*Erechtites hieracifolia* (L.) Raf. — American burnweed

171. Broadly lanceolate, 3 to 6 in. long, acute to obtuse, irregularly serrate, narrowed to base, short-hairy above and below.

Plant 1 to 3 ft. high; stem hairy, slightly angled. Flower 1 in. long, bright blue, rarely white. July-Oct.

*Lobelia siphilitica* L. — great lobelia

172. Lanceolate, 2 to 8 in. long, acuminate, crenate-serrate, short-hairy above and below and on margin, veins depressed above, prominent below, opposite leaves united at their bases.

Plant 2 to 5 ft. high; stem stout, downy. Flowers 1/6 to 1/4 in. high, crowded in clusters, dull white. July-Sept.

*Eupatorium perfoliatum* L. — boneset
7A. Leaves ovate, blades generally more than half as wide as long
Less than 1 in. long

173. Ovate, 1/3 in. or less long, acuminate, very short-hairy above and below, margin stiff-hairy.
Plant 2 to 8 in. high; stems spreading or ascending, rough-hairy. Flower 1/6 in. or less across, white. May-Aug.

* Arenaria serpyllifolia* L. — thymeleaf sandwort

174. Ovate, 1/4 to 3/4 in. long, acute or obtuse, smooth above, purple dotted below, thickish, sessile.
Plant 4 to 12 in. long, spreading; stems 4-sided. Flower 1/6 to 1/4 in. across, copper-red. open only in bright weather. May-Sept.

* Anagallis arvensis* L. — scarlet pimpernel

175. Elliptic-ovate to oblong, 1/6 to 3/4 in. long, obtuse, shallowly toothed, mostly smooth above with a red spot, sparsely hairy below.
Plant prostrate forming mats 4 in. to 2 ft. or more across; stems branched, hairy, pal. juice milky. Flower minute, whitish. June-Sept.

* Euphorbia supina* Raf. — prostrate spurge

176. Oblong to ovate, 2/5 to 4/5 in. long, obtuse, coarsely crenate-dentate, hairy, rounded to heart-shaped base.
Plant creeping or procumbent; stems 2 to 12 in. long, slender, hairy. Flower 1/4 to 1/3 in. broad, on slender stalks as long as leaves or longer, blue with pale lower lip. May-Sept.

* Veronica agrestis* L. — field speedwell

177. Oval, 2/5 in. or less long, obtuse, 2 to 4 blunt teeth on each side, hairy above and below and on margin.
Plant 3 to 10 in. long, creeping, branching, soft-hairy. Flower 1/8 in. or less across, violet-blue. Mar.-Sept.

* Veronica arvensis* L. — corn speedwell
178. Oval to obovate, 3/5 to 1 in. long, obtuse, margins entire or low-dentate, smooth or nearly so above and below, somewhat fleshy.

Plant 3 to 12 in. high, branching; stems erect or depressed, smooth or somewhat hairy. Flower 1/12 to 1/10 in. across, white or pale bluish. April-Aug.

*Veronica peregrina* L. – purslane speedwell

179. Broadly ovate, 1/5 to 1/2 in. long, 3 to 4 teeth on each side, rough or short-hairy above, short-hairy below and on margin, almost straight across base.

Plant prostrate or ascending, much branched; stems 4 to 12 in. long. Flower 1/3 to 1/2 in. wide, blue with deeper blue lines and pale lower lip. April-Sept.

*Veronica persica* Poir – birdseye speedwell

180. Ovate to reniform, 1/3 to 3/5 in. long, obtuse, shallowly 3 to 5 toothed or lobed, hairy above and below and on margin, petiole hairy.

Plant much branched; stems 3 to 8 in. long, prostrate or ascending, hairy. Flower 1/10 to 1/5 in. across, lilac to blue. April-June.

*Veronica bederaefolia* L. – ivyleaf speedwell

181. Ovate, oblong or nearly round, 1/5 to 3/5 in. long, sometimes obscurely toothed, nearly smooth, rather thick.

Plant branching, creeping; stems 2 to 10 in. long, slightly hairy, rooting at nodes. Flower 1/6 to 1/3 in. across, pale blue striped with deep blue. April-Oct.

*Veronica serpyllifolia* L. – thymeleaf speedwell

182. Ovate, 1/5 to 1 1/2 in. long, acute, light green, paler below, margin hairy at base, petiole generally hairy.

Plant with trailing, matted or loosely ascending stems, hairy in lines, to 30 in. long. Flower 1/6 to 1/3 in. across, white. Jan.-Dec.

*Stellaria media* (L.) Cyrillo – chickweed

183. Ovate to orbicular, to about 1 in. long, crenate toothed, smooth with glistening granules above and below, margin of lower part of leaf and petiole with short stiff hairs.

Plant much branched, to 20 in. high; stem angled with short hairs on the angles. Flower about 1/2 in. across, pale yellow. April-Sept.

*Viola arvensis* Murr. – field violet
7B. Leaves ovate, blades generally more than half as wide as long. More than 1 in. long, not toothed.

184. Ovate to elliptic, 1 to 3 in. long, acute, smooth above and below. Plant 1 to 3 ft. high; stems stout, softly hairy at least above, juice milky; upper leaves with white margin. Flower 1/6 in. long, white. June-Oct.

*Euphorbia marginata* Pursh. — snow-on-the-mountain

185. Obovate to rounded-oblong, 1 to 3 in. long, minutely hairy, appearing smooth above; silvery with dense woolly hairs below, 3- to 7-nerved. Plant with creeping stems until flowering when erect 4 to 20 in. high flowering stems are formed. Flowers in small clustered heads, white. April-June.

*Antennaria plantaginifolia* (L.) Hook. — plantainleaf pussytoes

186. Ovate, 3 to 12 in. long, acuminate, smooth above and below. Plant 4 to 10 ft. high; stems stout, branched, often reddish; odor unpleasant. Flower 1/4 in. across, white or pinkish. July-Sept.

*Phytolacca americana* L. — pokeweed

187. Ovate to rhombic, to 6 in. long, acute, smooth above, short hairs on principal veins below, midvein ending in bristle at tip, few hairs on margin at base, petiole hairy. Plant erect, to 6 ft. high; stem stout, freely branching. Flowers small, crowded in spikes to 6 in. long, green. Aug.-Oct.

*Amaranthus hybridus* L. — smooth pigweed

188. Ovate to rhombic, to 4 in. long, acute, margin wavy, rough above, often reddish tinged below and very short-hairy on midrib and veins, a few short hairs on margin, petiole very short-hairy. Plant to 6 ft. high; stem stout, usually branched, rough, more or less hairy. Flowers small, densely crowded in stout spikes to 3 in. long, green. Aug.-Oct.

*Amaranthus retroflexus* L. — redroot pigweed
189. Ovate, 1 to 2 1/4 in. long, obtuse with spine-like tip, purple-splotched above, midvein below and petiole magenta-tinged, smooth, thin.

Plant to 2 1/2 ft. high; stem erect, branched, reddish, a pair of stiff spines at most nodes. Flowers small, in loose spikes to 6 in. long, yellowish green. July-Oct.

*Amaranthus spinosus* L. — spiny amaranth

190. Ovate or nearly round, 1 to 8 in. long, generally short-hairy above and below, 3 to 5-ribbed, petiole hairy at base.

Plant to 3 ft. high, all leaves in basal rosette. Flowers in spikes 2 to 10 in. long, greenish white. May-Sept.

*Plantago major* L. — broadleaf plantain

191. Ovate to obovate, 2 to 8 in. long, acute, narrowed to base, margin usually wavy, generally short-hairy above and below, petiole margined and tinged with purple at base.

Plant similar to *P. major* but spikes longer, slenderer, tapering and pointed at tip; crimson at base of stalk.

*Plantago rugelii* DCne. — blackseed plantain

192. Round-ovate, 2 to 6 in. long, abruptly acuminate, very short-hairy on principal veins above, very short-hairy or slightly rough below, margin somewhat rough.

Plant 3 to 8 ft. high; stem erect, glaucous, often mottled, bushy branched; spreading by stout rhizomes and offshoots. Flowers small, in panicles 3 to 6 in. long, white or greenish white. Aug.-Sept.

*Polygonum cuspidatum* Sieb. & Zucc. — Japanese knotweed

193. Broadly to narrowly ovate, 4 to 12 in. long, rounded or blunt, usually reddish-veined, smooth above, principal veins and midrib below rough, edges slightly waved or curled, heart-shaped at base, petiole rough.

Plant 2 to 4 ft. high, sparingly branched; stem dark green, grooved, roughish. Flowers small, in clusters 10 to 30 in. long, green. June-Aug.

*Rumex obtusifolius* L. — broadleaf dock
7C. Leaves ovate, blades generally more than half as wide as long
    More than 1 in. long, toothed, smooth above.

194. Ovate or elliptic, 1 1/4 to 4 in. long, crenately serrate, teeth spine-tipped, soft, pale or glaucous below.
    Plant 2 to 5 ft. high; stem succulent, usually reddish. Flower 3/4 to 1 in. long, orange, with reddish brown spots. July-Oct.

*Impatiens capensis* Meerb. — spotted snapweed

195. Ovate to broadly rhombic, 1 to 4 in. long, toothed, acute to obtuse, glistening granules above, grayish granules below.
    Plant 1 to 8 ft. high; stem erect, branching, grooved, often with pinkish stripes. Flower small, in clusters 1 to 6 in. long, green. June-Sept.

*Chenopodium album* L. — common lambsquarters

7D1. Leaves ovate, blades generally more than half as wide as long
    More than 1 in. long, toothed, rough or hairy above
    Petioles hairy or spiny

196. Ovate to rhombic, 1 to 3 1/2 in. long, blunt or acute, coarsely crenate, often red-tinged above with a few short stiff hairs, few hairs on veins below; petioles slender, short-hairy, regularly more than half as long as the leaf.
    Plant 8 to 36 in. high; stem simple or widely branching, slightly rough or smooth, rarely hairy. Flowers small, in leaf axils, green. June-Oct.

*Acalypha rhomboidea* Raf. — rhombic copperleaf

197. Ovate-lanceolate, 1 to 3 in. long, blunt or acute, shallowly crenate, finely hairy above and below; petiole slender, short-hairy, regularly less than half as long as leaf.
    Plant 8 to 24 in. high; stem usually branching, short-hairy. Flower small, in leaf axils, green. June-Oct.

*Acalypha virginica* L. — Virginia copperleaf
198. Ovate, 2 to 5 in. long, acuminate or acute, sharply toothed, hairy above and below and on margin, petiole hairy.

Plant 1 to 3 ft. high; stem 4-sided, bristly-hairy. Flower 2/3 to 1 in. long, pale purple variegated with white. June-Sept.

*Galeopsis tetrahit* L. — hempnettle

199. Ovate, 1/2 to 1 1/2 in. long, obtuse, few low teeth, hairy above and below and on margin, petiole hairy.

Plant 8 to 24 in. tall, creeping; stems ascending, simple or branching, hairy, 4-sided. Flower 1/2 to 3/5 in. long, pale purple, rose-purple or pink, varying to white. June-Sept.

*Satureja vulgaris* (L.) Fritsch — wild basil

200. Ovate, 1 to 2 in. long, obtuse, serrate, soft short-hairy above and below, margin hairy, petiole hairy.

Plant 3 to 10 in. long; stem softly hairy, reclining but with end ascending, rooting at nodes. Flower 1/6 to 1/4 in. across, pale blue striped with violet. May-Aug.

*Veronica officinalis* L. — common speedwell

201. Ovate or nearly round, 1 to 8 in. long, margin slightly sinuate or dentate, generally short-hairy above and below, 3 to 5-ribbed, petiole hairy at base.

Plant to 3 ft. high, all leaves in basal rosette. Flowers in spikes 2 to 10 in. long, greenish white. May-Sept.

*Plantago major* L. — broadleaf plantain

202. Ovate, 1 to 4 in. long, acute, wavy toothed, often purple splotched above, veins in crease and short hairy above, hairy and veins prominent below, margin hairy, petiole hairy.

Plant 1 to 2 1/2 ft. high; stem rough-angled, branching, reddish at nodes when old. Flower 1/4 in. across, white. July-Oct.

*Solanum nigrum* L. — black nightshade
203. Ovate, 2 to 4 in. long, acute or acuminate, sharply serrate, sparsely short-hairy above and on veins below, veins and midrib below purplish, petiole short-hairy, aromatic.

Plant 1 to 3 ft. high; stems erect, branching, often purple. Flower small, in short clusters, white. Aug.-Oct.

*Perilla frutescens* (L.) Britt. – common perilla

204. Ovate 1 1/2 to 3 in. long, acute or blunt, shallowly or irregularly coarse-toothed, both surfaces short-hairy, margin hairy, petiole hairy and somewhat sticky.

Plant 1 to 3 ft. high; short rootstocks; stem branching, sticky-hairy. Flower bell-shaped, 2/3 to 5/6 in. across, greenish yellow with brown or purplish center. July-Sept.

*Physalis heterophylla* Nees – clammy groundcherry

205. Ovate, 1 to 2 in. long, crenate, short soft hairs above and below, veins depressed above giving crinkled appearance, dense short hairs on petiole.

Plant 1 to 3 ft. high; stems white-woolly, branching, bitter-aromatic. Flowers small, dull white. June-Sept.

*Marrubium vulgare* L. – white horehound

206. Broadly ovate, 2 to 7 in. long, acute or acuminate, serrate, short-hairy above and below and on margin, petiole short-hairy above. Poisonous.

Plant to 4 1/2 ft. high; stem firm, solitary or clustered from a knotty tough rhizome, smooth or sticky-hairy. Flowers 1/4 in. across, in clusters, white. July-Oct.

*Eupatorium rugosum* Houtt. – white snakeroot

207. Ovate, 2 to 6 in. long, acute, 2 to 5 large teeth or shallow lobes on each side, hairy above and below, sharp stiff spines on midrib above and below and on petiole.

Plant 1 to 4 ft. high; stems simple or branched, hairy and prickly. Flower about 1 in. across, in clusters; white. May-Sept.

*Solanum carolinense* L. – horsemettle
208. Broadly ovate, 2 to 6 in. long, acute or acuminate, serrate, covered with stinging hairs above and below and on petiole, margin hairy.
Plant 2 to 7 ft. high; stem simple or slightly branched near top, grooved, rigid, covered with stinging hairs. Flower small, in slender clusters, greenish. June-Sept.
_Urtica dioica_ L. — stinging nettle

209. Oval or oblong, 1 1/2 to 3 in. long, obtuse, dentate, densely hairy above and below, usually 2 small lobes at base of petiole, camphor odor.
Plant 1 to 3 ft. high; stem hairy, branching. Flower 1/2 in. or more across, yellow. Aug.-Nov.
_Heterotheca subaxillaris_ (Lam) Britt & Rusby — camphorweed

7D2. Leaves ovate, blades generally more than half as wide as long
More than 1 in. long, toothed, rough or hairy above
Petioles not hairy or spiny (except No. 213 may be slightly hairy)

210. Ovate to obovate, 2 to 8 in. long, margin shallowly toothed, acute, narrowed to base, generally short-hairy above and below, petiole margined and tinged with purple at base.
Plant similar to _P. major_ but spikes longer, slenderer, tapering and pointed at tip; crimson at base of stalk. June-Sept.
_Plantago rugelii_ Desne. — blackseed plantain

211. Obovate, 1 to 3 in. long, rounded, crenate-dentate, white webby-hairy above and below when young, some leaves smooth when flowering.
Plant 4 to 16 in. high; stems 1 to several from a crown, densely matted woolly-hairy at least below. Flower 1/5 to 1/4 in. high, yellow. May-early July.
_Senecio platensis_ Nutt. — prairie groundsel

212. Ovate, generally 2 to 6 in. but up to 11 in. long, acute, coarsely toothed, short-hairy above and below
Plant 1 to 4 ft. high; stems grooved, sparingly whitish-hairy. Flower about 1/2 in. across, white or faintly pinkish. May-Nov.
_Erigeron annuus_ Pers. — annual fleabane
213. Broadly ovate, 3/4 to 2 1/2 in. long, acute, crenate or serrate, generally hairy above and below and on margins, palmately veined. Petioles may be sparsely hairy.

Plant bushy-branched, 4 to 24 in. high; stems hairy. Flowers about 1/4 in. across, petals white, center yellow. June-Nov.

*Galinsoga ciliata* (Raf.) Blake — hairy galinsoga

214. Obovate, to 8 in. long, sharp-tipped, low-toothed, long-hairy above, long whitish-hairy below, margin hairy.

Plant 2 to 3 ft. high; stem simple or forking, lower internodes hairy. Flower 1/3 in. long, blue or purplish. Aug.-Oct.

*Elephantopus carolinianus* L. — elephant’s foot

215. Ovate, 1 1/2 to 4 1/2 in. long, acute, generally with a few coarse teeth, short-hairy above and on veins below, margin short-hairy, long slender petiole.

Plant 10 to 36 in. long; stem spreading, branching, sharply bent, downy-hairy. Flower 1/4 to 1/2 in. across, greenish yellow with brown spots in throat. July-Sept.

*Physalis pubescens* L. — downy groundcherry

216. Ovate or lance-ovate, 2 to 6 in. long, acute or acuminate, serrate, rough short-hairy above, short hairy below, petiole grooved above, mostly in whorls of 3 or 4.

Plant 1 1/2 to 5 ft. high; stem rough, finely purple-dotted, often suffused with purple. Flowers small, in clusters 4 to 8 in. across, dull-purple or pink. Aug.-Oct.

*Eupatorium dubium* Willd. — joepyeweed

217. Broadly ovate, 1 to 4 in. long, acute, serrate, very short-hairy and rough above, short-hairy below, margin rough.

Plant 1 to 4 ft. high; stems stiffly ascending, slender, hairy above. Flower 1/5 to 1/4 in. long, white. July-Sept.

*Eupatorium rotundifolium* L. — roundleaved thoroughwort
218. Ovate, 2 to 6 in. long, acute or acuminate, serrate, rough above, smooth below, margin rough.

Plant 3 to 5 ft. high; stem branched above, smooth or nearly so. Flower 1 1/2 to 2 1/2 in. across, deep golden yellow. July-Sept.

*Heliopsis helianthoides* (L.) Sweet. – sunflower heliopsis

8. Leaves triangular, sagittate or hastate

219. Sagittate with spreading basal lobes, 1 to 4 in. long, acute, upper surface dull, net veined, sour tasting.

Plant 6 to 15 in. high; stem slender, smooth. Flowers small, in clusters 2 to 10 in. long, green or red. May-Sept.

*Rumex acetosella* L. – red sorrel

220. Sagittate or triangular with basal lobes spreading or descending, 3/4 to 2 in. long, rounded to acute, smooth, petiole grooved on upper side.

Plant 2 to 7 ft. long; stems smooth, slender, twining or spreading. Flower about 1 in. across, pink or white. May-Sept.

*Convolvulus arvensis* L. – field bindwheed

221. Sagittate-lanceolate, 1 to 4 in. long, acute, smooth above and below, midrib below and petiole reflexed prickly, margin rough.

Plant 2 to 6 ft. long; stem reclining, 4-angled, reflexed-prickly. Flowers small, in clusters, rose or greenish. July-Sept.

*Polygonum sagittatum* L. – arrowleaf tearthumb

222. Triangular to cordate, 1/2 to 3 in. long, acute or acuminate, smooth above and below, margin rough, petiole rough.

Plant 1 to 3 ft. long; stem climbing or prostrate, angular, rough. Flowers small, greenish. June-Sept.

*Polygonum convolvulus* L. – wild buckwheat
223. Triangular, 1 to 3 in. long, acute, blunt-toothed, smooth above and below, thin, petiole very short-hairy.

Plant 1 to 3 ft. high; stem branching, very short-hairy; spreading by rootstocks. Flower heads 1/4 in. across, bright blue or violet. Aug.-Oct.

_Eupatorium coelestinum_ L. — mistflower

224. Triangular with divergent lobes, 2 to 5 in. long, acute, very short-hairy above and below, petiole short-hairy and with a deep groove on upper side.

Plant 3 to 10 ft. long; stem climbing or trailing, smooth or nearly so. Juice sticky, milky. Flower 1 1/2 to 2 in. across, white or pinkish. May-Sept.

_Convolvulus sepium_ L. — hedge bindweed

225. Hastate, about 2 1/2 in. long, obtuse or rounded, short-hairy above and below and on margin, petiole short-hairy.

Plant twining; stem short hairy. Flower 1 1/2 to 2 in. long, double, pink. July-Aug.

_Convolvulus japonicus_ Thunb. — Japanese bindweed

9A. Leaves roundish, cordate or reniform, smooth above

226. Cordate, 1/4 to 1 in. long, toothed, smooth above, short-hairy below and on margin, palmately veined, clasping stem.

Plant 6 to 24 in: high; stems 4-angled, hairy on angles. Flower 1/2 to 5/6 in. across, blue or violet. May-Sept.

_Specularia perfoliata_ (L.) A. DC. — Venus lookingglass

227. Roundish, 1/2 to 1 in. across, smooth with glistening granules above and below, sparingly brown or black dotted.

Plant a creeping vine, 6 to 24 in. long. Flower 2/3 to 1 in. across, golden yellow. June-Sept.

_Lysimachia nummularia_ L. — moneywort
228. Cordate, 1 to 3 in. long, crenate, smooth above and below, long petiole.

Plant 6 to 30 in. high; stem grooved, purple particularly near top. Flower 3/4 to 1 in. across, golden yellow. May-July.

*Senecio aureus* L. — golden ragwort

229. Cordate or reniform, 1 to 2 in. wide, some cleft or divided, crenate, smooth and dull green above, smooth and glossy below, somewhat fleshy, long petiole.

Plant 6 to 24 in. high; stem smooth or sparingly downy. Flower 1/4 in. across, pale yellow. April-June.

*Ranunculus abortivus* L. — smallflower buttercup

230. Cordate, 2 to 4 in. long, acuminate, smooth above and below, long petiole.

Plant 10 to 15 ft. long; stem twining. Flower 5/6 to 1 1/2 in. long, light scarlet. July-Oct.

*Ipomoea coccinea* L. — scarlet morningglory

231. Cordate with angulate lobes, 1 1/2 to 3 1/2 in. long, acuminate, smooth above and below, very slender petiole.

Plant twining, 3 to 10 ft. long; stem slender, smooth or sparsely hairy. Flower 1/2 to 1 in. long, white. July-Sept.

*Ipomoea lacunosa* L. — small-flowered white morningglory

9B. Leaves roundish, cordate, or reniform, rough above

232. Ovate to reniform, 1/3 to 3/5 in. long, obtuse, shallowly 3 to 5 toothed or lobed, hairy above and below and on margin, petiole hairy.

Plant much branched; stems 3 to 8 in. long, prostrate or ascending, hairy. Flower 1/10 to 1/5 in. across, lilac to blue. April-June.

*Veronica hederaefolia* L. — ivyleaf speedwell
233. Round to reniform, 1/2 to 1 1/2 in. wide, blunt toothed, very short-hairy above, veins depressed above, prominent below, petiole longer than leaf.

Plant extensively creeping; stems slender, rooting at nodes. Flower 1/2 to 3/4 in. long, purplish-blue. April-July.

Glechoma hederacea L. — groundivy

234. Round-cordate, 1 to 3 in. wide, obscurely 5- to 9-lobed, crenate, short-hairy above and below and on margin, very long petiole short-hairy and rough.

Plant creeping; stems 4 to 18 in. long. Flower 1/3 to 1/2 in. across, white or pale blue. May-Nov.

Malva neglecta Wallr. — common mallow

235. Cordate to roundish, 2/5 to 1 1/5 in. long, deeply crenate, short, soft-hairy above and below, short-petioled.

Plant 6 to 18 in. long; stem 4-angled, weak and spreading; at least the upper leaves sessile. Flower 1/2 to 2/3 in. long, purplish or red. April-Oct.

Lamium amplexicaule L. — henbit

236. Cordate to roundish, 2/5 to 1 1/5 in. long, deeply crenate, short, soft-hairy above and below, veins depressed above and prominent below, short-petioled.

Plant 6 to 18 in. long; stem 4-angled, weak and spreading; all leaves petioled. Flower 1/2 to 2/3 in. long, purplish or red. April-Oct.

Lamium purpureum L. — red deadnettle

237. Cordate, 4 to 6 in. long and wide, obscurely toothed, acuminate, velvety above with very short soft hairs, very short-hairy below, unpleasant odor when crushed.


Abutilon theophrasti Medic. — velvetleaf
238. Cordate, to 16 in. wide, 20 in. long, spine-tipped, obscure teeth spined, short-hairy above, woolly-hairy below, margin short-hairy, petiole short-hairy and hollow.

Plant 3 to 5 ft. tall; stem much branched, hairy, somewhat grooved or angular. Flower 1/2 to 3/4 in. across, purple. July-Oct.

*Arctium minus* (Hill) Bernh. — common burdock

239. Leaf petiole solid, otherwise similar in appearance to above but larger in all respects.

*Arctium lappa* L. — great burdock

240. Cordate, 1 1/2 to 5 in. long, acuminate, sharply toothed, slightly rough at least towards tip above, margin rough.

Plant 1 to 5 ft. high, bushy; stems slender. Flower 5/8 in. across, violet or blue. Aug.-Oct.

*Aster cordifolius* L. — heartleaved aster

241. Cordate, 2 to 6 in. long, acute, short-hairy above and below, petiole purplish.

Plants 2 to 12 ft. long; stems trailing or twining. Flower 2 to 3 in. long, white with pinkish stripes. May-Sept.

*Ipomoea pandurata* (L.) G. F. W. Mey — bigroot morningglory

242. Cordate, 2 to 5 in. long, acute, short-hairy or at least rough above, sparsely hairy below.

Plant 2 to 8 ft. long; stems trailing or twining, sometimes hairy. Flower 2 to 3 in. long, purple, red, bluish, white or variegated. June-Oct.

*Ipomoea purpurea* (L.) Roth — tall morningglory
243. Cordate, 2 to 5 in. long, 3-lobed, acute, stiff hairs above and below, petiole hairy with groove on top.

Plant 2 to 8 ft. long; stems twining, hairy. Flower about 2 in. long, white, pinkish or bluish. July-Oct.

_Ipomoea hederacea_ (L.) Jacq. — ivyleaf morningglory

244. Cordate, 2 to 5 in. long, acuminate, slightly rough on principal veins above and below, margin and petiole slightly rough.

Plant 2 to 20 ft. long, twining and climbing; stems angled, roughish on ridges. Flower small, in clusters, 2 to 8 in. long, greenish-white or pinkish. Aug.-Oct.

_Polygonum scandens_ L. — hedge smartweed

245. Cordate, 2 to 4 in. wide, palmately lobed or cleft onto sharp toothed divisions, short-hairy above and below and on margin, petiole short-hairy.

Plant 2 to 5 ft. high; stem erect, 4-angled. Flower 1/3 to 1/2 in. long, pink, purple or white. June-Sept.

_Leonurus cardiaca_ L. — motherwort

246. Cordate, to 4 in. long, acuminate, short-hairy above, hairy below, margin very short-hairy, petiole short-hairy.

Plant 5 to 15 ft. long; stem twining and climbing, hairy at nodes. Flowers 1/4 in. long, in clusters 1 to 4 in. across, white or pale pink. July-Sept.

_Mikania scandens_ (L.) Willd. — climbing hempweed

247. Cordate, 1 to 3 in. long, coarsely dentate, short-hairy above, short-white-hairy below, margin and petiole short-hairy.

Plant 2 to 3 ft. high; stem 4-angled, densely downy. Flower 1/2 in. long, in clusters 2 to 4 in. long, pale-violet, purplish or whitish. July-Oct.

_Nepeta cataria_ L. — catnip
248. Orbicular, 2 to 7 in. wide, shallowly 3 to 5-lobed, lobes denticulate, short-hairy above and below and on margin, petiole hairy.

Plant 15 to 25 ft. long; stem climbing, pale, angled, sticky-hairy. Flower small, whitish. July-Sept.

_Sicyos angulatus_ L. — bur cucumber

249. Cordate-ovate, 1 1/2 to 4 in. long, acute, some with 2 lobes or leaflets at base, very short-hairy above, smooth below, margin very short-hairy.

Plant 2 to 10 ft. long; stem climbing, woody, slightly downy when young. Flower 1/2 in. across, violet, purple or white. May-Sept.

_Solanum dulcamara_ L. — bitter nightshade

250. Cordate, to 6 in. long, 8 in. wide, shallow by 3 to 5-lobed, dentate, rough-hairy above and below, margin rough, long rough petiole.


_Xanthium pensylvanicum_ Wallr. — cocklebur

10A. Leaves pinnately lobed, not generally cut to midrib

Smooth above

251. Pinnately lobed or large toothed, to 2 in. long, smooth above and below, strongly mustard and garlic tasting.

Plant 4 to 20 in. high; stem simple or somewhat branched above, smooth; basal leaves disappear early, upper leaves toothed and clasping stem. Flower 1/12 in. across, white. June-Sept.

_Tlaspi arvense_ L. — field pennycress

252. Pinnately lobed, 1 to 4 in. long, acute, smooth above, very short-hairy on principal veins below and on margin, midvein conspicuously whitish above and below.

Plant to 2 1/2 ft. high; stem erect or ascending, simple or branched from base, more or less hairy. Flower 1/2 to 1 1/2 in. across, yellow or whitish becoming reddish. May-Oct.

_Oenothera laciniata_ Hill — cutleaf eveningprimrose
253. Pinnately lobed, 3 to 9 in. long, acute to acuminate, mostly smooth above, few hairs below at least near base.

Plant 6 to 24 in. high; flower stems leafless, somewhat hairy below, usually branched above. Flower 1 to 1 1/4 in. across, bright yellow. June-Nov.

*Leontodon autumnalis* L. — fall hawkbit

254. Pinnately lobed, 1 1/2 to 6 in. long, acute, smooth and granular above and below.

Plant 1 to 3 ft. high; stem smooth, finely grooved, seldom branched. Flower 1 to 2 in. across, white petals with yellow center. May-Nov.

*Chrysanthemum leucanthemum* L. — oxeye daisy

255. Pinnately lobed, 3 to 6 in. long, smooth above and below, midrib sometimes reddish above and very prominent below, margin prickly.

Plant 1 to 6 ft. high; stems smooth, angled. Flower 1 in. or less across, pale yellow. May-Nov.

*Sonchus asper* (L.) Hill — spiny sowthistle

256. Pinnately lobed or large toothed, 4 to 8 in. long, acute, prickly-dentate, smooth above and below, petiole margined.

Plant 3 to 7 ft. high; stem erect, whitish bloom; leaves more lobed toward top. Flower about 1 1/2 in. across, deep yellow. July-Oct.

*Sonchus arvensis* L. — perennial sowthistle

257. Pinnately lobed, 2 to 12 in. long, acute, prickly dentate, smooth above and below, midrib white above and prickly below.

Plant 2 to 7 ft. high; stem erect, stiff, leafy, hollow, prickly on lower part, juice milky. Flower 1/4 to 1/2 in. across, pale yellow. July-Oct.

*Lactuca scariola* L. — prickly lettuce

258. Pinnately lobed, 3 to 10 in. long, acuminate, few sharp-pointed lobes and teeth, smooth above and below.

Plant 3 to 10 ft. high; stem stout. Flower 1/6 to 1/4 in. across, pale yellow. June-Sept.

*Lactuca canadensis* L. — tall lettuce
259. Pinnately lobed or large toothed, to 12 in. long, rounded, smooth above and below, bright green, often closely pressed to ground.

Plant 2 to 4 ft. high; stem slender, smooth. Flower about 1 in. across, white or yellow. June-Nov.

*Verbascum blattaria* L. — moth mullein

260. Pinnately lobed, to 8 in. long, blunt or rounded, smooth above and below, whitish bloom above, pale below.

Plant to 3 ft. high; stem branched, smooth; upper leaves dentate or entire, clasping. Flower about 2/5 in. wide, yellow. May-Oct.

*Brassica rapa* L. — birdsrape mustard

10B. Leaves pinnately lobed, not generally cut to midrib

Rough or hairy above

261. Pinnately lobed, 1 to 6 in. long, blunt, few nearly transparent hairs above, few hairs on midvein below and margin, dull yellowish green.

Plant 6 to 15 in. high; stem slightly angled, succulent, hollow. Flower 1/2 in. long, yellow. April-Oct.

*Senecio vulgaris* L. — common groundsel

262. Pinnately lobed, 2 to 6 in. long, obtuse, dark green above, pale below, hairy both surfaces and margin, midrib whitish and prominent below.

Plant 1 to 2 ft. high; stems smooth, few-branched; leaves all in basal rosette. Flower about 1 in. across, yellow. May-Oct.

*Hypochoeris radicata* L. — spotted catsear

263. Pinnately lobed, 3 to 10 in. long, acute, generally with sparse webby hairs above and below, bitter tasting; juice milky.

Plant 3 to 18 in. high; stem leafless; all leaves in basal rosette. Flower 1 to 2 in. across, deep golden yellow. Jan.-Dec.

*Taraxacum officinale* Weber — dandelion
264. Pinnately lobed, 3 to 10 in. long, acute, very short-hairy above, hairy below; juice milky, bitter tasting.
Plant 1 to 3 ft. high; stem erect, branched, smooth; juice milky. Flower about 1 in. across, blue, occasionally pinkish or white. July-Oct.
*Cichorium intybus* L. — chicory

265. Pinnately lobed, 3 to 6 in. long, acute, bristly-hairy above, usually whitish below with midrib hairy, margins sharp-spined.
Plant 2 to 5 ft. high; stem branching only at top, grooved, hairy. Flower about 3/4 in. or less across rose-purple. June-Sept.
*Cirsium arvense* (L.) Scop. — Canada thistle

266. Pinnately lobed, 2 to 4 in. long, white hairy above and below and on petiole, often purple shaded above.
Plant 1 to 2 ft. high; stem white hairy, 4-angled, purplish below. Flower 1 in. long, pale purple-blue. May-July.
*Salvia lyrata* L. — lyre-leaved sage

267. Pinnately lobed, 1 to 5 in. long, lobes serrate toothed, acute, rough and at least sparsely hairy above, sparsely hairy on veins below and margin, petiole rough.
Plant 2 to 6 ft. high; stem erect, branched, lower part somewhat hairy. Flower 1/4 to 1/2 in. across, bright yellow. June-Nov.
*Brassica nigra* L. — black mustard

268. Pinnately lobed, 3 to 6 in. long, rounded, margin wavy, hairy above and below, petiole hairy, mustard tasting.
Plant 1 to 3 ft. high; stem erect, branched near top, rough bristly-hairy. Flower 1/2 to 2/3 in. across, bright yellow. May-Nov.
*Brassica kaber* (DC.) L.C. Wheeler var. *pinnatifida* (Stokes) L.C. Wheeler — wild mustard
269. Pinnately lobed, to 11 in. long, margin weak spined, long hairy above and below (1st year rosette).
Plant 1 to 4 ft. high; stem stout, mostly unbranched, webby-hairy. Flower 1 ½ to 3 in. across, 1 ½ to 2 ½ in. high, pale yellow, rarely pale purple. May-Aug.
*Cirsium borridulum* Michx. — yellow thistle

270. Pinnately lobed, to 12 in. long, acute, somewhat hairy above and below, margin with many long sharp spines.
Plant 1 to 3 ft. high; stem stout, at least somewhat hairy. Flower 2 to 3 in. across, sweet scented, purple or sometimes white. July-Sept.
*Cirsium pumilum* Spreng. — pasture thistle

11A. Leaves pinnately lobed, or cleft or compound, usually cut to midrib or almost
Smooth above

271. Pinnately lobed, to 5 in. long, 1 to 4 pairs of small ovate lobes and large ovate to round terminal lobe, glossy above, veins shining below, thick, bright green.
Plant 1 to 2 ft. high; stem erect, smooth. Flowers 1/4 to 1/3 in. across, bright yellow. April-June.
*Barbarea vulgaris* R. Br. — yellow rocket

272. Similar to above except flowers pale yellow.
*Barbarea orthoceras* — pale yellow rocket

273. Pinnately lobed, to about 5 in. long, 10 to 20 lateral lobes and large terminal lobe, smooth and shining above, lighter green below.
Plant 1 to 2 ft. high. Flowers 1/4 to 1/3 in. across, bright yellow. April-June.
*Barbarea verna* (Mill.) Aschers — early wintercress
274. Pinnately lobed, to 12 in. long, large toothed terminal lobe, several small lateral lobes, marginated petiole-like midrib, smooth and somewhat puckered above, lighter green below, margin with short spines, mustard tasting.

Plant to 2 1/2 ft. high; 1 to 12 stems arising from crown of a thick woody base. Flowers to 3/4 in. across, light yellow. April-June.

*Brassica septiceps* — seven-top turnip

275. Pinnately lobed, to 8 in. long, sharp toothed, smooth above and below, some bloom above, long petiole.

Plant 2 to 4 ft. high; stem erect, smooth or slightly hairy. Flower 1/2 to 3/4 in. across, bright yellow. May-June.

*Brassica juncea* (L.) Coss. — Indian mustard

276. Pinnately lobed, 4 to 10 in. long, smooth above, powdery bloom below, margin weak spined, dull green.

Plant 1 to 6 ft. high; stem erect, stout and smooth, succulent, hollow between nodes; upper leaves clasping round stem, terminal lobe more acute, more lateral lobes. Flower 3/4 to 1 1/4 in. across, yellow. May-Nov.

*Sonchus oleraceus* L. — annual sowthistle

277. Pinnately lobed, 4 to 12 in. long, acute to acuminate, lobes sharply toothed, smooth above, short hairy on principal veins below, margin short-hairy.

Plant 2 to 7 ft. high; stem stout, short-hairy. Flowers numerous, heads 1/4 to 1/2 in. across, blue. July-Oct.

*Lactuca floridana* (L.) Gaertn. — blue lettuce

278. Pinnately lobed, 4 to 10 in. long, acute, smooth above, few long hairs on midrib below.

Plant 3 to 10 ft. high; stem stout, smooth, whitish bloom. Flower 1/6 to 1/4 in. across, pale yellow. June-Sept.

*Lactuca canadensis* L. — tall lettuce
279. Pinnately cleft, to 8 in. long, lobes toothed or cut, smooth above and below.

Plant to 2 ft. tall; stems spreading or ascending; creeping rootstock. Flower about 1/5 in. wide, bright yellow. May-Sept.

*Rorippa sylvestris* (L.) Bess — yellow fieldcress

280. Pinnately lobed, 1 to 3 in. long, acute, smooth or nearly so, sharply mustard tasting.

Plant 6 to 18 in. high; stem smooth or slightly downy. Flower 1/16 to 1/12 in. across, white. May-Nov.

*Lepidium virginicum* L. — Virginia pepperweed

281. Pinnately dissected into linear divisions, to 10 in. long, smooth above and below, petiole grooved above.

Plant to 20 in. high; stem branched; upper leaves cordate, clasping. Flowers about 1/8 in. across, white. June-July.

*Lepidium perfoliatum* L. — yellowflower pepperweed

282. Pinnatifid, to 6 in. long, 3 to 7 linear leaflets, lower leaflets commonly pinnatifid, acute to acuminate.

Plant 1 to 5 ft. high, usually freely branching. Flower 1 to 2 1/2 in. across, bright golden yellow. Aug.-Oct.

*Bidens coronata* (L.) Britt. — crowned tickseed-sunflower

283. 1 to 2 pinnately divided, mostly 2 to 4 in. long, segments long and narrow, smooth and shining above and below.

Plant 2 to 4 ft. high; stem smooth, many slightly angled branches. Flower about 1 in. across, petals 3-lobed at top, yellow with red-brown base, center red-purple or brown. June-Sept.

*Coreopsis tinctoria* Nutt. — tickseed
284. 1 to 3 pinnately divided, 4 to 8 in. long, leaflets sharply toothed, punctuate dotted above, fragrant when bruised.

Plants 1 to 3 ft. high; stem sparingly fine-hairy. Flowers in heads 1/4 to 1/2 in. across, yellow. July-Sept.

*Tanacetum vulgare* L. — tansy

285. Pinnately compound, 4 to 6 in. long, leaflets sharply serrate, smooth above, short hairy below and on margin, petiole long hairy.

Plant 2 to 5 ft. high; stem densely bristly, branching near top. Flower 1/4 in. across, in clusters 1 to 2 in. long, pale yellow. July-Oct.

*Agrimonia parviflora* Ait. — small-flowered agrimony

286. 2 to 3-pinnate, to 12 in. long, leaflets 1 1/2 to 4 in. long, narrowly lanceolate, acuminate, margin sharply serrate, smooth above and below.

Plant 3 to 6 ft. high; stem often mottled with purple below, stout. Flowers small, in clusters 2 to 4 in. across, white. June-Sept.

*Cicuta maculata* L. — spotted waterhemlock

287. Pinnately compound, 5 to 15 in. long, leaflets ovate, acuminate, sharply toothed, smooth above, short-hairy below.

Plant trailing, 20 to 40 ft. long; stem smooth, woody. Flower about 2 1/2 in. long, orange and scarlet. July-Sept.

*Campsis radicans* (L.) Seem. — trumpet creeper

288. 2 to 3-pinnately divided, 4 to 8 in. long, leaflets ovate-lanceolate, smooth and dull above, veins very short-hairy and shining below, margin very short-hairy, petiole grooved above.

Plant erect, 1 to 5 ft. high, branching. Flowers in heads, 1/6 to 1/3 in. across, pale greenish yellow. Aug.-Oct.

*Bidens bipinnata* L. — Spanish needles
289. 2- to 3-pinnate with very narrow segments, to 8 in. long, minutely granular above and below, thick, ill-smelling.

Plants 12 to 24 in. high; stem hairy above. Flower 1 in. across, white, June-Oct.

*Anthemis cotula* L. — mayweed

290. 2 to 3-pinnately parted into short linear lobes, 1/2 to 2 in. long, odor of pineapple when bruised.

Plant 6 to 18 in. high, branched. Flower 1/4 to 1/3 in. across, greenish yellow. June-Oct.

*Matricaria matricarioides* (Less.) Porter — pineappleweed

291. Twice-pinnately lobed, to about 4 in. long, segments threadlike.

Plant 3 to 9 ft. high; stem upright, hairy, stout, much branched near top. Flowers 1/16 to 1/8 in. long, numerous, white. Sept.-Oct.

*Eupatorium capillifolium* (Lam.) Small — dogfennel

292. Twice-pinnately compound with narrow segments, to 5 in. long, few short hairs on veins below and margins, pale green, thin, strong carrot taste.

Plant 1 to 4 ft. high; stem hairy. Flowers in flat clusters 2 to 4 in. across, white, rarely pinkish. May-Oct.

*Daucus carota* L. — wild carrot

293. 3 to 4 times pinnately dissected, into linear segments, to 12 in. long, glaucous, long petiole.

Plant stout; stem branched, to 6 ft. high, aromatic. Flowers small, in flat clusters 3 to 5 in. across, yellow. June-Sept.

*Foeniculum vulgare* Mill. — common fennel

294. 3 to 4-pinnately compound and lobed, 4 to 8 in. long, smooth above and below.

Plant 2 to 10 ft. high; stem branched, hollow, purple blotched. Flower about 1/12 in. across, in clusters 1 to 3 in. across, white. June-July.

*Conium maculatum* L. — poison hemlock
295. 3-pinnately compound, 4 to 12 in. long, leaflets acuminate toothed, smooth above and below, petioles purplish.

Plant 3 to 8 ft. high; stem stout, smooth, hollow, usually dark purple. Flower small, in clusters 4 to 8 in. across, greenish white. June-Aug.

*Angelica atropurpurea* L. — purplestem angelica

296. Pinnately compound, 3 to 7 pairs linear to oblong leaflets to 1 1/4 in. long, leaflets with blunt squarish tips and a short spine, smooth above, short-hairy below and on margin.

Plants to 2 ft. high, branched, ascending. Flowers about 1 in. long, mostly greenish yellow, sometimes violet-marked. April-June.

*Vicia grandiflora* Scop. — showy vetch

297. Pinnately compound with 10 to 15 pairs of linear oblong leaflets 2/5 to 4/5 in. long, leaflets spine tipped, smooth above or with a few scattered hairs, smooth below, margins rough, petiole short-hairy.

Plants erect, to 2 1/2 ft. high. Flowers 1 to 1 1/2 in. across, bright yellow. July-Sept.

*Cassia fasciculata* Michx. — partridgepea

11B. Leaves pinnately lobed or cleft or compound, usually cut to midrib or almost

Rough or hairy above

298. Pinnately lobed, 1 to 5 in. long, sparsely hairy above and below, few long hairs on margin.

Plant 6 to 20 in. high; stem smooth above, sparingly downy below. Flower 1/12 in. across, in clusters 6 to 10 in. long, white. Mar.-Dec.

*Capsella bursa-pastoris* (L.) Medic. — shepherdspurse

299. Pinnately lobed with large terminal lobe, to 8 in. long, lobes wavy-dentate, stiff-hairy above and on veins below, petiole hairy, mustard tasting.

Plant upright, to 4 ft. tall; stem more or less hairy. Flowers about 3/5 in. across, yellow. June-Aug.

*Brassica birta* Moench — white mustard
300. Pinnately lobed with large terminal lobe, to 8 in. long, oblong lateral lobes, all lobes toothed, rough-hairy above and below, margin hairy.

Plants to 3 ft. high; stems usually hairy. Flowers 1/2 to 3/4 in. across, pale yellow, becoming pink-purple or white, vein. April-Nov.

*Raphanus raphanistrum* L. — wild radish

301. Pinnately lobed, 4 to 8 in. long, lobes narrow and toothed, hairy above and on margin, petiole hairy.

Plant 1 to 4 ft. high; stem hairy at least below, bushy branching. Flower about 1/4 in. across, pale yellow. May-Aug.

*Sisymbrium altissimum* L. — tumble mustard

302. Pinnately lobed, 4 to 10 in. long, stiff-hairy above and below, dull yellow-green above.

Plant 1 to 4 ft. high; stem erect, stiff, a few branches above. Flower about 1/8 in. across, yellow. May-Nov.

*Sisymbrium officinale* (L.) Scop. — hedge mustard

303. Pinnately lobed, to 6 in. long, lobes sharply toothed, short-hairy above, smooth below.

Plants erect, to 3 ft. tall. Flowers about 1/5 in. across, yellow. May-Sept.

*Rorippa islandica* (Oeder) Borbas — marshcress

304. Pinnately lobed with narrow lobes, 4 to 12 in. long, terminal lobe generally toothed, granular-dotted and rough or short-hairy above and below, margin short-hairy.


*Centaurea maculosa* Lam. — spotted knapweed

305. Pinnately lobed with large terminal lobe, 2 1/2 to 6 in. long, short hairy above and below and on margin.

Plants to 2 1/2 ft. tall; stems stiff, rough-hairy. Flowers in heads 3/4 to 1 in. across, rose-purple. July-Sept.

*Centaurea nigra* L. — black knapweed
306. Pinnately divided, to 6 in. long, lobes toothed or divided, sparsely long hairy above and below and on margin, petiole hairy.

Plant to 2 ft. high; usually with many flowering stems arising from crown, stems sparingly branched, rough and long hairy, seed capsules club-shaped. Flowers about 2 in. across, bright scarlet. May-July.

*Papaver dubium* L. — field poppy

307. Pinnately compound, to 5 in. long, leaflets sessile and toothed or lobed (2/5 to 1 in. long), hairy above and below, petiole rough-hairy.

Plants with stems to 12 in. long, mostly prostrate; stems sticky hairy. Flowers 1/3 to 1/2 in. across, pale purple or pink. Mar.-Nov.

*Erodium cicutarium* (L.) L’hér. — redstem filaree

308. Pinnately compound, 1 to 4 in. long, 3 to 4 pairs of slenderly-petioled round to reniform leaflets, all leaflets generally toothed or shallowly few-lobed, terminal leaflet usually the largest, few stiff hairs above, petiole long-hairy at base.

Plant erect, 4 to 10 in. high, few-branched; many stems arising from crown. Flowers 1/6 in. across, white. Mar.-April.

*Cardamine bursa* L. — hairy bittercress

309. Pinnately lobed with lobes again toothed or lobed, to 18 in. long, short-hairy above, woolly-hairy below, margin with long sharp spines, very crisp.

Plants stout, 2 to 7 ft. high. Flowers in heads to 2 in. across, purple, fragrant. June-Sept.

*Cardium vulgar* (Savi) Tenore — bull thistle

310. Pinnately lobed, to 9 in. long, lobes toothed, slightly rough and somewhat hairy above, webby-hairy below, margin weakly spined.

Plant 3 to 8 ft. high; stem branching near top, angled, woolly-hairy when young. Flower about 1 1/2 in. across, purple. July-Oct.

*Cardium nuticum* Michx. — swamp thistle
311. Pinnately lobed, to 10 in. long, very prickly with long yellowish spines, webby-hairy above, white matted-hairy below.

Plant 1 to 4 ft. high; stem stout, mostly unbranched, webby-hairy. Flower 1 ½ to 3 in. across, 1 ½ to 2 ½ in. high, pale yellow, rarely pale purple. May-Aug.

*Cirsium borridulum* Michx. — yellow thistle

312. Pinnately cleft, 2 to 4 in. long, segments acuminate, short-hairy above, dense matted white-hairy below, aromatic.

Plant upright 1 to 4 ft. high; spreading by rootstocks. Flowers in heads 1/6 in. across, yellowish green. July-Sept.

*Artemisia vulgaris* L. — mugwort

313. Pinnately lobed, to 8 in. or more long, 5 to 7 deeply cut lobes or leaflets, acuminate toothed, rough above and below.

Plant 2 to 9 ft. high; stem erect, smooth often whitish. Flower 2 to 4 in. across; yellow. July-Sept.

*Rudbeckia laciniata* L. — cutleaf goldenglow

314. Pinnately or bipinnately compound, 2 to 7 in. long, very short-hairy above, short-hairy below, margin very short-hairy, petiole somewhat rough above.


*Bidens polylepis* Blake — coreopsis beggarticks

315. Bipinnately lobed, 2 to 4 in. long, narrow segments, short-hairy above and below and on margin, petiole hairy.

Plants branching, 1 to 5 ft. high; stem rough hairy. Flowers small, in clusters 1 to 6 in. long, green. July-Oct.

*Ambrosia artemisiifolia* L. — common ragweed
316. 2 to 3-pinnately compound, to 10 in. long, leaflets roundish, mostly 3 or 4-lobed at top, sparsely short-hairy above, short-hairy below, veins prominent below. Plant to 4 ft. high; stem erect, hollow, somewhat ridged, purplish. Flowers small, in clusters, greenish white. May-June.

*Thalictrum revolutum* DC. — purple meadowrue

317. Pinnately compound, to 18 in. long, each leaflet cut or lobed and toothed on margin, slightly rough with very short hairs above and below and on margin; petiole very short-hairy, grooved on top, lower part sheathing stem. Plant 2 to 5 ft. high; stem stout, hollow. Flowers small, in flat-topped clusters 2 to 6 in. across, dull yellow. June-Sept.

*Pastinaca sativa* L. — wild parsnip

318. Pinnately lobed, 2 to 6 in. long, 1 to 2 pair narrow lobes, sparsely hairy above and below, margin hairy, petiole long-hairy and with deep groove on top. Plant 1 to 2 1/2 ft. high; stem angled and hairy below, branching. Flower 1 1/2 to 2 in. across, yellow. May-July.

*Coreopsis lanceolata* L. — coreopsis

319. Pinnately compound, 5 to 10 pairs oblong to linear leaflets, 2/3 to 5/6 in. long, sharp-pointed, at least a few hairs above, hairy below and on margin, petiole sparsely hairy. Plant 2 to 4 ft. long; stem climbing by tendrils, finely hairy, angled. Flower 1/2 in. long, in clusters 1 to 4 in. long, violet-blue. May-Aug.

*Vicia cracca* L. — bird vetch

320. Twice-pinnately parted, to 2 in. long, hairy above and below, grayish-green. Plant 9 to 20 in. high; stems hairy, usually reclining. Flowers 1 to 1 1/2 in. across, white. May-Oct.

*Anthemis arvensis* L. — corn chamomile
321. Bipinnately dissected into fine divisions, 1 1/4 to 6 in. long, scattered long hairs above and on margin, shorter hairs below, petiole hairy.

Plants upright, stiff, 1 to 2 ft. high. Flowers in heads to 1/4 in. across, white, rarely pinkish. June-Sept.

*Achillea millefolium* L. — common yarrow

12A. Leaves palmately parted or compound

**Smooth above**

322. Trifoliolate, leaflets oblone-ovate, 2/5 to 4/5 in. long, finely serrate, sessile or nearly so, smooth above and below.

Plant 6 to 18 in. high; stem branching, erect or somewhat reclining. Flowers 1/2 to 3/4 in. long, golden yellow. Mar.-Sept.

*Trifolium agrarium* L. — hop clover

323. Trifoliolate, leaflets obovate, 1/3 to 1/2 in. long, shallowly dentate, notched at apex, terminal leaflet peltioled, smooth above, few hairs below, petiole hairy.

Plant often depressed or with wide-spread branches, to 12 in. long. Flowers in head 1/3 to 1/2 in. long, golden yellow. May-Sept.

*Trifolium procumbens* L. — low hop clover

324. Trifoliolate, similar to above but leaves, flowers and plant smaller.

*Trifolium dubium* Sibth. — small hop clover

325. Palmately compound with 3 sessile inverted-cordate leaflets, 1/3 to 3/5 in. wide, smooth with glistening granules above, few scattered hairs below and on petiole, bitter tasting.

Plant creeping; stem often rooting at nodes, 3 to 12 in. long, hairy. Flowers 1/6 to 1/2 in. long, yellow. Feb.-Nov.

*Oxalis corniculata* L. — creeping woodsorrel
326. Palmately compound with 3 sessile inverted-cordate leaflets 2/5 to 4/5 in. wide, smooth above and below, few short hairs on lower part of margin and base of petiole, bitter tasting.

Plant erect or depressed, branched, to 24 in. high. Flowers 1/5 to 2/5 in. long, yellow. May-Oct.

*Oxalis europaea* Jord. — European woodsorrel

327. Palmately compound with 3 inverted-cordate leaflets 2/5 to 3/4 in. wide, smooth or nearly so above, very short-hairy below and on margin, long slender petiole, bitter taste.

Plants 6 to 15 in. high, pale green; stout stems covered with fine hairs. Flowers 1/2 in. long, yellow. April-Oct.

*Oxalis stricta* L. — common yellow woodsorrel

328. Palmately compound with 3 sessile inverted-cordate leaflets to more than 3/4 in. wide, smooth above, glistening granular bloom below, petiole with a few scattered hairs.

Plant stemless, leaf and flower stems arising from base, to 10 in. high. Flower 2/5 to 3/5 in. long, rose-violet. May-June.

*Oxalis violacea* L. — violet woodsorrel

329. Palmately 3-parted, each part lobed and round toothed, yellowish green above, fine whitish granules below, smooth above and below.

Plant 6 to 24 in. high; stems stout, hollow. Flower 1/4 to 1/3 in. across, pale yellow. April-Aug.

*Ranunculus sceleratus* L. — celeryleaf buttercup

330. Palmately compound, 3 ovate leaflets, 1 1/2 to 4 in. long, acute to acuminate, shiny above, smooth to hairy below, margin smooth or irregularly toothed.

Plant upright, trailing or high-climbing; stem woody, supported by aerial roots; leaves red or reddish-yellow in fall. Flower small, in head 1 to 3 in. long, green. June-July.

*Rhus radicans* L. — poison ivy
331. Palmately 3-foliolate, leaflets 3/4 to 2 in. long, crenate, smooth above, sparsely hairy below, petiole sparsely hairy.

Plants with trailing runners, 1 to 3 ft. long; stems silky-downy. Flowers about 3/5 in. across, yellow. Fruit resembling a strawberry but insipid. April-July.

_Duckesnea indica_ (Andr.) Focke — Indian mockstrawberry

332. Palmately lobed, leaflets 2/5 to 4/5 in. long, rounded, smooth above and below, paler below.

Plant to 3 ft. high; stem widely branched, smooth, rigid. Flower about 1/3 to 1/2 in. long, yellow. June-July.

_Baptisia tinctoria_ (L.) R. Br. — wild indigo

333. Palmately compound, 7 to 11 leaflets, longest to 2 in., smooth or a few hairs above, hairy below, petiole long and hairy.

Plant 1 to 2 ft. high; stem erect, hairy. Flower 1/2 to 2/3 in. across, in clusters 4 to 10 in. long, blue, rarely white or pink. May-June.

_Lupinus perennis_ L. — perennial lupine

12B. Leaves palmately parted or compound

Rough or hairy above

334. Palmately 3-foliolate, leaflets elliptic to obovate, 2/5 to 4/5 in. long, hairy above and below, margin finely serrate and hairy, toothed at apex.

Plants generally prostrate and spreading, 1 to 2 ft. long. Flowers 1/12 in. long, in heads about 1/4 in. long, yellow. Mar.-Dec.

_Medicago lupulina_ L. — black medic

335. Deeply 3-parted, segments oblong to obovate, coarsely serrate or lobed, longest segment about 1 1/4 in., very short-hairy and a few long hairs above, sparsely hairy below, petiole long-hairy.

Plants branching, often reclining, 1 to 2 ft. long. Flowers 1 to 2 in. across, yellow. July-Sept.

_Hibiscus trionum_ L. — Venice mallow

69
336. Palmately compound with 3 narrowly obovulate leaflets, 2/5 to 4/5 in. long, silky-hairy above and below; margin long-hairy and sometimes finely serrate and notched at tip.

Plants 6 to 18 in. high; stem silky-hairy, branching. Flowers in heads 1/2 to 1 in. long, grayish-pink, softly silky. May-Sept.

*Trifolium arvense* L. — rabbitfoot clover

337. Palmately divided into 3 to 5 deeply cleft obovate segments, these cleft into oblong or linear lobes, to 3 in. wide and long, hairy above and below, petiole hairy, bitter tasting.

Plants 2 to 3 ft. high; stem hairy below, hollow. Flower about 1 in. across, deep yellow. May-Sept.

*Ranunculus acris* L. — tall buttercup

338. Palmately 3-parted, to 3 in. long, petioled segments broadly obovate to round in general outline, cleft or lobed, sharply toothed, hairy above and below, petiole hairy.

Plants 1 to 3 ft. long, creeping; stem usually hairy at base. Flower 1 in. across, bright yellow. May-July.

*Ranunculus repens* L. — creeping buttercup

339. Palmately 3-parted, each roundish division with 3 notched leaflets, grayish-hairy above, and short-hairy below, hairy on margin and petiole.

Plants 6 to 8 in. high; stem erect, hairy, bulbous below ground. Flowers 1 in. across, bright yellow. May-July.

*Ranunculus bulbosus* L. — bulbous buttercup

340. Palmately compound with 5 obovulate leaflets, longest about 1 in., serrate, soft-hairy above and below; margins and petiole long-hairy.

Plants 6 to 24 in. long, prostrate; stems slender, hairy. Flowers 1/4 to 1/2 in. across, yellow. April-Aug.

*Potentilla canadensis* L. — common cinquefoil
341. Palmately 3-foliolate, leaflets obovate to oblanco-
late, to 3 in. long, coarsely serrate, rough-hairy above
and below, veins depressed above and prominent below,
petiole long and rough-hairy.

Plant stout, leafy, branched, 4 to 30 in. high. Flowers

*Potentilla norvegica* L. — rough cinquefoil

342. Digitately 5- to 7-foliolate, leaflets oblanco-
late, 1 ¼ to 5 ½ in. long, coarsely serrate, rough-hairy above
and below, paler below, veins depressed above and
prominent below, petiole rough-hairy.

Plant erect, 1 to 3 ft. high; stems stout, hairy. Flowers

*Potentilla recta* L. — sulfur cinquefoil

343. Palmately compound with 5 or 7 leaflets (some-
times 3, 4 or 6), median leaflet 4/5 to 2 in. long, all
crenately toothed on upper 2/3, short-hairy above, hairy
below and on margin, petiole hairy.

Plant prostrate and creeping, to 3 ft. long. Flowers to 1
in. wide, yellow. May-July.

*Potentilla reptans* L. — creeping cinquefoil

344. Palmately compound, 5 leaflets, narrowly ovate,
to 2 1/2 in. long, upper two-thirds of margin sharply
 toothed, short-hairy above and below and on margin,
petiole short-hairy.

Plant at first erect or ascending, then spreading, rooting
at tips; stem sparsely hairy, to 3 ft. long. Flower 2/5 to
3/4 in. across, yellow. April-June.

*Potentilla simplex* Michx. — oldfield cinquefoil

345. Palmately compound, leaflets 1 to 4 in. long,
acute or acuminate, rough short-hairy above and below
at least on principal veins, petiole hairy.

Plant 3 to 5 ft. high; stem much branched, hairy. Flower
1/6 in. long, purple. July-Sept.

*Desmodium canescens* (L.) DC. — hoary tickclover
346. Palmately compound, leaflets 1 1/2 to 3 in. long, somewhat rough above, sparsely hairy below, petiole hairy, side leaflets sessile or with very short petioles.

Plant to 4 ft. high; stem branched above, finely hairy. Flower to 1/4 in. long, pinkish to lavender. July-Sept.

*Desmodium sessilfolium* (Torr.) T. & G. — sessile tickclover

347. Palmately compound, leaflets 3/4 to 2 1/2 in. long, sharp-tipped, sparsely hairy above and below and on margin, petiole hairy (leaflets sometimes have a lateral lobe on one or both sides).

Plant 8 in. to 6 ft. long; stem branching, trailing or twining, long-hairy (sometimes smooth). Flower 1/3 to 1/2 in. long, pink or purple. June-Oct.

*Strophostyles helvola* (L.) Ell. — trailing wild bean

348. Palmately 3- to 5-cleft into ovate-lanceolate serrate lobes, rough-hairy above with long and short hairs, rough-hairy below, veins depressed above and prominent below, petiole slightly margined and hairy, strong tasting.

Plant upright, branching, to 10 to 12 ft. high; stem rough-hairy. Flowers small, green, in clusters 3 to 12 in. long. July-Oct.

*Ambrosia trifida* L. — giant ragweed

349. Three-lobed, to 4 in. long, acute, sharply toothed, rough and sparsely hairy above and below, margin rough, thin, petiole hairy.

Plant 2 to 5 ft. high; stem branching, rough-hairy. Flower to 2 in. across, golden yellow with very dark brown center. June-Oct.

*Rudbeckia triloba* L. — browneyedsusan

350. Palmately 3-foliolate, about 3 in. long, leaflets acute, sharply toothed, hairy above, below and on margin.

Plant 15 to 30 in. high; stems slender. Flowers 1/3 to 2/3 in. across, white. June-Aug.

*Geum canadense* Jacq. — white avens
351. Palmately 5-lobed, 3 to 6 in. long, lobes triangular, acuminate tipped, short toothed, slightly rough above and below, margin very short-hairy.

Plant 15 to 30 ft. long, climbing; stems angular, grooved, smooth. Flowers small, in loose clusters 4 to 6 in. long, fragrant, greenish white. July-Oct.

_Echinocystis lobata_ (Michx.) T. & G. — wild cucumber

352. Palmately compound, leaflets 2 to 4 in. long, acuminate, serrate, very short-hairy above, short-hairy below and on margin, few hairs on petiole.

Plant 2 to 5 ft. high; stem smooth, reddish-tinged; upper leaves may have 5 leaflets. Flower 1/2 to 1 in. across, greenish yellow. July-Oct.

_Bidens frondosa_ L. — devils beggarticks

353. Palmately compound, terminal leaflet 1 ½ to 2 ½ in. long, sharp toothed, hairy above and below and on margin, long slender petiole.

Plant to 9 in. high, spreading by runners. Flower 1/2 to 3/4 in. across, white. April-June.

_Fragaria virginiana_ Dcne. — Virginia strawberry

354. Palmately 5- to 9-parted, 1 1/2 to 2 in. wide, segments deeply toothed or lobed, very short-hairy above, below and on margin, petiole grayish-hairy.

Plant 6 to 24 in. high; stems stout with gray hairs. Flowers 1/3 to 1/2 in. across, pink or whitish. April-Aug.

_Geranium carolinianum_ L. — Carolina geranium

355. Palmately 5- to 7-cleft to middle, 4/5 to 2 in. wide, segments usually 3-lobed at summit, soft-hairy above and below, margin short-hairy, petiole with short and long hairs.

Plant spreading or ascending, branched from base, 8 to 20 in. long. Flower about 1/2 in. across, deep purple. June-Aug.

_Geranium molle_ L. — dovesfoot geranium
356. Palmately 5- to 7-parted two thirds to base, 1 to 2 ½ in. wide, oblong, obtuse or acutish lobes, very short-hairy above and on veins below, margin very short-hairy, petiole short-hairy.

Plant 4 to 24 in. long; stem slender, branching, weak, hairy. Flower 1/4 to 1/2 in. across, pale purple. June-Oct.

*Geranium pusillum* L. — small geranium

357. Palmately 5- to 7-lobed, 2 to 5 in. long, lobes cut or toothed, soft-hairy above and below, margin short-hairy, slender hairy petiole to 6 in. long and frequently reddish brown.

Plant 8 to 24 in. high; stem hairy; a few basal leaves and generally one pair of short-petioled stem leaves. Flower 1 to 1 1/2 in. across, magenta pink. April-July.

*Geranium maculatum* L. — spotted geranium
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