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Guide to the Identification of Common Weed Seedlings of Michigan

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Cooperative Extension Service

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# GUIDE TO THE IDENTIFICATION OF COMMON WEED SEEDLINGS OF MICHIGAN

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COOPERATIVE EXTENSION SERVICE • MICHIGAN STATE UNIVERSITY

# KEY TO WEED SEEDLINGS

## COTYLEDONS LONG AND LINEAR. (at least 10x as long as wide)



- Leaves simple and linear..... *Buckhorn plantain*
- Leaves trifoliolate; each segment deeply lobed..... *Wild carrot*

## COTYLEDONS LONG AND LANCE SHAPED



- Leaves lance shaped with serrate margins..... *Common cocklebur*
- Leaves lance shaped with entire margins..... *Jimsonweed*

## COTYLEDONS OVATE-POINTED



- Leaves opposite
  - Cotyledons with long petioles (5mm); underside of leaves green..... *Common chickweed*
  - Cotyledons with short petioles or none.
    - Leaf surface covered with long hairs..... *Mouse-ear chickweed*
    - Leaf surface without long hairs; short hairs on margin..... *White cockle*
- Leaves alternate
  - Stem with long spreading hairs; underside of leaves green..... *Clammy ground-cherry*
  - Stem without spreading hairs; underside of leaves purple..... *Black nightshade*

## COTYLEDONS NARROW AND CLUB SHAPED



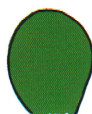
- Leaves oval with white, mealy coating..... *Common lambsquarters*
- Leaves linear without mealy coating..... *Prostrate knotweed*

## COTYLEDONS OBLONG-OVAL



- Leaves opposite; thick and fleshy..... *Common purslane*
- Leaves alternate; not fleshy
  - Leaves sagittate..... *Wild buckwheat*
  - Leaves not sagittate.
    - Young leaves rolled into a cone with a membranous sheath at the base.
      - Leaves large with a broad base and long petiole..... *Curled dock*
      - Leaves oval, tapering gradually to a short petiole.
        - Cotyledons over 1 cm long, often with purplish spots..... *Pennsylvania smartweed*
        - Cotyledons shorter, up to 8 mm and without purplish spots..... *Ladythumb*
    - Young leaves not inrolled and without a membranous sheath.
      - Leaves with a blunt or slightly indented apex; often purple beneath..... *Redroot pigweed*
      - Leaf apex rounded or pointed, green beneath..... *Common plantain*

## COTYLEDONS ROUND TO PADDLE SHAPED



- Leaves deeply pinnately lobed..... *Common ragweed*
- Leaves not lobed
  - Leaves with stiff hairs or spines
    - Leaves on long petioles; spines only on margins..... *Canada thistle*
    - Leaves with short petioles or none; whole surface with spiny hairs..... *Bull thistle*
  - Leaves without spines.
    - Margin of leaves with small teeth.
      - Leaf surface shiny; teeth conspicuous..... *Dandelion*
      - Leaf surface dull; teeth small and inconspicuous..... *Prickly lettuce*
    - Margin of leaves entire.
      - Leaves on long petioles..... *Yellow rocket*
      - Leaves on short petioles..... *Shepherd's purse*

## COTYLEDONS WITH HEART SHAPED APEX



- Leaves sagittate..... *Field bindweed*
- Leaves oval in outline with deeply sinuate margins and short stiff hairs..... *Wild mustard*

## COTYLEDONS WITH HEART SHAPED BASE

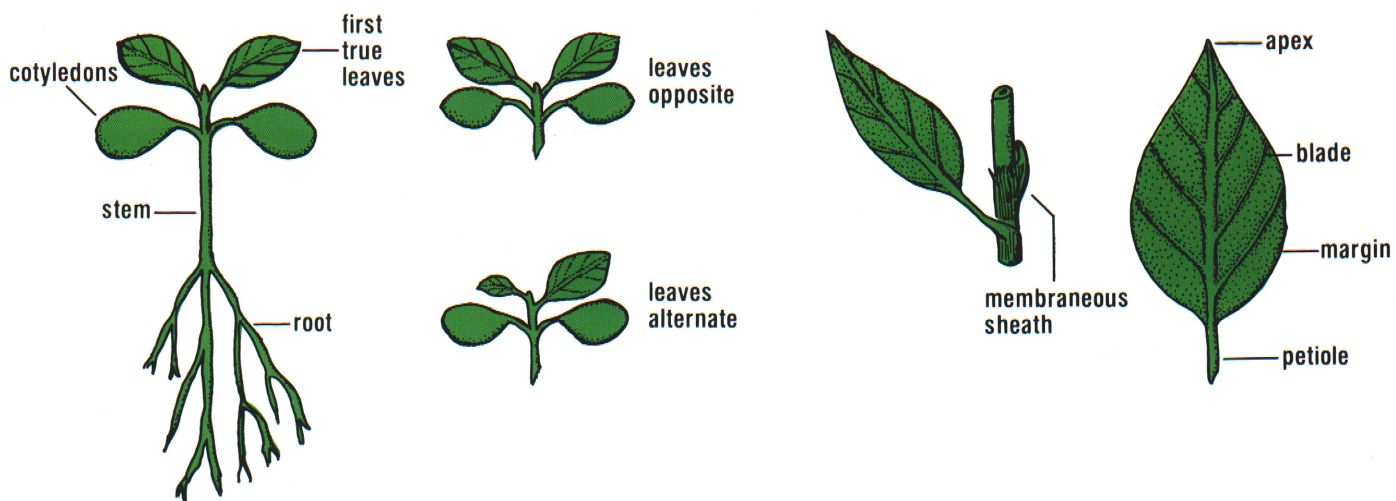


- Leaves covered with soft velvety hairs..... *Velvetleaf*
- Leaves smooth and shiny on long petioles..... *Yellow rocket*

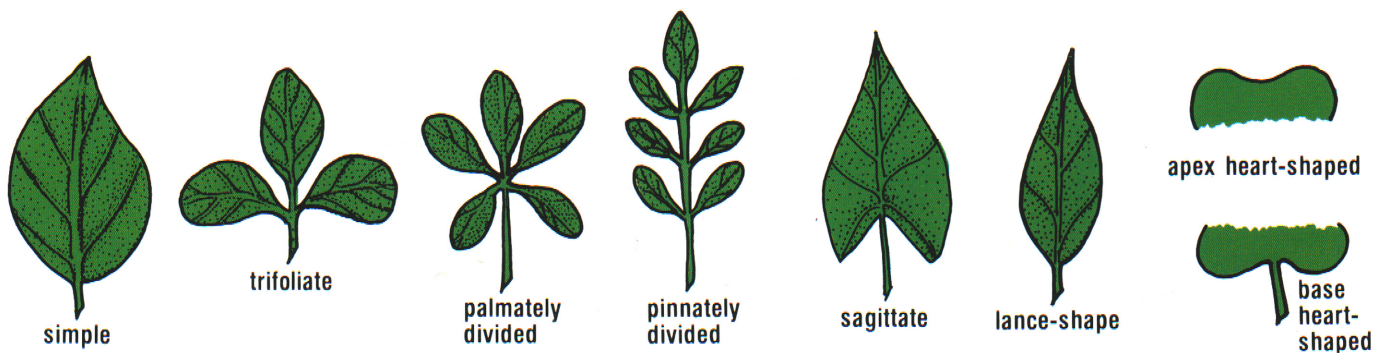
Funded in part by National Science Foundation Grant.

# CHARACTERISTICS OF WEED SEEDLINGS

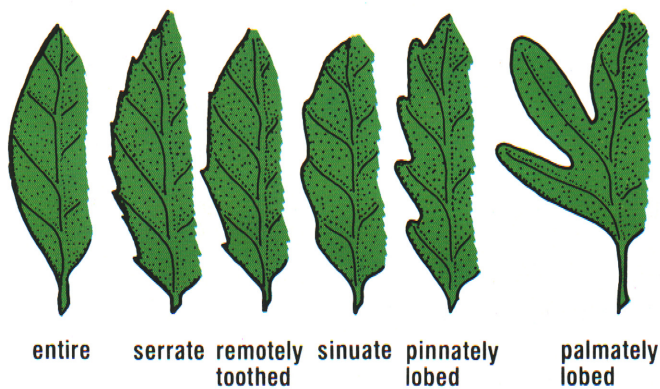
## SEEDLING MORPHOLOGY



## LEAF SHAPES



## LEAF MARGINS



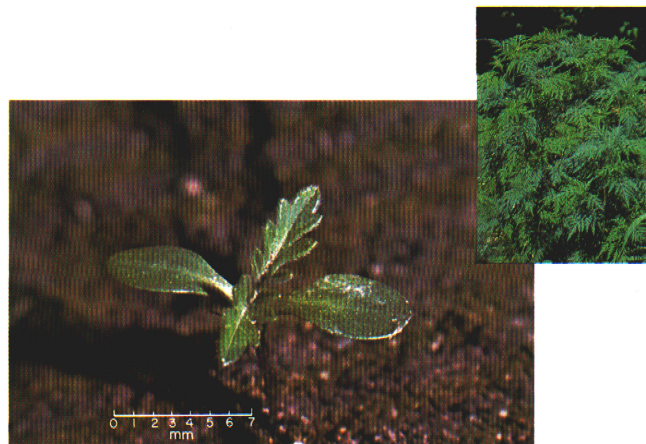
# Annuals

(Live only one year. Spring plants are seedlings. Insets are mature plants.)



**VELVETLEAF, Indian mallow, butter-print**  
(*Abutilon theophrasti*).

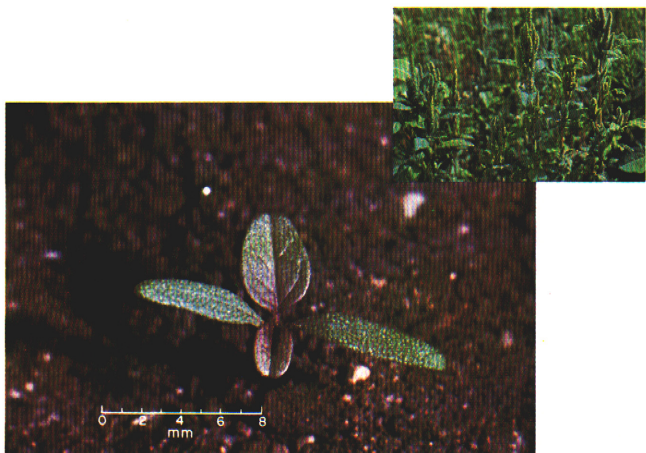
Cotyledons with a heart shaped base. Leaves soft and velvety. Corn-fields, soybean fields and waste places.



**COMMON RAGWEED**

(*Ambrosia artemisiifolia*).

Young leaves deeply lobed and somewhat hairy. Old pastures, wasteland, roadsides and cultivated land.



**REDROOT PIGWEED, Rough pigweed, redroot.**

(*Amaranthus retroflexus*).

Seedling often tinged with purple, especially cotyledons. First leaves usually with indentation at tip. Cultivated fields, yards, fencerows, waste places.



**WILD MUSTARD**

(*Brassica kaber*).

Cotyledons heart shaped at apex. Leaves with wavy or serrate margins. Grain fields and other cultivated crops.



**SHEPHERD'S PURSE**

(*Capsella bursa-pastoris*).

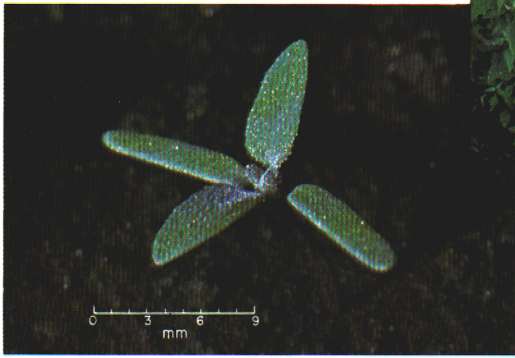
Leaves and cotyledons rounded, lying close to the ground. Leaves with white hairs flat on surface. All crops and waste places.



**MOUSE-EAR CHICKWEED**

(*Cerastium vulgatum*).

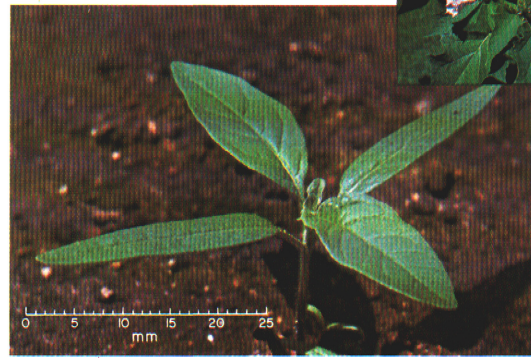
Seedling very small, rarely found while young enough to see cotyledons. Tiny leaves with long spreading hairs. Forms dense mats on lawns, pastures and abandoned land.



**COMMON LAMBSQUARTERS**

(*Chenopodium album*).

Seedling often reddish beneath. Leaves with a white mealy coating. Cultivated crops.



**JIMSONWEED**

(*Datura stramonium*).

Cotyledons very long and narrow. Seedling with unpleasant smell when bruised. All parts of plant contain poisons. Cultivated crops on rich land, and old feedlots.



**KNOTWEED,  
Doorweed**

(*Polygonum aviculare*).

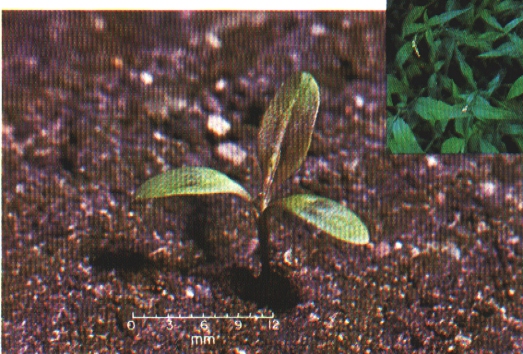
Cotyledons narrow. Young leaves rolled into a cone with a membrane sheath at the base. Hard trampled areas in lawns, yards, waste places and along roadways and paths, forming dense mats.



**WILD BUCKWHEAT**

(*Polygonum convolvulus*).

Cotyledons long and sturdy. Young leaves rolled into a cone with a membrane sheath at the base. Older leaves sagittate. Roadsides, railways, cropland, and waste ground.



**PENNSYLVANIA SMARTWEED**

(*Polygonum pensylvanicum*).

Young leaves rolled into a cone with a membrane sheath at the base. Older leaves lance shaped. Cotyledons 1 cm. or more long. Seedling may be tinged with purple, with dark purplish spots on leaves and cotyledons. Cultivated ground, waste places and along ditches.



**LADYSTHUMB,  
Smartweed**

(*Polygonum persicaria*).

Similar to Pennsylvania smartweed. Cotyledons shorter, about 8 mm. Cultivated ground, waste places and along ditches.



**COMMON PURSLANE**

*(Portulaca oleracea).*

Fleshy plant, violet colored beneath. Gardens and truck crops where intensive tillage is performed. Drouth resistant.



**BLACK NIGHTSHADE**

*(Solanum nigrum).*

Leaves dark green with purplish veins; purple beneath. Poisons present in leaves and berries (especially unripe ones). Cultivated fields, garden areas and waste places.



**COMMON CHICKWEED**

*(Stellaria media).*

Seedling small, pale green. Cotyledons and leaves on long stalks. Lawns, gardens, alfalfa, strawberry beds, nurseries. May also be a winter annual.



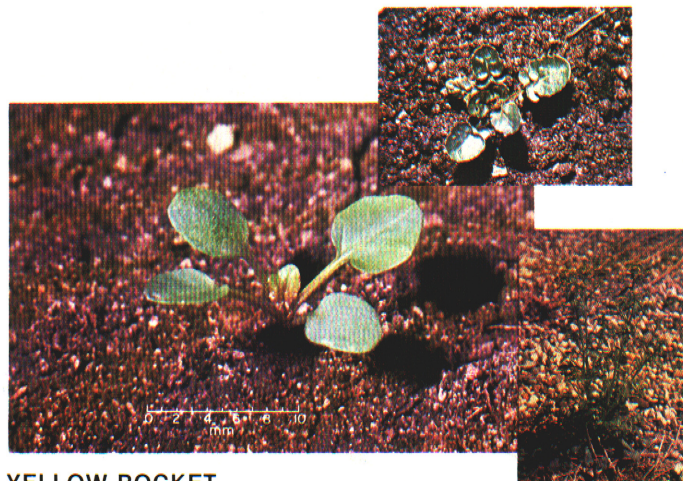
**COCKLEBUR**

*(Xanthium pennsylvanicum).*

Cotyledons long and narrow. Leaves broad and oval with a rough, sandpaperly feel. Cultivated fields, abandoned land, poor pastures and roadsides.

**Biennials**

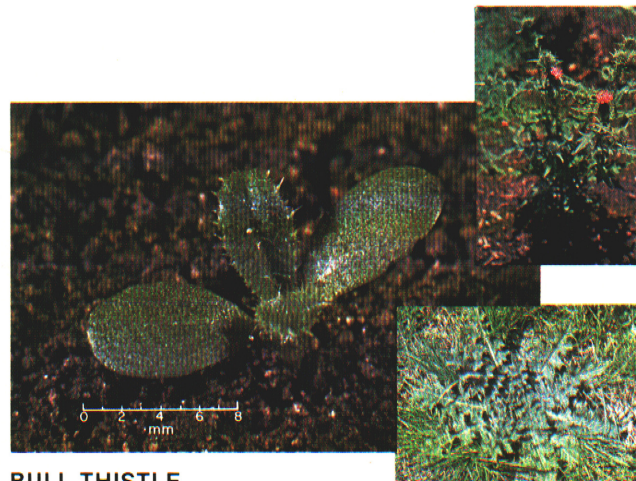
*(Live two years and bloom the second year. Spring plants may be seedlings, sprouts or overwintered rosettes. Insets show rosettes, sprouts and mature stages.)*



**YELLOW ROCKET**

*(Barbarea vulgaris).*

Cotyledons stalked and round to heart shaped at base. Older leaves long stalked, sometimes with wavy margins. Along roadsides, in pastures, timothy, clover and alfalfa. May also be a winter annual or perennial.



**BULL THISTLE**

*(Cirsium vulgare).*

Leaves very prickly and fleshy. Seedling lying flat on ground with leaves and cotyledons of similar shape and size. Large spiny rosette overwinters. Pastures, lawns, first year meadows and wasteland.



**WILD CARROT, Queen Anne's Lace**  
(*Daucus carota*).

Cotyledons long and narrow. Leaves trifoliate and each segment deeply lobed. Has a carrot odor when bruised. Rosette of finely divided leaves appears early in the spring. Meadows, pastures, lawns and roadsides, not in cultivated fields.

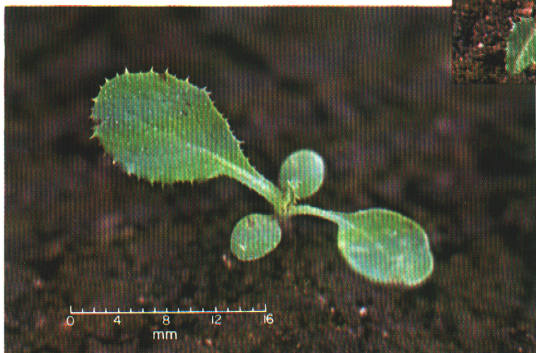


**WHITE COCKLE**  
(*Lychnis alba*).

Cotyledons and leaves of similar shape. Light green. Leaves slightly hairy on margins. May also be a short lived perennial. Roadsides, borders of fields and waste places, grain and legume fields.

## Perennials

(Live more than two years. Spring plants may be seedlings or sprouts.  
Inserts show rosettes, sprouts and mature stages.)



**CANADA THISTLE, Creeping thistle**  
(*Cirsium arvense*).

Leaves on long petioles with short spines on margins. Cotyledons smaller than fully grown first leaves. Reproduces both by seeds and creeping roots. Young sprouts appear early in spring. All crops.



**FIELD BINDWEED, Creeping jenny**  
(*Convolvulus arvensis*).

Cotyledons broadly heart shaped at apex. Leaves sagittate. Reproduces both by seeds and slender creeping roots. Young sprouts appear in dense groups early in the spring. All non-cultivated areas and under most cropping systems.

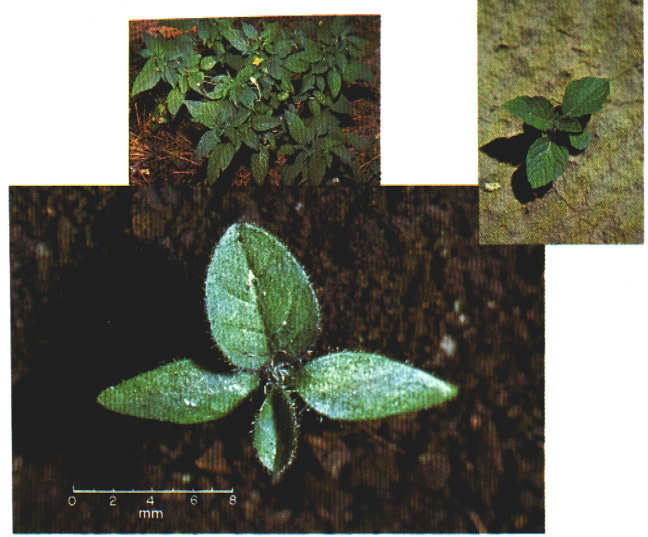




**PRICKLY LETTUCE**

*(Lactuca scariola).*

Similar to dandelion but leaves with smaller teeth and a dull rather than shiny surface. Older leaves with prickles on underside of mid-vein. Roadsides, fencerows and wasteland.



**CLAMMY GROUNDCHERRY**

*(Physalis heterophylla).*

Similar to black nightshade but top and underside of leaves light green, and stem with spreading hairs. Reproduces by seeds and deep spreading roots. Cultivated fields, gardens, pastures and meadows.



**BUCKHORN PLANTAIN,  
Narrow-leaved plantain**

*(Plantago lanceolata).*

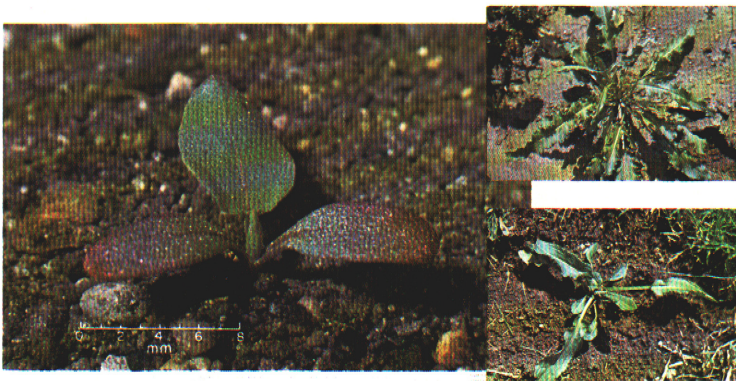
Cotyledons very long and narrow. Leaves often with a furrow above, broadly lance shaped and appearing parallel veined. Reproduces by seed. Lawns, meadows, pastures and waste places.



**COMMON PLANTAIN**

*(Plantago major).*

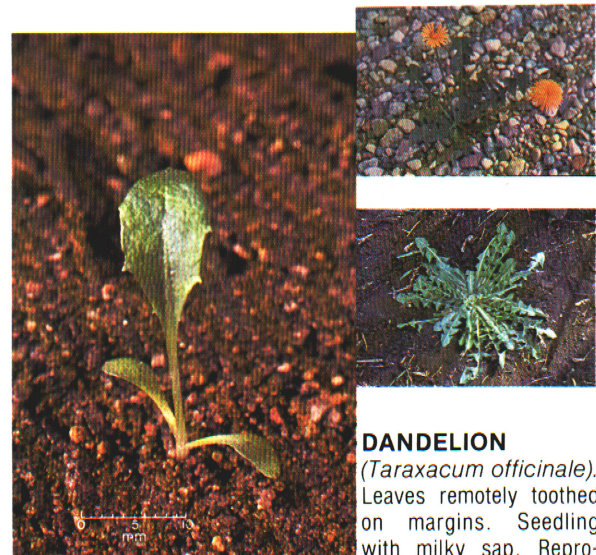
Leaves somewhat fleshy, blade gradually narrowed to stalk. Reproduces by seed. Pastures, lawns, roadsides, new hayfields and waste areas.



**CURLED DOCK, Sour dock**

*(Rumex crispus).*

Leaves broadly ovate, with a wide base and wavy margin. Often tinged with red. Reproduces by seed. Pastures, roadsides, new hayfields, cereal grains and waste areas.



**DANDELION**

*(Taraxacum officinale).*

Leaves remotely toothed on margins. Seedling with milky sap. Reproduces by seed or by sprouts from roots. Lawns, meadows, gardens and waste places.