

MC/FRK:mi  
8/90

Mick Canevari  
Farm Advisor

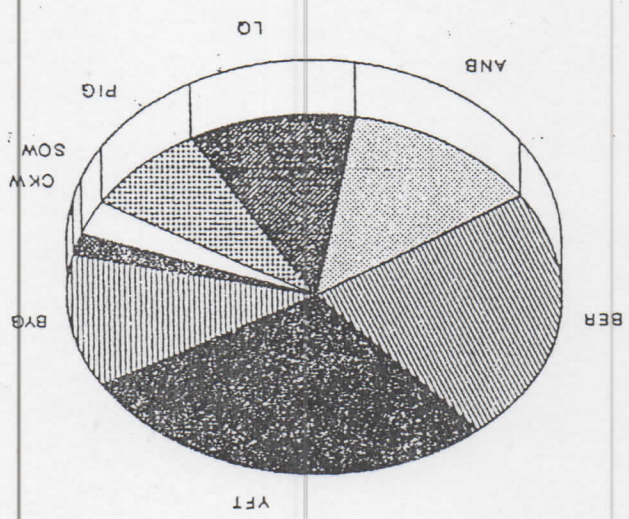
Franz R. Kegel  
Farm Advisor

*Franz R. Kegel*

*Mick Canevari*

\* \* \* \* \*

Dave Cudney  
Steve Wright  
Tom Shultz



### DISTRIBUTION OF WEED SPECIES

Did you ever wonder what kind of weeds could be found in manure which is used to fertilize some of our commercial fields?

The following (cow) pie chart shows the average distribution of weeds germinated from dairy manure collected four times a year from various sites within seven dairies in Tulare and Kings counties. It should be mentioned that not all sites had large numbers of weeds and some dairies had fewer weeds in their manure samples.

The most predominant weed found was yellow foxtail (YFT) followed by: bermudagrass (BER), annual bluegrass (ANB), barnyardgrass (BYG), lamb's quarter (LQ), pigweed (PIG), sowthistle (SOW), and chickweed (CKW).

### WEED SPECIES DISTRIBUTION IN DAIRY MANURE

1973  
10/15/73

Dr. J. H. ...  
10/15/73

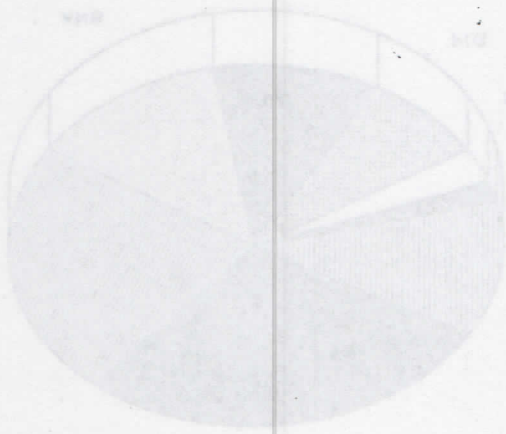
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Low 2111  
High 2111  
Low 2111



### DISTRIBUTION OF WEED SPECIES

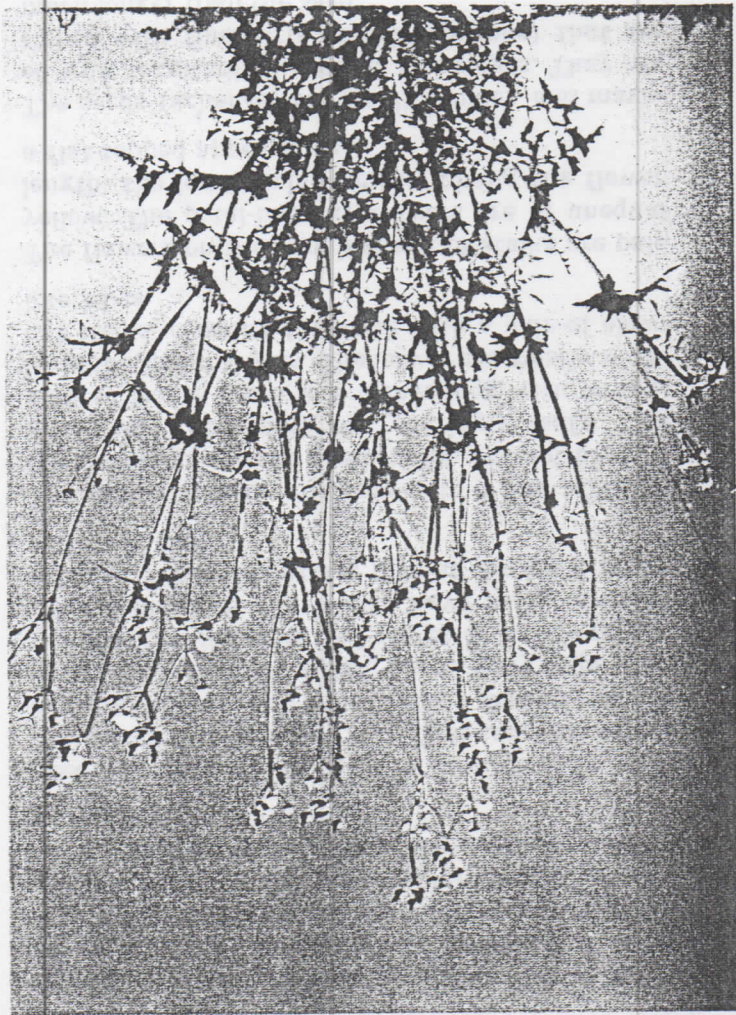
The following table shows the distribution of weed species in the study area. The data is presented in a table format with columns for species names and their respective percentages. The table is oriented vertically on the page.

Species names listed include: ...

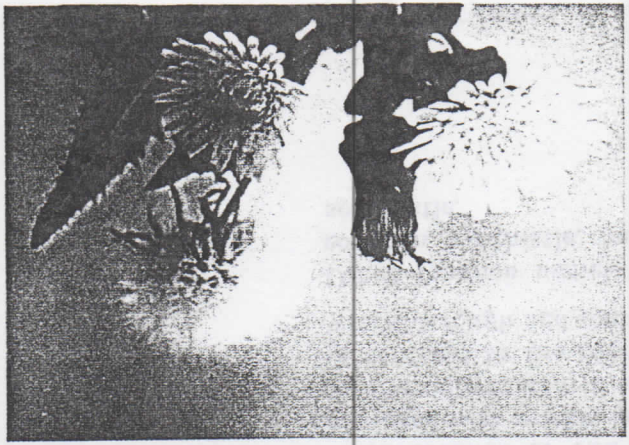
Percentages listed include: ...

INDIVIDUAL NUMBERS  
WEED SPECIES DISTRIBUTION

ANNUAL SOWTHISTLE - *Sonchus oleraceus* L.



MATURE



FLOWER AND SEED



SEEDLING

# ANNUAL SOWTHISTLE - Sonchus oleraceus L.

## Thistle Family

Annual sowthistle, a tall coarse annual with milky juice, is widely distributed in California both in cropped and noncropped areas. In many irrigated crops it is becoming more numerous and troublesome because of its resistance to many widely used selective herbicides.

Seed leaves (cotyledons) are smooth with light grayish powdery bloom. The first true leaves are broad at the top and taper rather abruptly at the base. The leaves are a dull, bluish-gray color with few thick white hairs and are paler on the underside. Sometimes the leaves have soft, recurved prickles. When leaves are torn at the base, milky juice will flow.

The mature plants will grow 3 to 6 feet tall. The stems are hollow and are usually, but not always, branched. The plants are sparingly leafy. The pointed leaves are 3 to 9 inches long with irregularly toothed margins. The leaves are mostly without stems, clasping the stalk with a pair of claw-like lobes.

The flowers on the terminal end of stalks are pale yellow. The petal-like ray flowers are of unequal length, the lower being longer, giving the flower a flat-topped appearance.

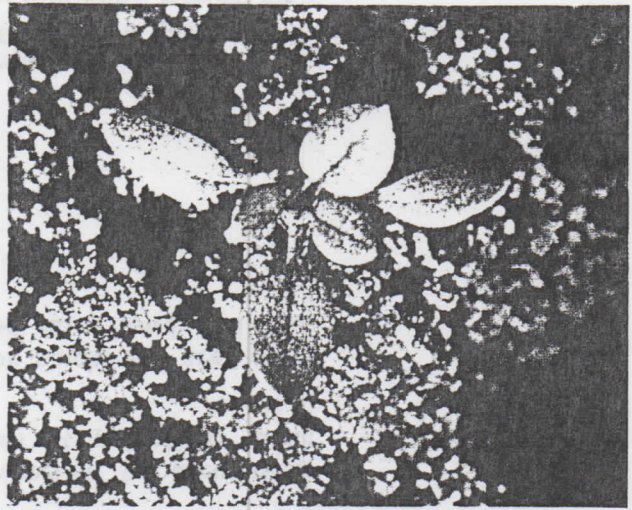
The seeds (achenes) are small, slender, and marked with longitudinal grooves and ridges. They are tipped with fine tufts of hair (pappus) that are much longer than the seed.

Milky juice will flow from the stems or leaves when crushed or cut. Annual Sowthistle, often confused with prickly lettuce, can be distinguished by the smooth midrib on the underside of the leaf in contrast to the midrib of the prickly lettuce, which is rough and somewhat thorny to the touch. Other common names for annual sowthistle are common sowthistle, hares lettuce, colewort and sowthistle.

FLOWER



SEEDLING



MATURE



CHICKWEED - *Stellaria media* (L.) Vill.

# CHICKWEED - *Stellaria media* (L.) Vill. Pink Family

Chickweed is a commonly occurring, succulent, low growing winter annual. In cool shaded areas it may live through the summer and behave as a perennial. It is found infesting annual crops, alfalfa, orchards and vineyards. It is a troublesome weed in lawns and all landscaped areas. Chickweed was introduced from Europe and is now widely distributed throughout the United States.

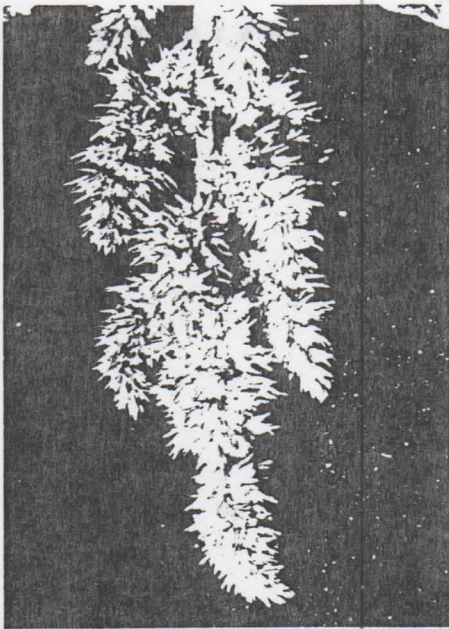
The seedling is light green. The seed leaves (cotyledons) are 4 times as long as broad, delicate, tapering to a point and with prominent midveins. The leafstalks of the seed leaves often have a few translucent hairs. The true leaves are much broader, opposite, tender, with a few long hairs on the leafstalks. The upper surfaces of the true leaves are bright green, the undersides paler.

The stems are trailing, weak and slender, with a line of hairs down the side. They may root at joints that are in contact with the soil. The leaves are ovate,  $\frac{1}{4}$  to 1 inch long, with entire margins. They are opposite on the stem; the lower ones with stalks  $\frac{1}{4}$  to  $\frac{3}{4}$  inch long, the upper stalkless. The flowers are small but showy, with 5 deeply cut white petals. They are borne singly on long slender stalks arising at the base of the leafstalk.

The fruit is a dry capsule containing numerous seeds. The seeds are circular, approximately  $\frac{1}{25}$  of an inch across and with pebbled surfaces. Chickweed has been reported to accumulate concentrations of nitrates at potentially toxic levels.

Other common names for chickweed are: starwort, starweed, winterweed, satin flower and common chickweed.

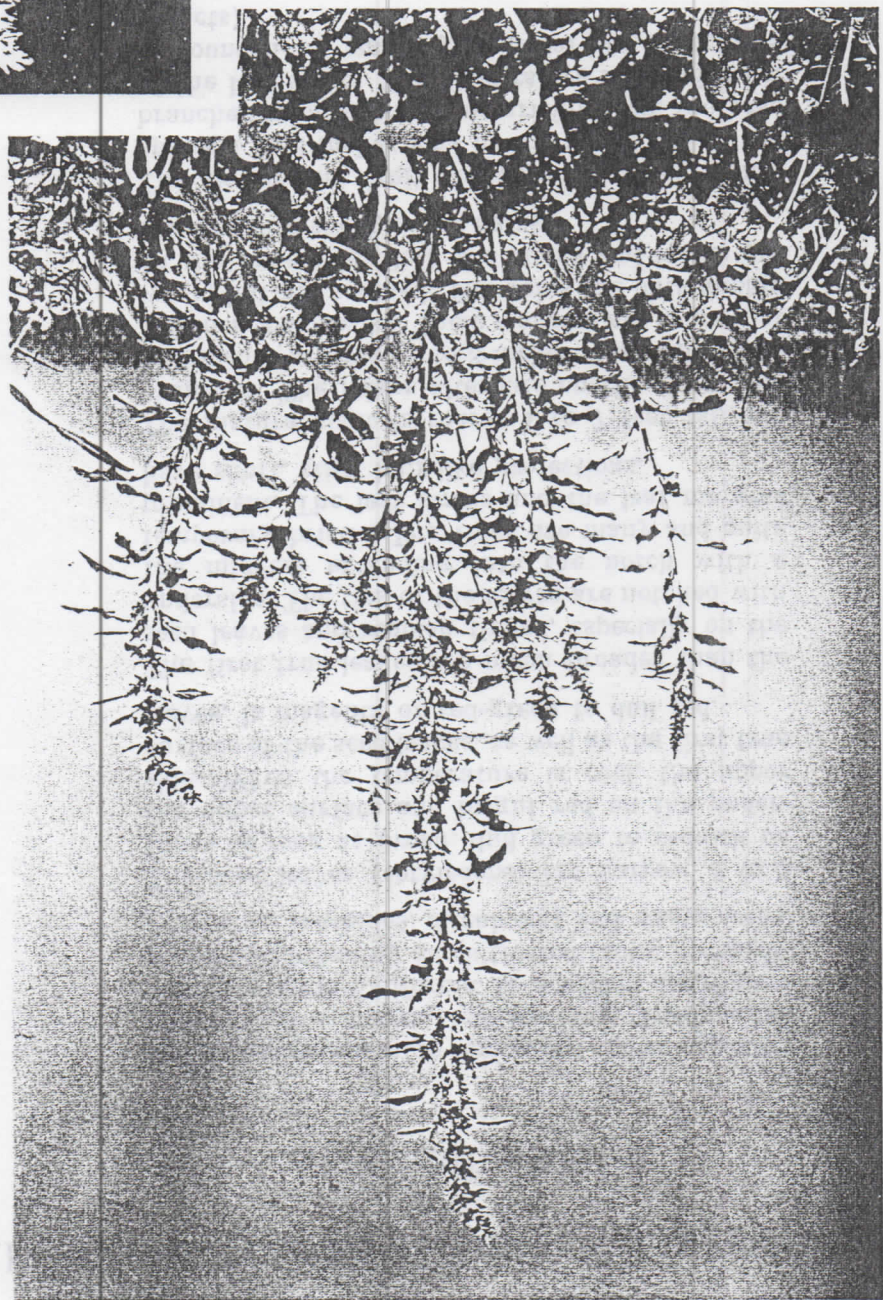
FLOWER



SEEDLING



MATURE



REDROOT PIGWEED - *Amaranthus retroflexus* L.

# REDROOT PIGWEED - *Amaranthus retroflexus* L.

## Amaranth Family

Redroot pigweed, more commonly known as rough pigweed, is a coarse, tall growing, troublesome annual weed in California. It is widely distributed and found infesting all cultivated crops, orchards, vineyards, roadsides, ditchbanks and waste areas. The seed leaves (cotyledons) are narrow, 4 to 5 times as long as broad, dull green to reddish on the upper surface and bright red on the underside. When the temperature is cool, the upper surface of the seed leaves, as well as the first true leaves, is magenta or red-green to dull red.

The first true leaves are much broader than the seed leaves and reddish tinged, especially on the underside. The tips of the leaves are notched with the midvein extending into the notch with a temporary bristle. The veins are many and quite prominent. The leaf stalks and the leaf margins have short, stiff, hair-like projections.

The mature plant is coarse 1 to 7 feet tall and branched. The leaves alternate on the stem. The leaf blades are oval, 1 to 3 inches long, with  $\frac{1}{2}$  to  $1\frac{1}{2}$  inch long stalks. Their margins are somewhat wavy, but not toothed. The veins are outstanding on the underside. Both the stems and leaves are covered with short, rough hairs.

The flower and fruit are borne in thick, dense spikes 1 to 8 inches long at the upper end of the branches or on short stems arising from the base of the leaf stalks. The flowers are inconspicuous, surrounded by small, green, leaf-like structures (bracts).

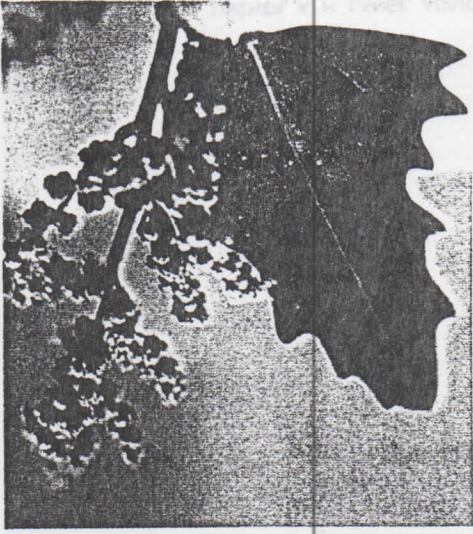
The seeds are borne singly in small bladder-like fruits that split open at maturity. The seed is oval, about  $\frac{1}{25}$  inch long, dark reddish-brown or black, and shiny.

Redroot pigweed has been suspected of causing nitrate poisoning of livestock.

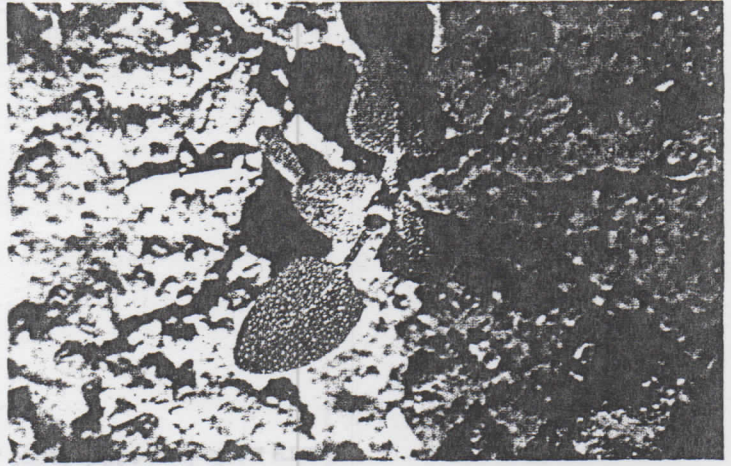
Other common names of redroot pigweed are: pigweed, red root, careless weed, green amaranth, and Chimaman's greens.



FLOWER



SEEDLING



MATURE



LAMBSQUARTERS - *Chenopodium album* L.

# LAMBSQUARTERS - *Chenopodium album* L.

## Goosefoot Family

A native of Europe, Lambsquarters is widespread throughout North America. It is a troublesome weed in agronomic, horticultural and vegetable crops. It grows abundantly in waste-places, along roadsides, irrigation and drainage ditches. In California the seeds germinate from early spring through the autumn months. The seed leaves (cotyledons) are 4 to 6 times as long as broad, borne on narrow stalks, dull green on the surface and bright purple on the underside.

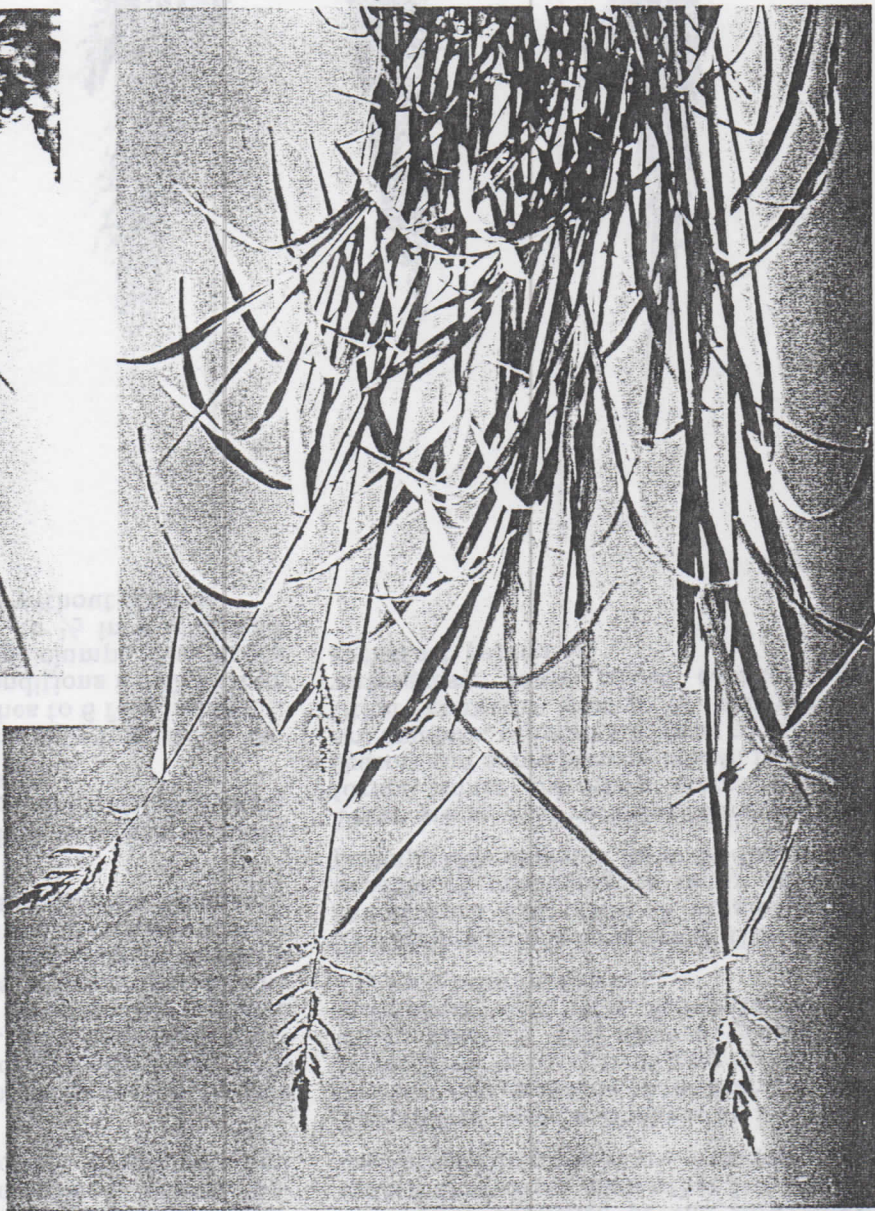
The first true leaves appear paired and somewhat upright growing, dull green on the upper surface, mealy (especially in the bud) and purple on the underside. Later true leaves alternate on the stem and are variable in shape. Some are lance-shaped or wedge and egg-shaped with toothed margins. The leaves as well as the stems and leaf stalks are mealy.

The mature plants are very variable in size, depending on the fertility of the soil and the availability of moisture. They will grow from one to six feet in height with one main stem and are often heavily branched. The flowers are small, inconspicuous, greenish, and mealy in the bud. They are arranged in tight clusters at the tips of the stems or branches.

The seeds are 1/16 inch in diameter, disk-shaped and notched on one side. Each seed is enclosed in a thin membrane, giving it a dull appearance.

Lambsquarters is found at elevations up to 10,000 feet. In its early vegetative stage of growth it is good livestock feed. It is known under the following common names: white goosefoot, pitseed, goosefoot, mealweed, baconweed, wild spinach, white pigweed, fat-hen, frost-bite and chou grass.

BARNYARDGRASS - *Echinochloa crusgalli* (L.) Beauv.



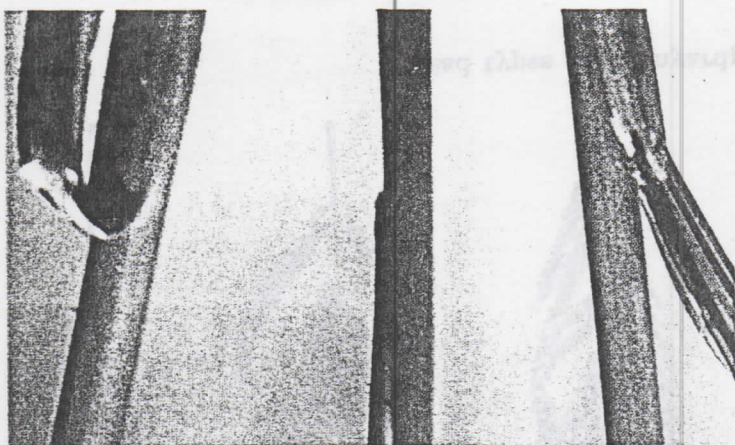
MATURE



SEED HEAD



SEEDLING



COLLAR REGION  
No ligules or auricles

# BARNYARDGRASS - *Echinochloa crusgalli* (L.) Beauv.

## Grass Family

The flower head can be erect or drooping sometimes purple tinged and up to 10 inches in length. The lower branches of the flowering-head are spaced apart from each other but the branches at the top of the panicle are crowded or clumped.

The flower groups (spikelets) are crowded in 2 to 4 rows on each side of the stem. They are green or purplish  $\frac{1}{8}$  to  $\frac{1}{4}$  inch long excluding the awns when present. The flower groups (spikelets) have short stiff hairs. Some also have long, 1 to 1 1/2 inch bristles (awns).

The seed is pale yellow, shiny, flat on one side and rounded on the other. A single, large plant is capable of producing as many as 40,000 seeds, perhaps this explains its wide distribution.

There are several varieties found growing in California, some are early maturing, others mid-season and some mature late in the season. Some are awnless, others with awns of different length. Other common names of barnyardgrass are: cockspur grass, panic grass, cockspur grass and cocksfoot panicum.

Barnyardgrass is a troublesome annual weed in all areas of the United States. In California it is a pest in all cultivated crops, with the possible exception of winter planted cereals. It infests pastures, roadsides, fencerows, irrigation and drainage ditches.

The seeds germinate from early spring to late fall. The first leaf is dull or grayish green with the stem purplish tinged. The stems are flat-tened. The seedling will survive even under droughty conditions on its primary thread-like root for a long period. At this stage it is easily dislodged with shallow cultivation but when mature is available the extensive fibrous secondary roots grow rapidly.

The foliage of the young plant is mostly without hairs and it has no ligule, a good identifying characteristic of barnyard grass.

The mature plant is upright growing, stout, extremely variable from 6 inches to 6 feet in height. Under favorable growing conditions it will root at the lower nodes forming large clumps. The leaves on the mature plant are  $\frac{1}{4}$  to  $\frac{1}{2}$  inch wide and from 3 inches to 2 feet long without ligules.

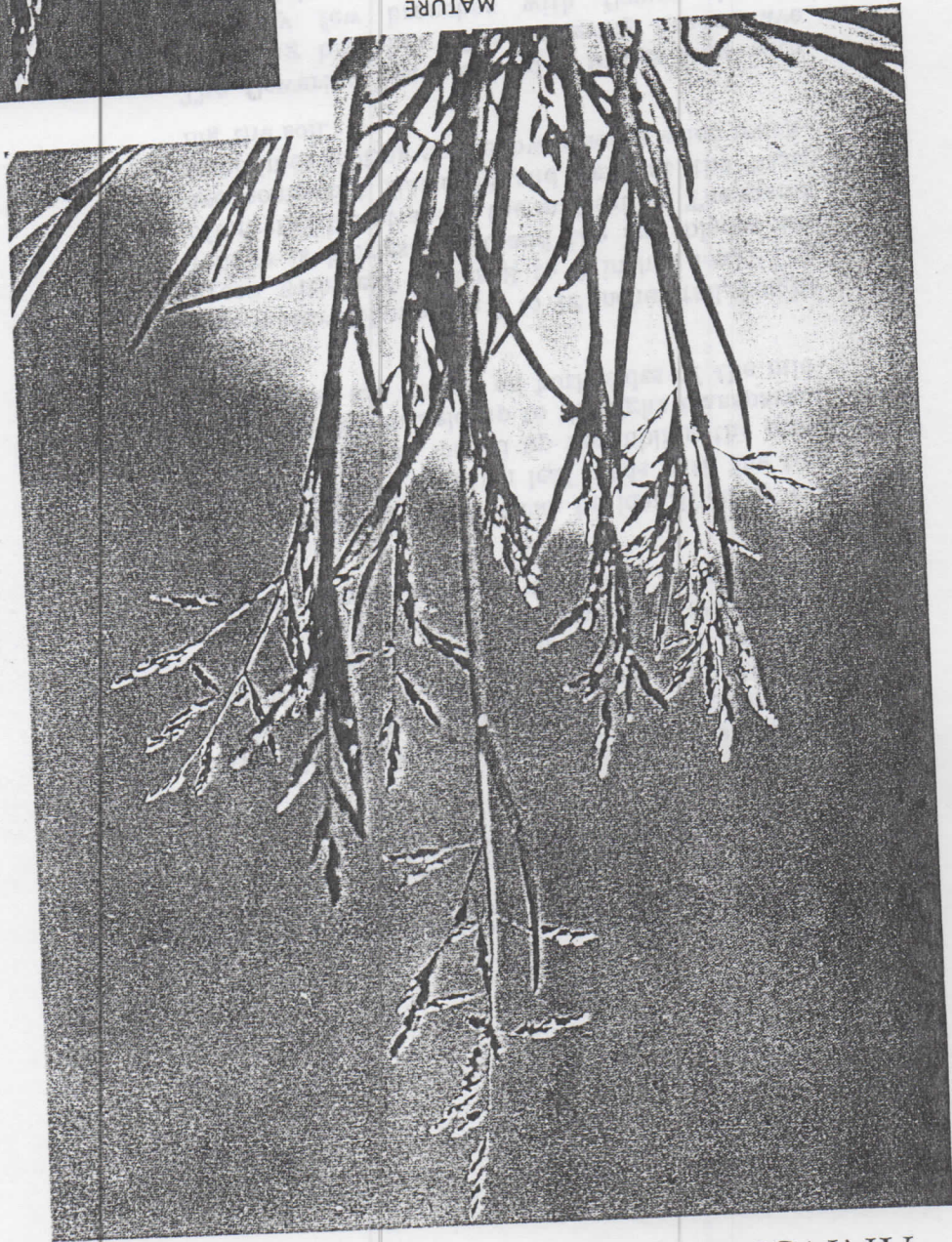
Head types of Barnyardgrass found in California.



ANNUAL BLUEGRASS - Poa Annua L.



SEEDLINGS



MATURE



PANICLE