

# **Weed Biology and Identification**

**Richard Smith, Farm Advisor**

**University of California Cooperative Extension**

**Monterey County**

# Weed Biology

**Dicots – also known as broadleaves**

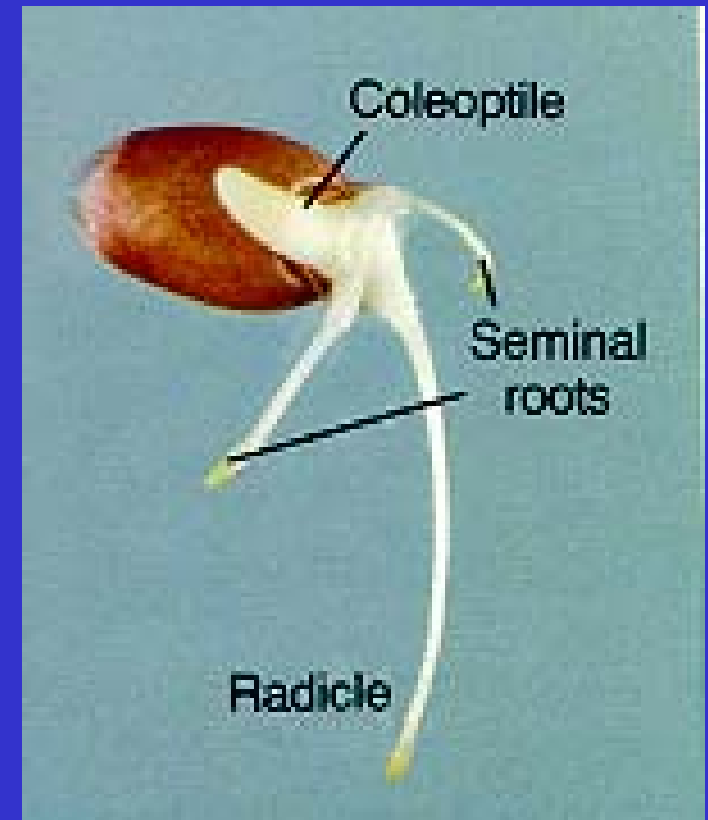
- **Have two cotyledons or seed leaves**
- **Generally have net venation**
- **Flowers are usually in patterns of four, five or more parts**



# Weed Biology

## Monocots

- Have single seed leaf (cotyledon)
- Most have leaves with parallel venation
- Flowers arranged in patterns of three
- Grasses, sedges, lilies and rushes



# Weed Classification

- **Annuals**
  - **Complete lifecycle in less than one year (from seed to seed)**
    - **Winter – germinate in fall and mature in early spring**
    - **Summer – May germinate in the fall or spring, but mature in the summer**

# Winter annuals



# Summer Annuals



# Weed Classification

- **Biennial**

- Live longer than one year but less than two. Often overwinter as a rosette and resume growth in the spring

- **Perennial**

- Live more than one year. Can be woody or fleshy. May have survive as tubers, roots, nutlets, etc.

- Winter – active in the winter

- Summer – active in the summer

# Curly Dock



## Biennials:

- Onions
- Bull Thistle
- Wild carrot
- Poison Hemlock
- Teasel

# Perennials

## Buttercup Oxalis

Winter Perennial

Survives the summer as bulbs



UC Statewide IPM Project  
© 2000 Regents, University of California

## Field Bindweed

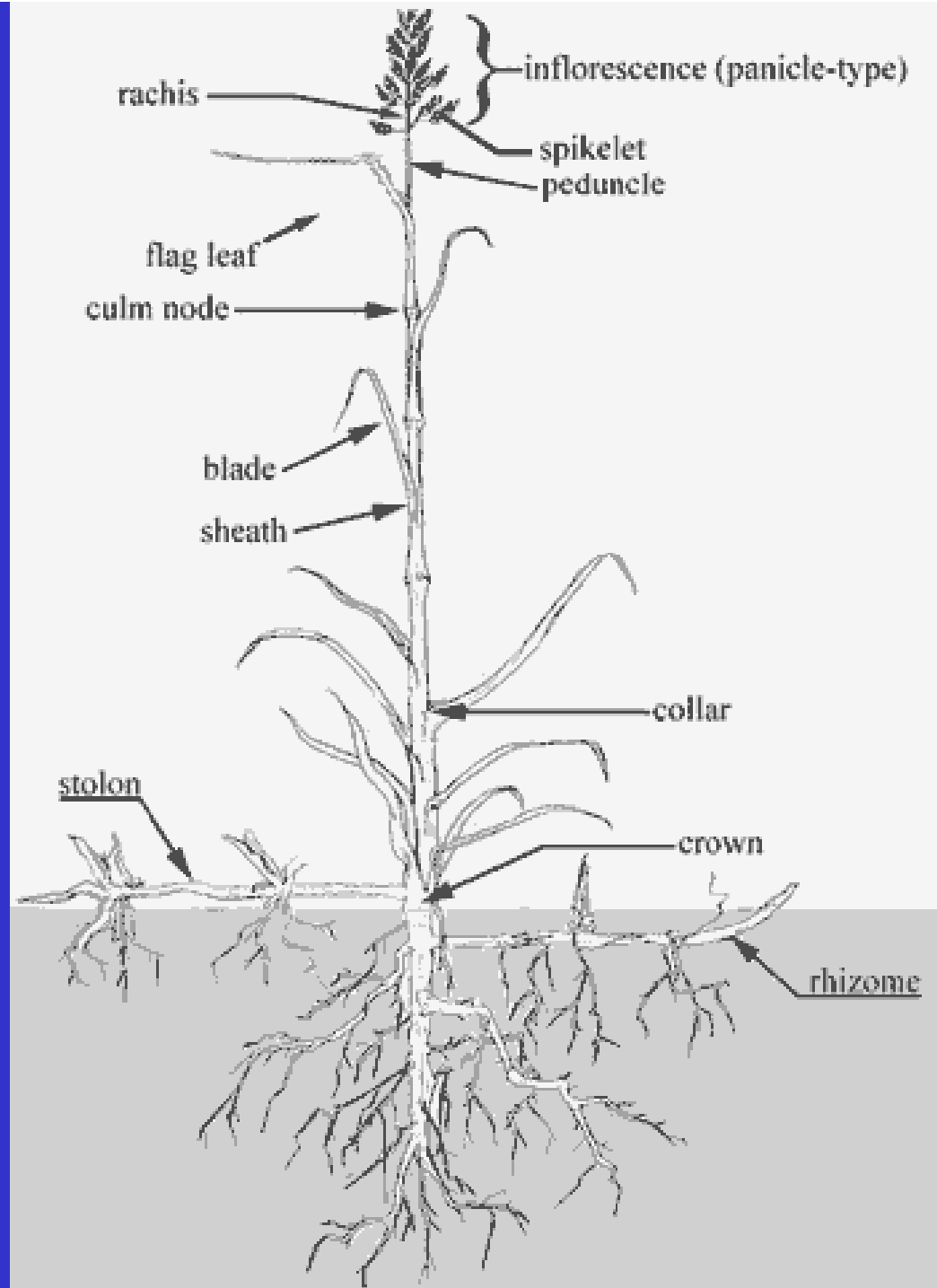
Summer Perennial

Survives the winter as roots

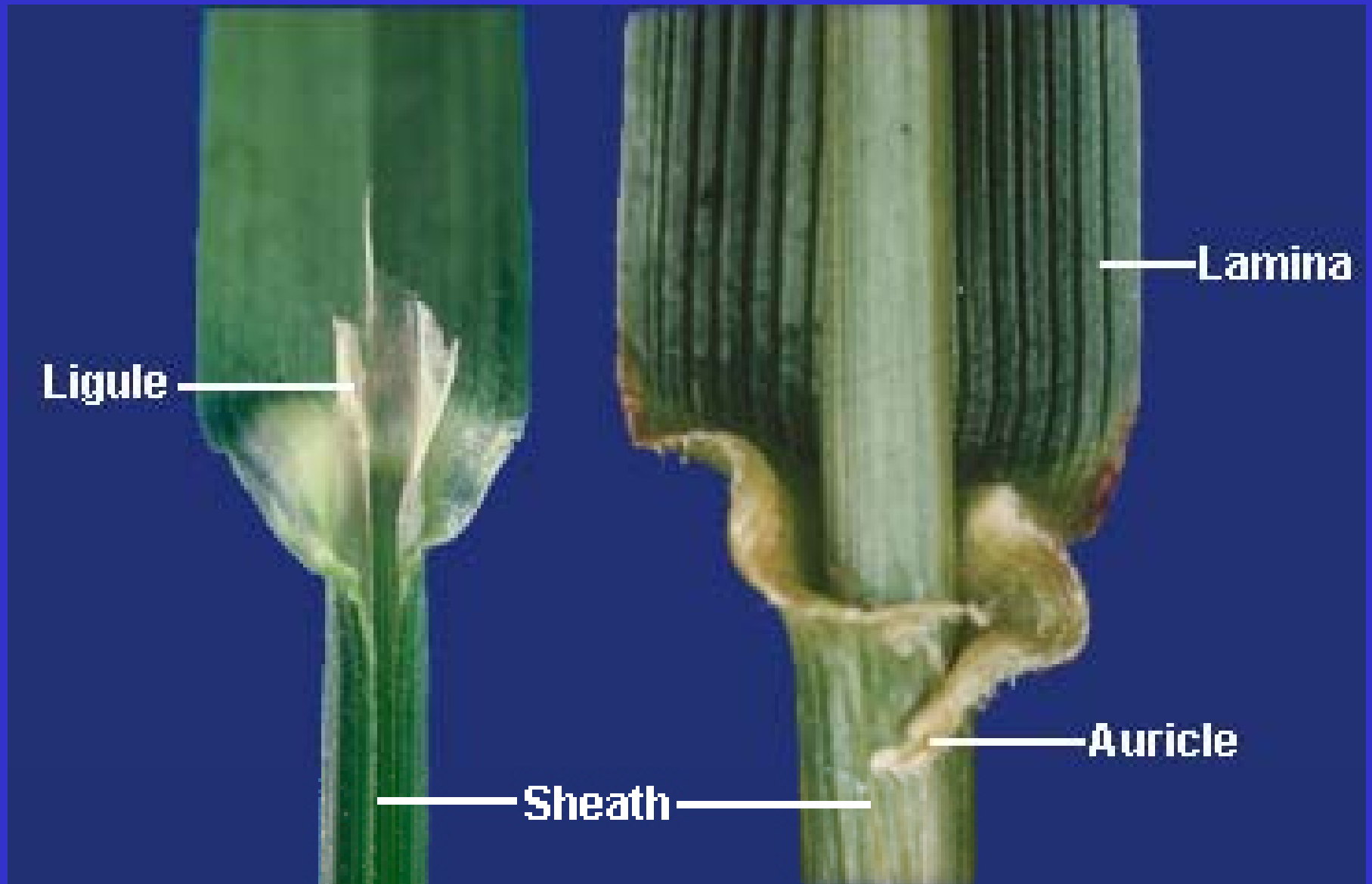


Copyright © 2007 The Regents of the University of California. All rights reserved.

# Grass Identification



# Grass Identification



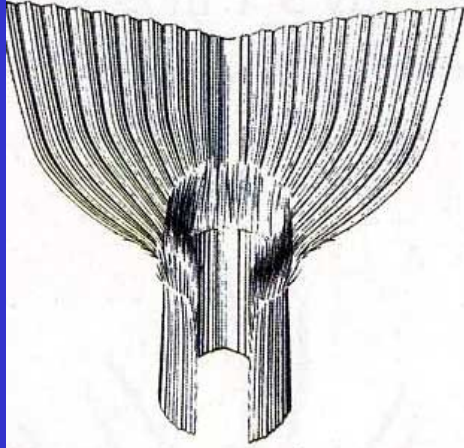


Fig. K.26

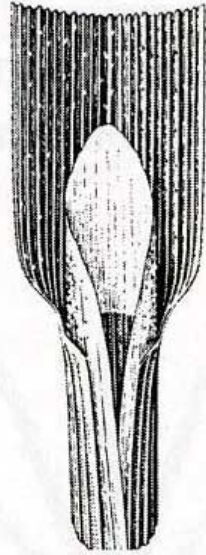


Fig. K.27

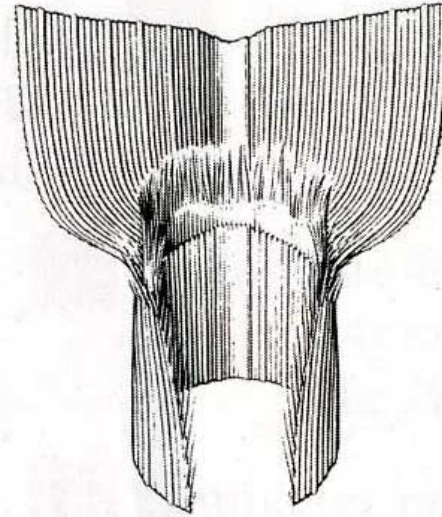


Fig. K.28

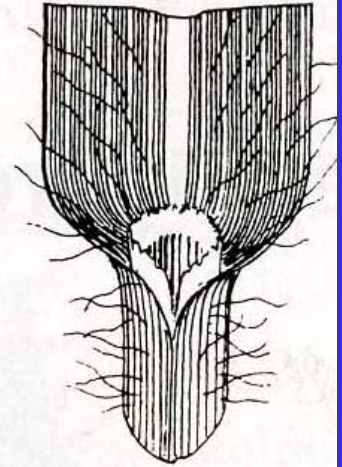


Fig. K.29

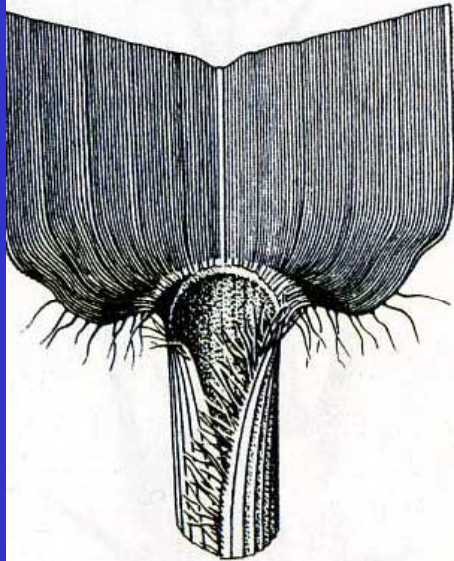


Fig. K.31

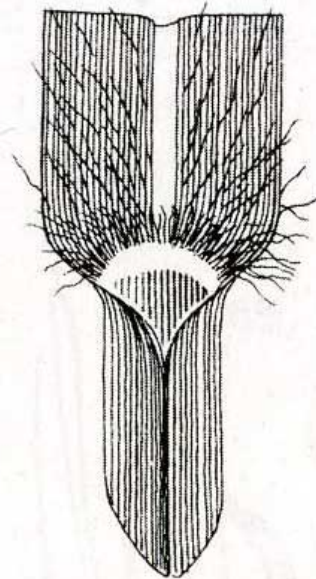


Fig. K.32

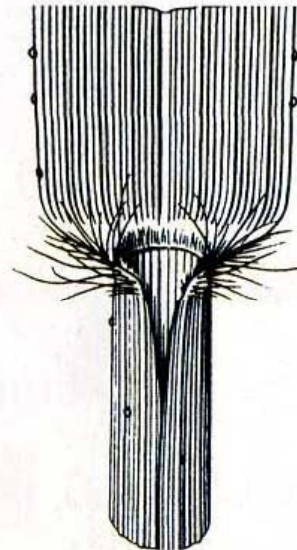


Fig. K.33

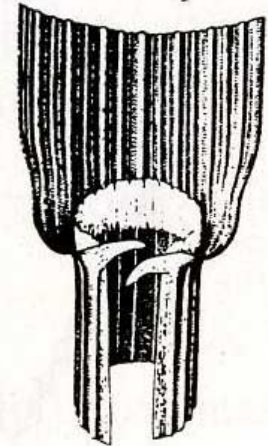
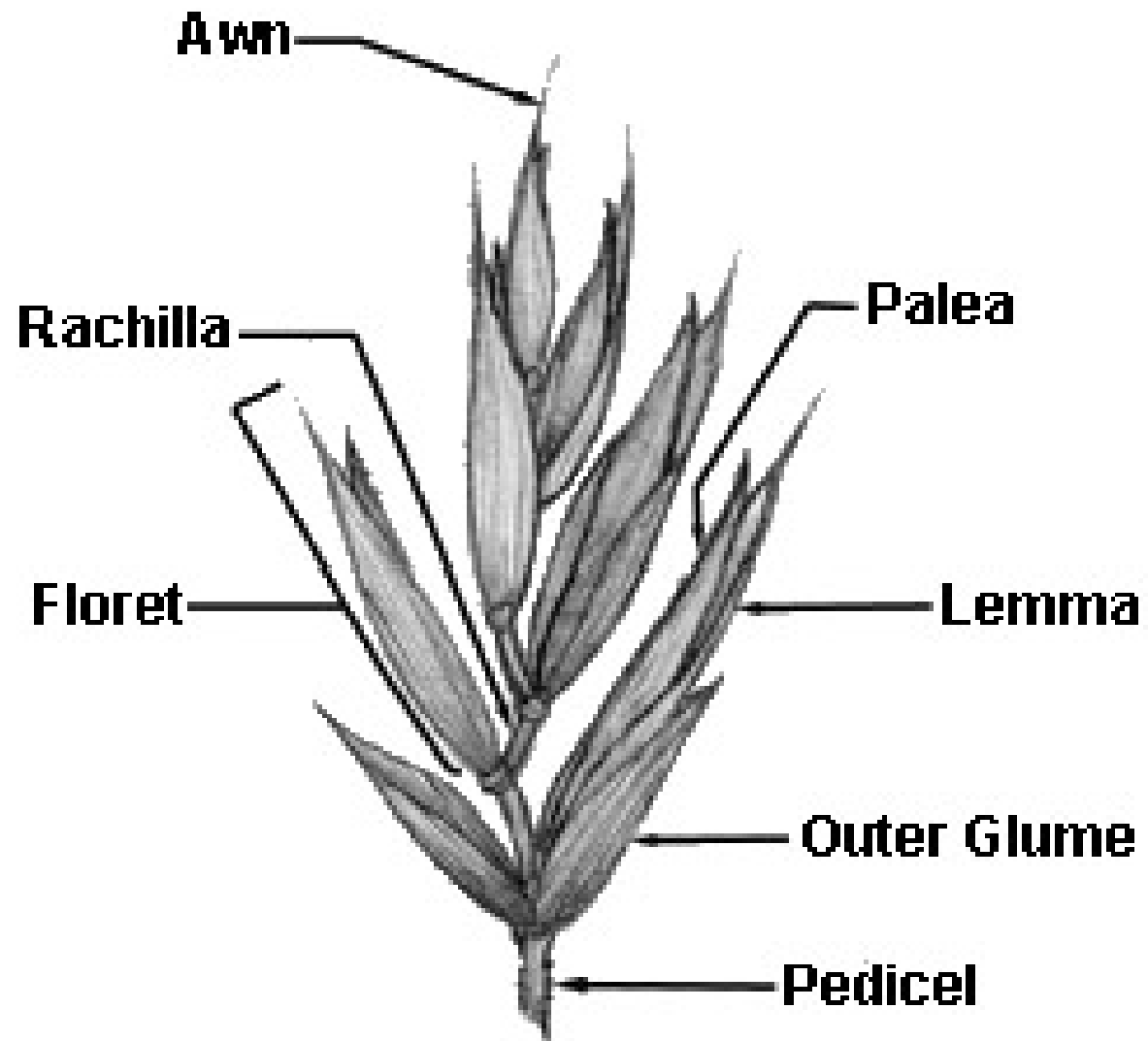


Fig. K.34

## Grass Sheaths

# Grass Identification



Spikelet

# Grass Identification

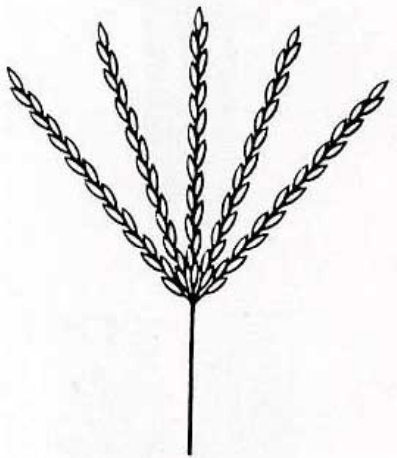


Fig. K.4

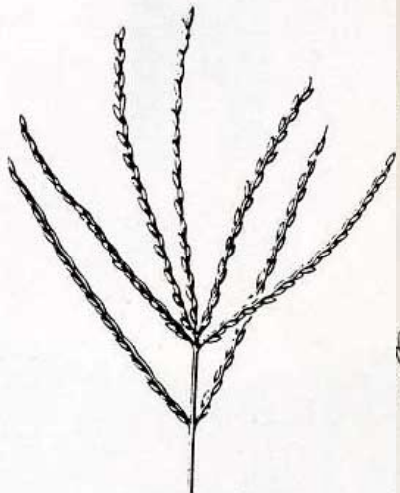


Fig. K.5

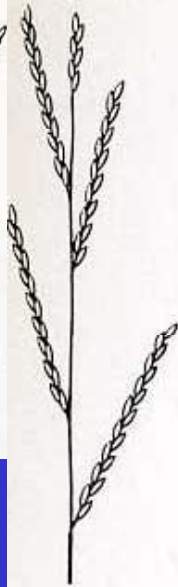


Fig. K.6

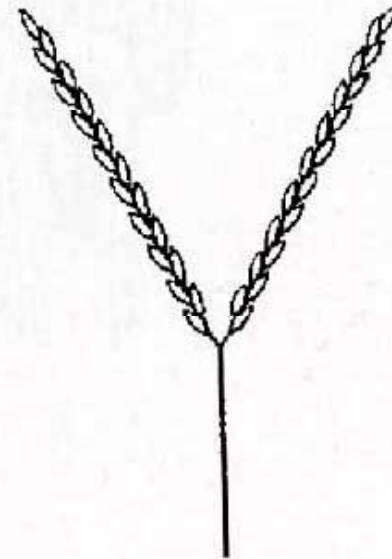


Fig. K.7

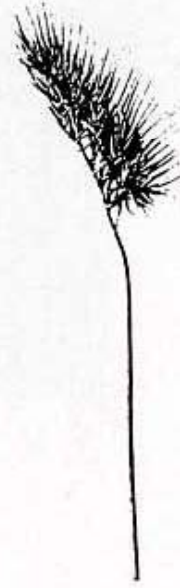


Fig. K.8



Fig. K.1



Fig. K.2



Fig. K.3

# Common Weed Species for PCA Certification Test

- photos of 50 common weed species
- seedling stage of the 25 species included in the PCA certification test
- the poisonous species on the test

# Redroot Pigweed

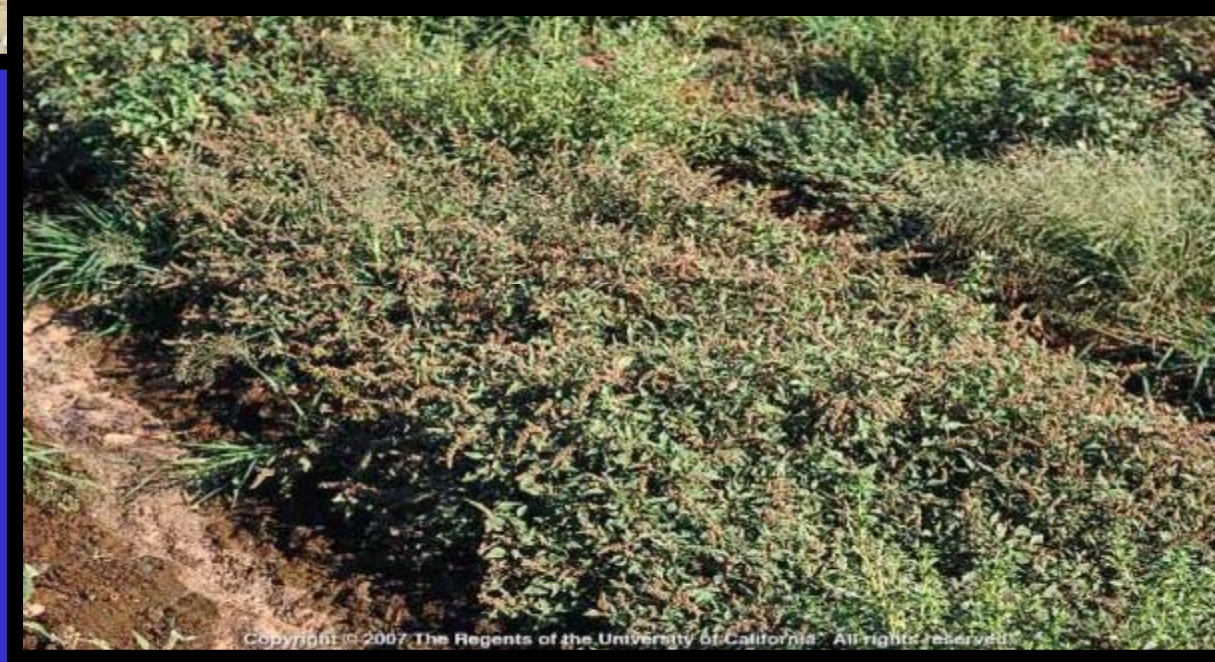
Summer  
annual



# Prostrate Pigweed



# Low Amaranth



# Yellow Star Thistle

Summer  
Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

nia. All rights

# Hairy Fleabane

Summer annual or biennial



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



# Horseweed

Summer Annual

Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

C037-07

# Prickly Lettuce

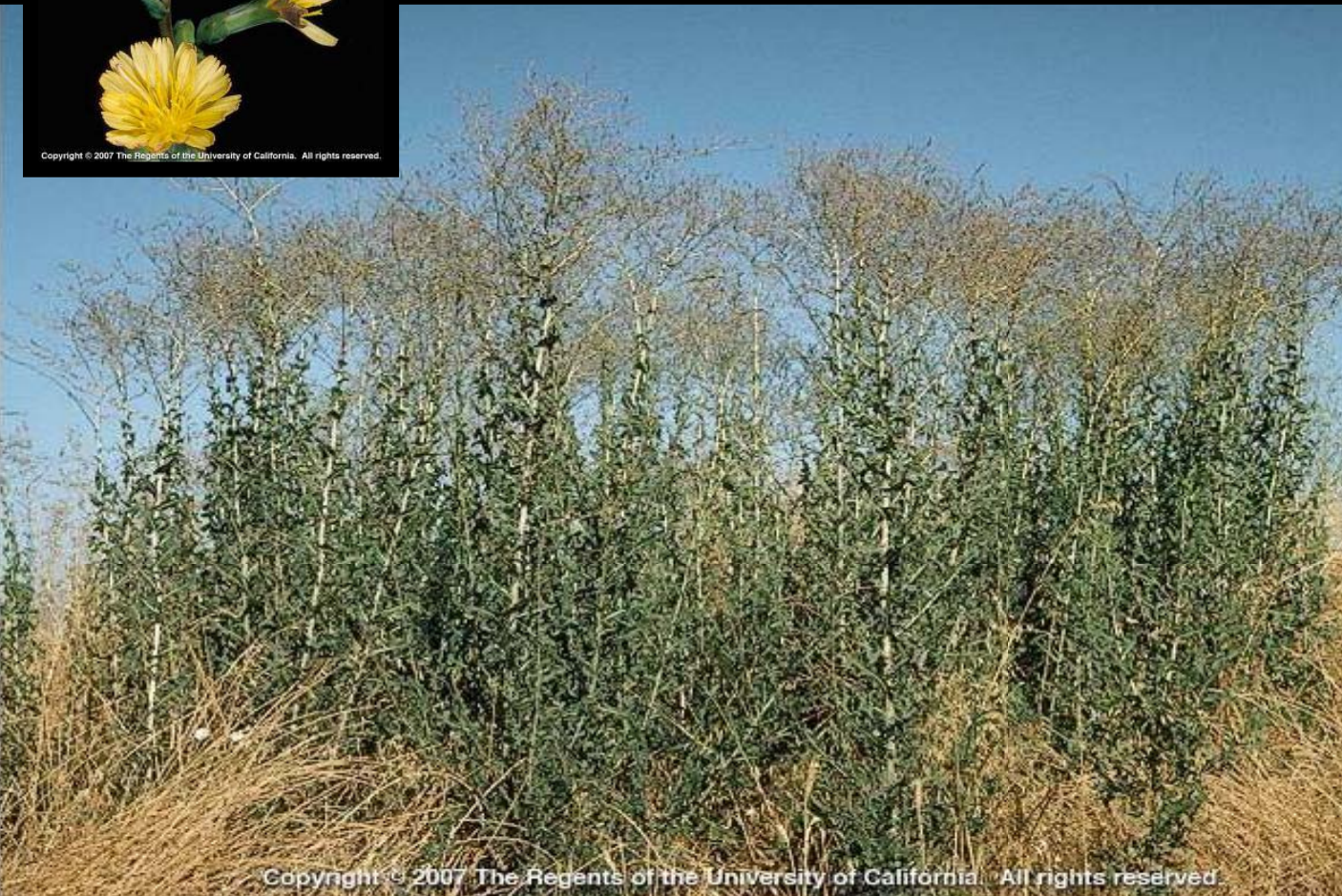
Winter annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Common Groundsel

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Annual Sowthistle

Winter Annual





# Common Cocklebur

Summer Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Coastal Fiddleneck

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



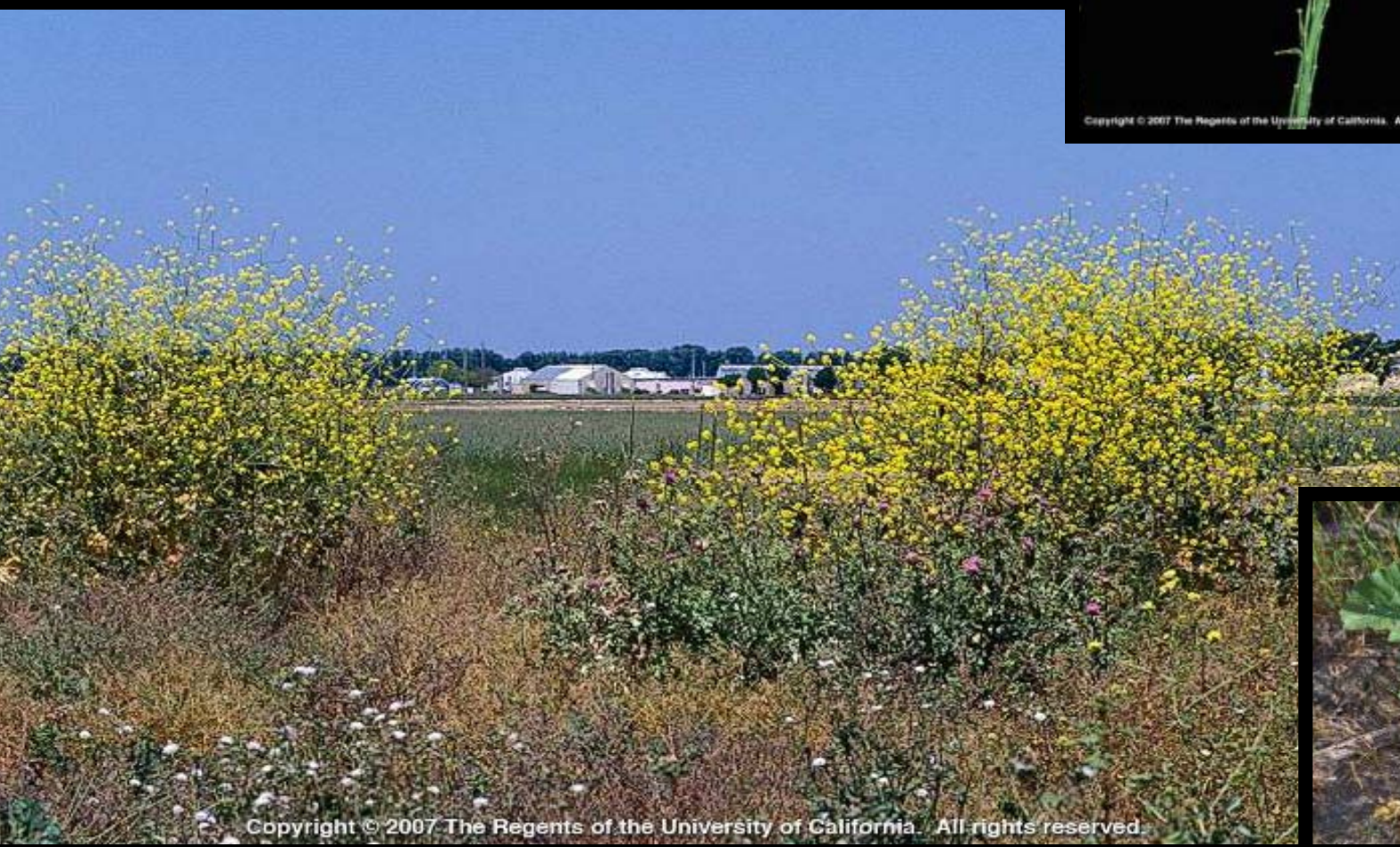
Copyright © 2007 The Regents of the University of California. All rights reserved.

erved



# Black Mustard

Winter Annual





# Shepherd's Purse

Winter Annual



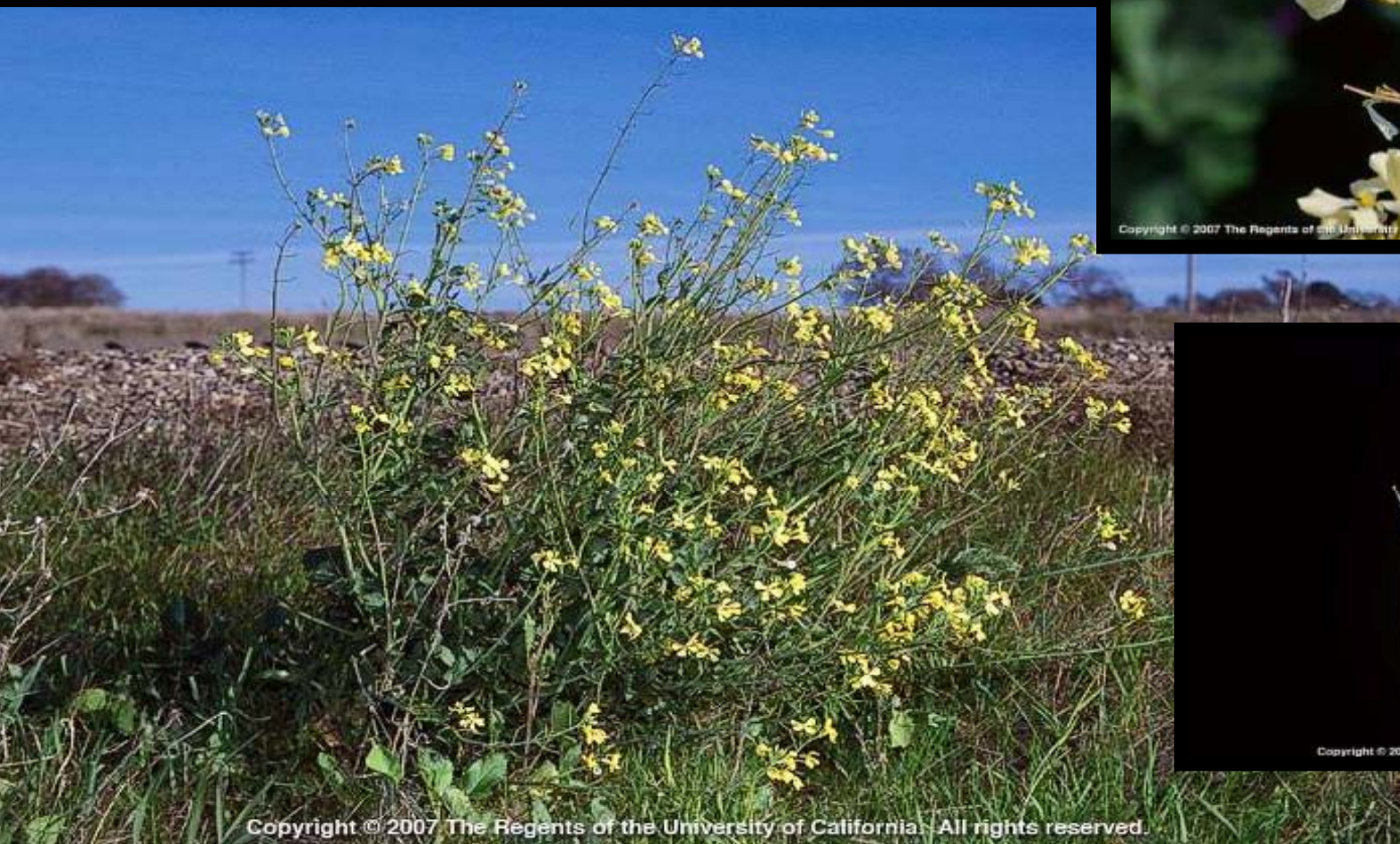
Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Wild Radish

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# London Rocket

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



# Common Chickweed

Winter annual



Copyright © 2007 The Regents of the University of California. All rights reserved.

Copyright © 2007 The Regents of the University of California. All rights reserved.

Copyright © 2007 The Regents of the University of California. All rights reserved.



# Russian Thistle

Summer annual



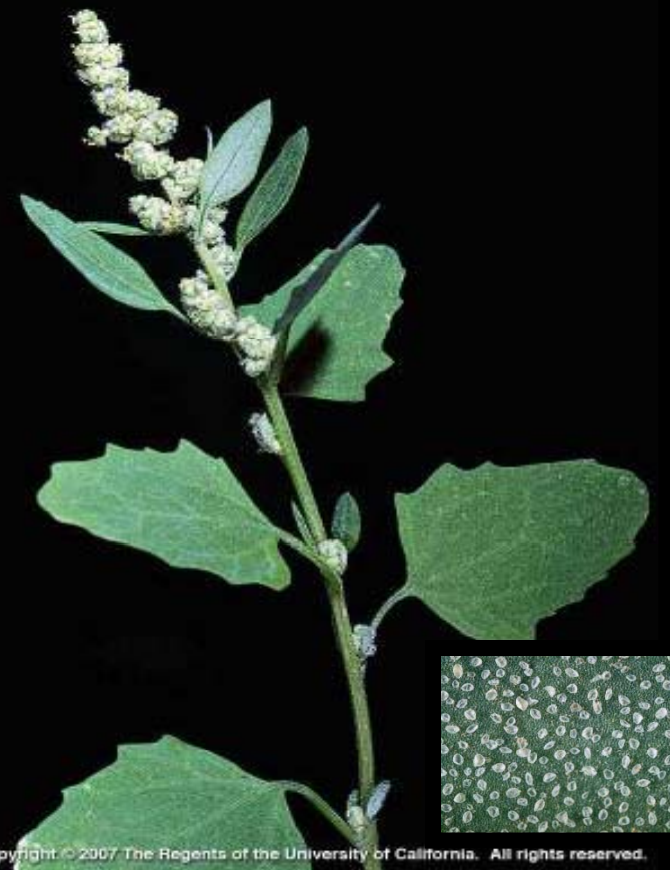
Copyright © 2007 The Regents of the University of California. All rights reserved.

Copyright © 2007 The Regents of the University of California. All rights reserved.

Copyright © 2007 The Regents of the University of California. All rights reserved.

# Lambsquarter

Summer annual



# Field Bindweed

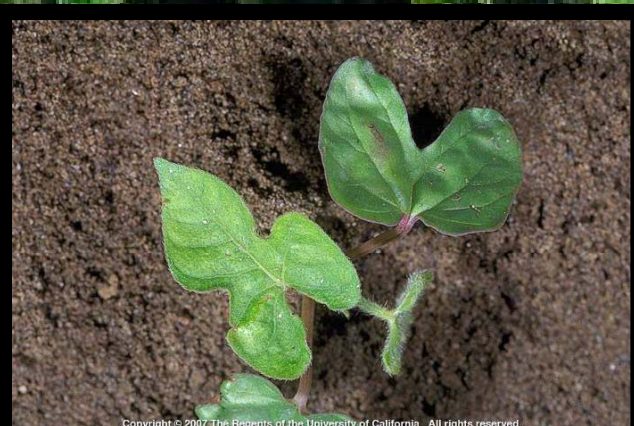
Perennial



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Japanese Morning Glory

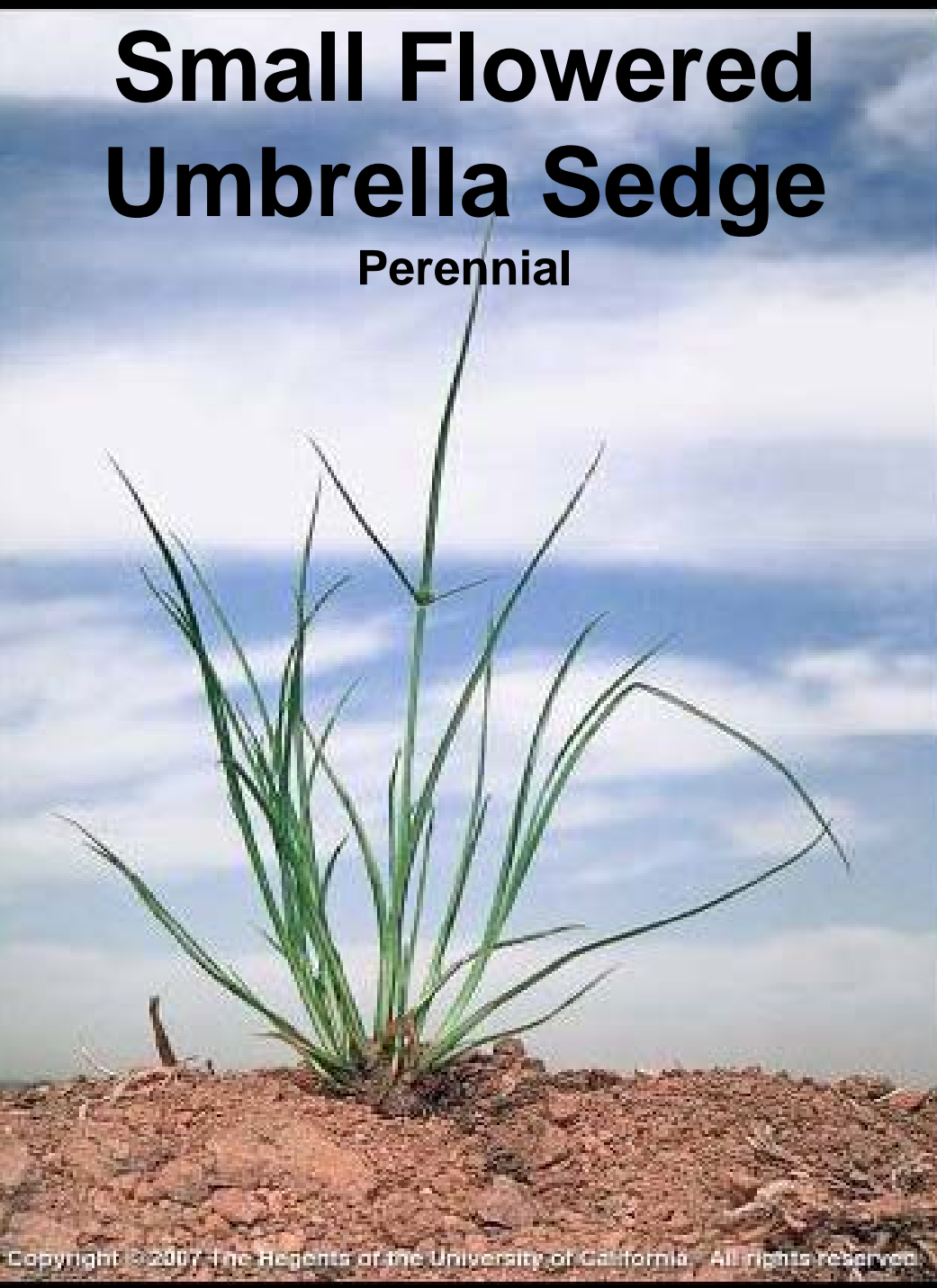
Perennial



The Regents of the University of California. All rights reserved.

# Small Flowered Umbrella Sedge

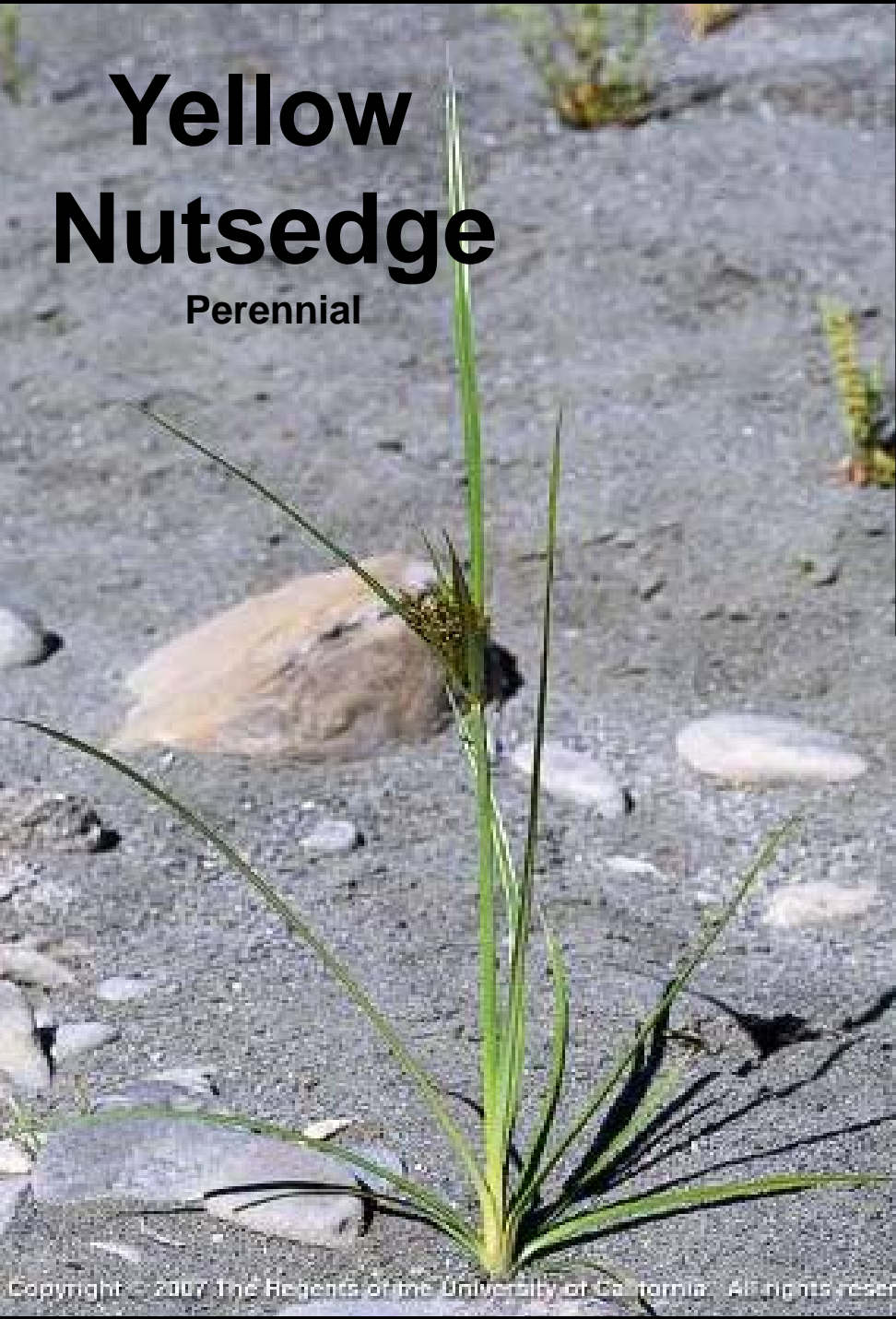
Perennial



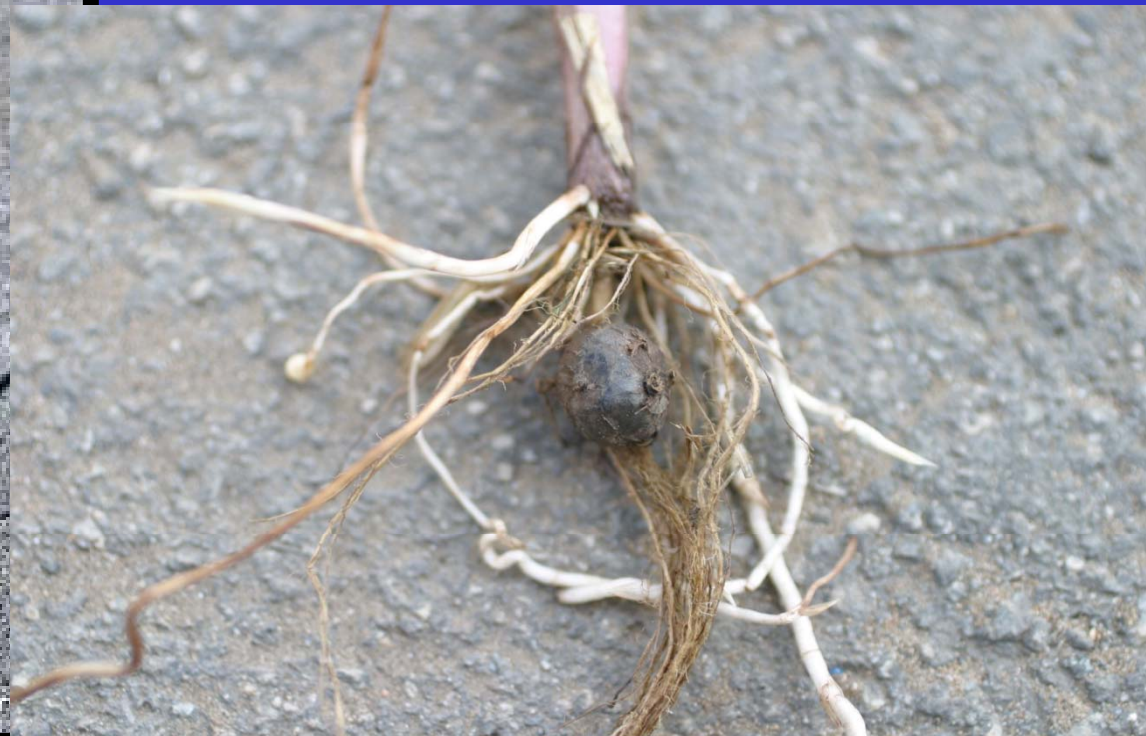
Copyright © 2007 The Regents of the University of California. All rights reserved.

# Yellow Nutsedge

Perennial



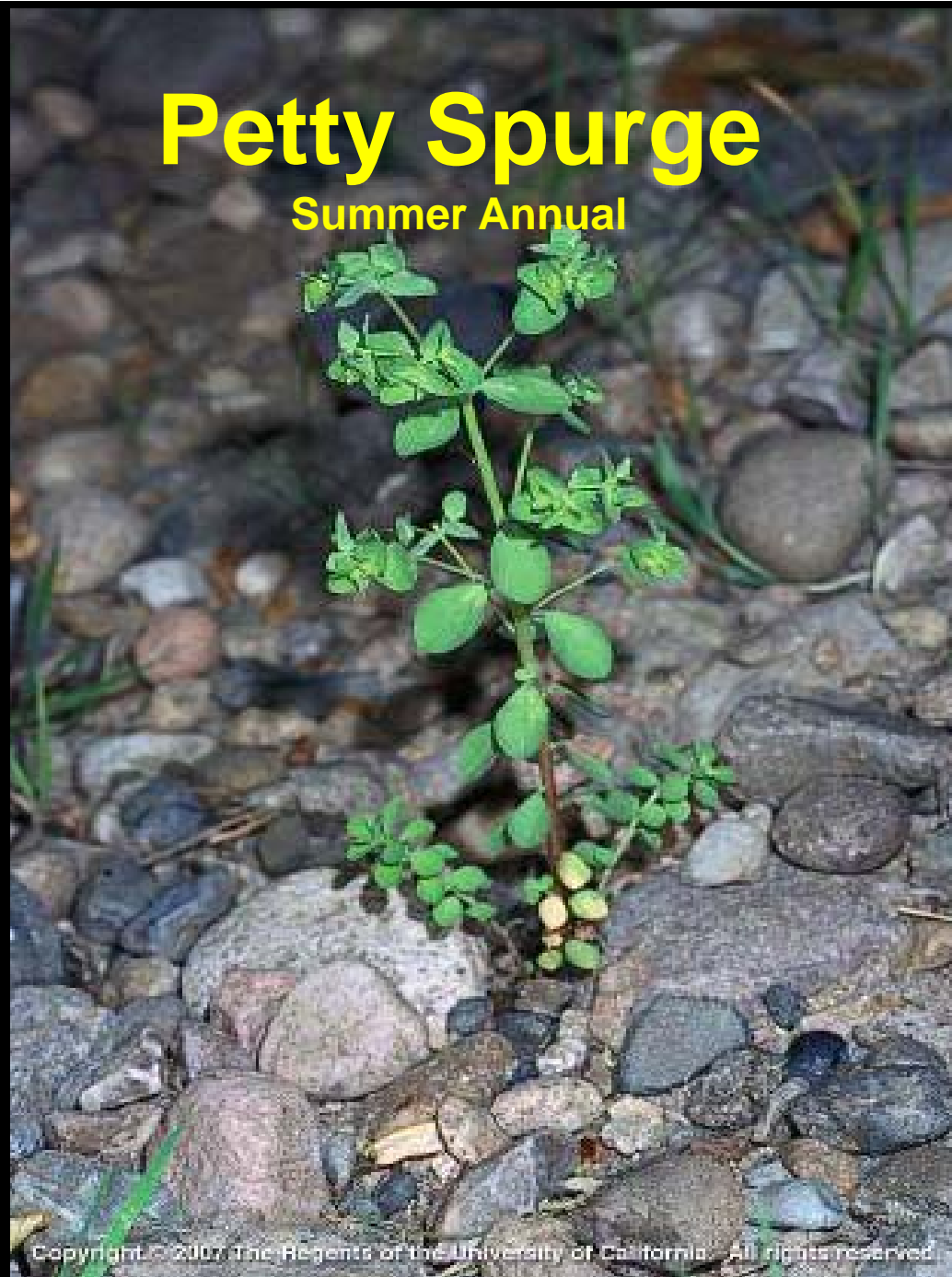
Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Petty Spurge

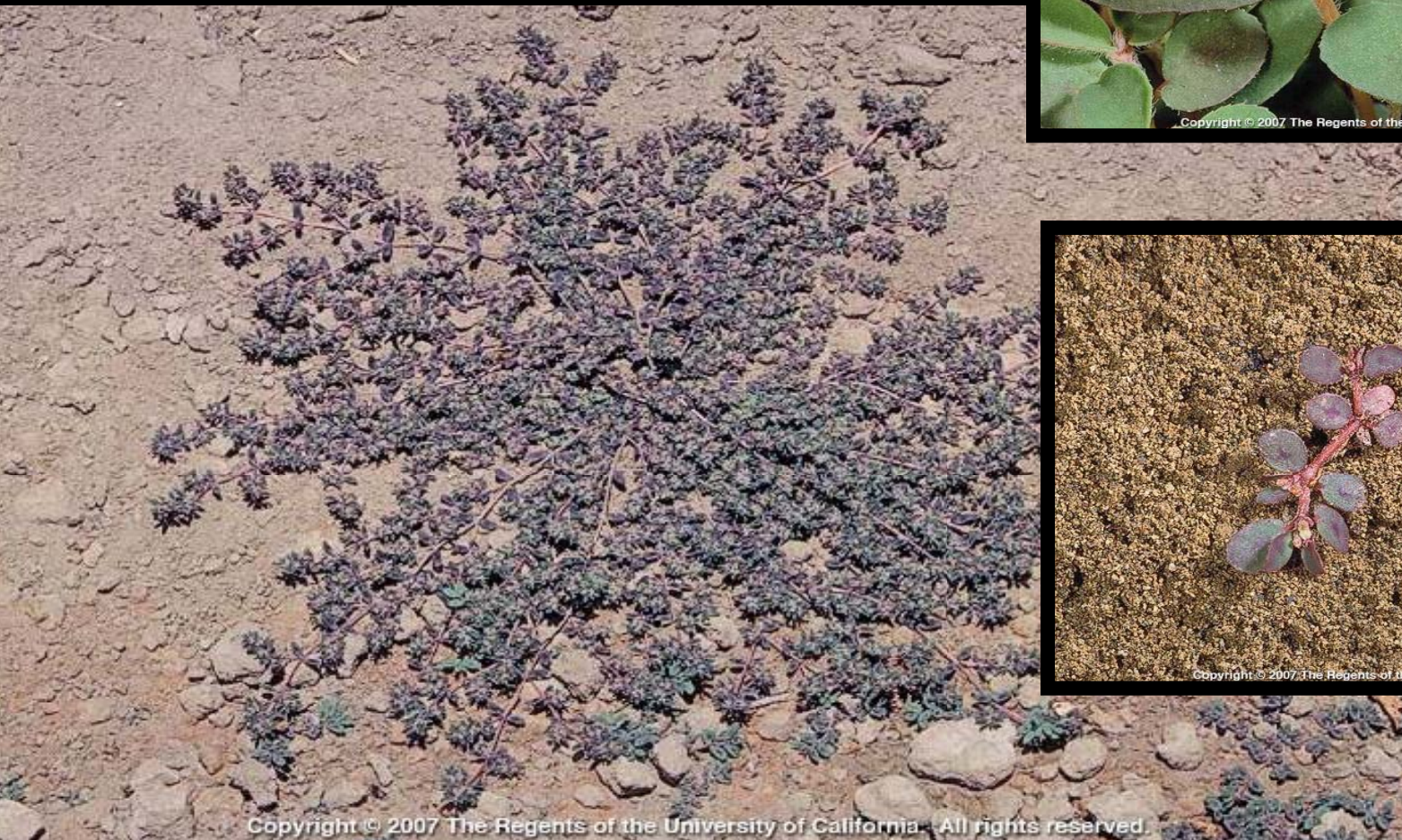
Summer Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Spotted Spurge

Summer Annual



# Filaree

Winter Annual



# Little Mallow

## 'Malva'

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Velvetleaf

Summer annual



# Henbit

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Knotweed

Summer Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



# Smartweed

Summer Annuals  
& Perennial



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Redmaids

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Purslane

Summer Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Jimson Weed

Summer Annual



C242-08

# Ground Cherry

Summer Annual

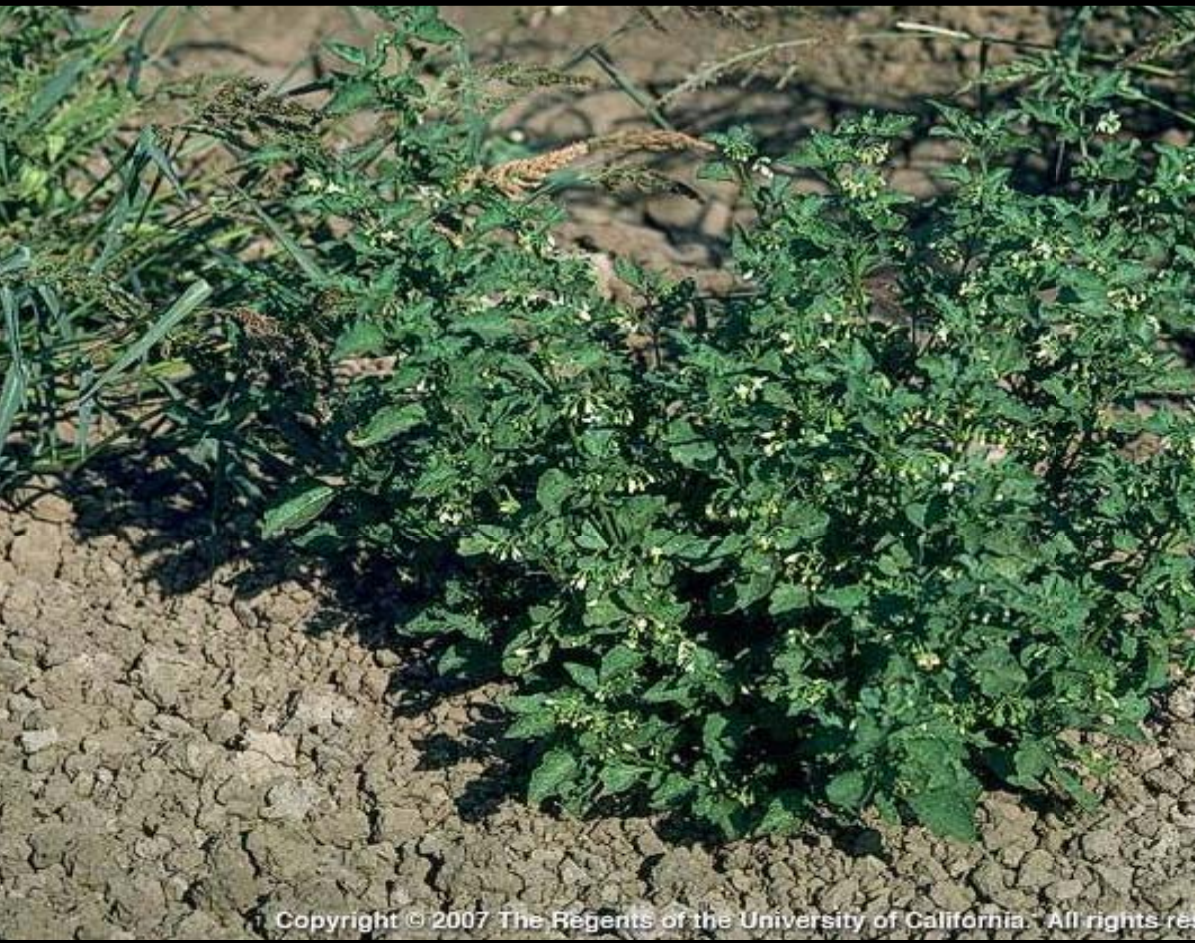


# Black Nightshade

Summer Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Burning Nettle

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Puncture Vine

Summer Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



# Wild Oat

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

Copyright © 2007 The Regents of the University of California. All rights reserved.

# Ripgut Brome

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

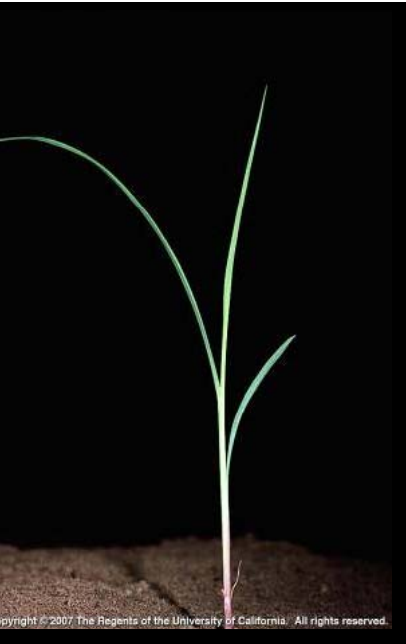
# Jungle Rice

Summer Annual



# Barnyard Grass

Summer Annual



# Tall Fescue

Perennial



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

Copyright © 2007 The Regents of the University of California. All rights reserved.

# Foxtail Barley

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



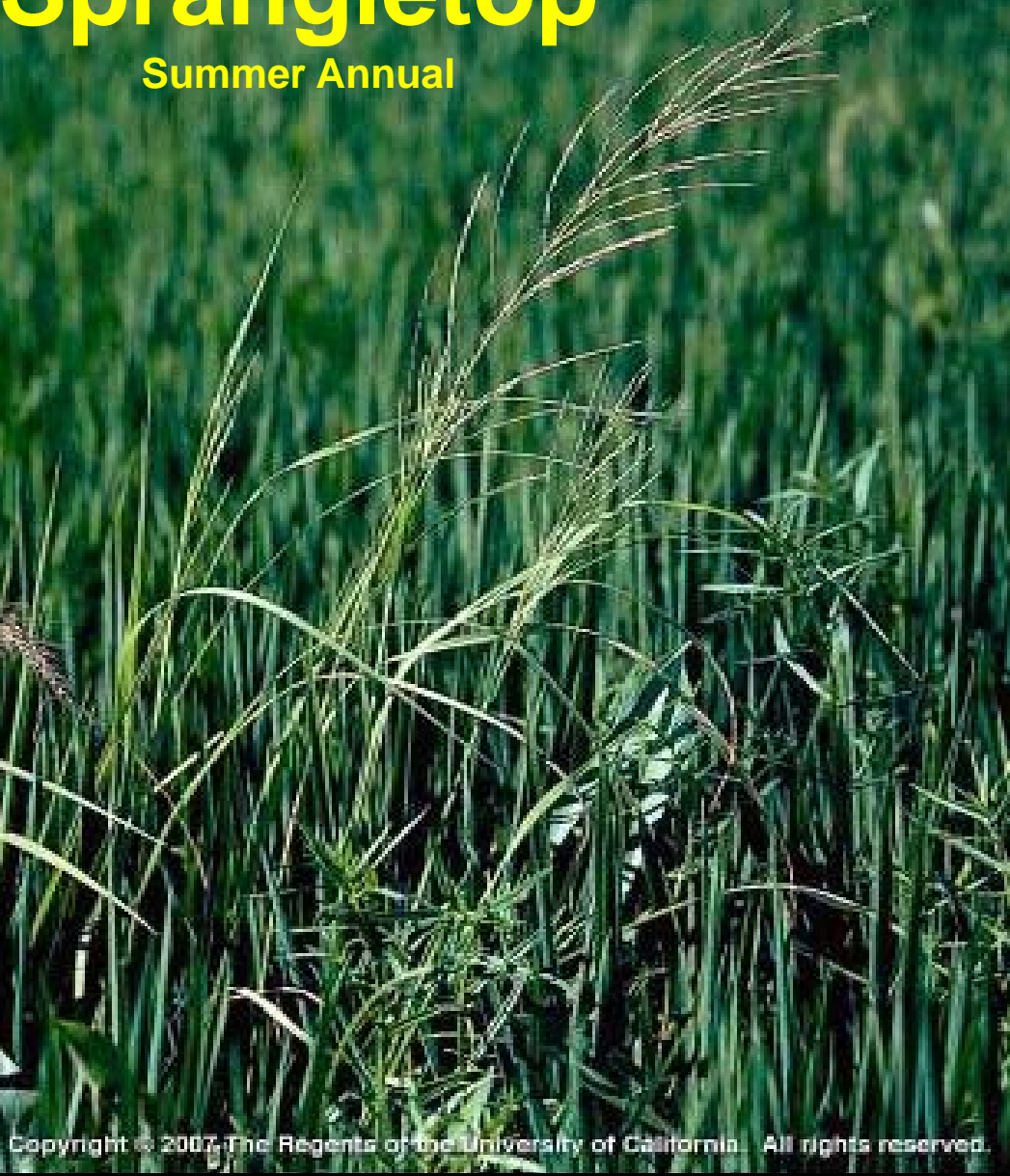
Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Bearded Sprangletop

Summer Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

Copyright © 2007 The Regents of the University of California



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Italian Ryegrass

Winter Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



© 2007 The Regents of the University of California. All rights reserved.

# Witchgrass

Summer Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Dallisgrass

Perennial



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Canarygrass

Summer Annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Annual Bluegrass

Winter annual



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Johnsongrass

Perennial



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents



Copyright © 2007 The Regents of the University of California. All rights reserved.



Copyright © 2007 The Regents of the University of California. All rights reserved.

# Resources

## Websites:

- <http://www.ipm.ucdavis.edu/>
- [http://wric.ucdavis.edu/information/weed  
chart.html](http://wric.ucdavis.edu/information/weed_chart.html)

## Books:

- **Weeds of California: Two volume set**
- **Principles of Weed Control**