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Agriculture and Natural Resources

Making a Difference for California

Growing Grapes in the Home Garden

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Master Gardener Training
Sacramento, Yolo, and Solano
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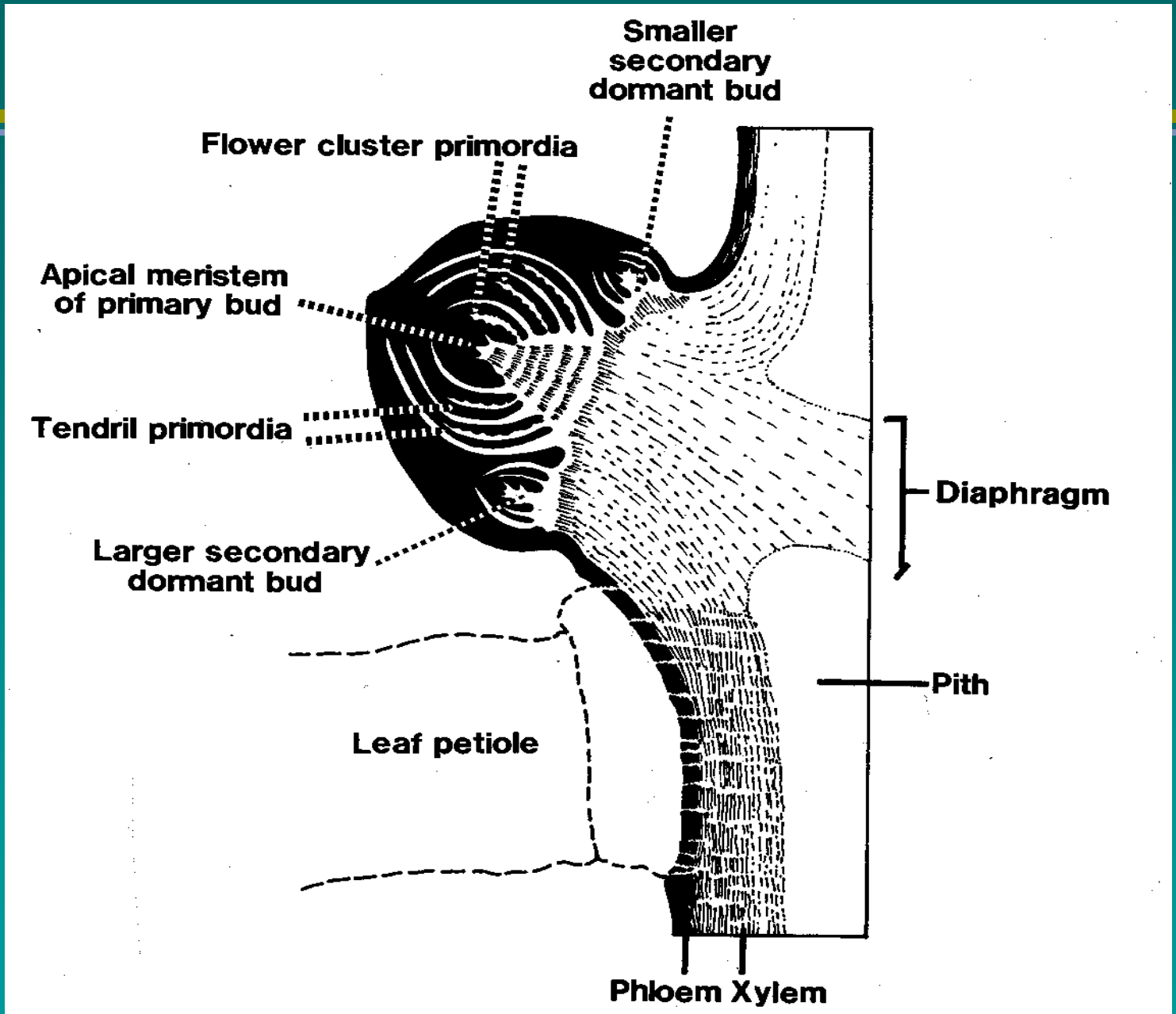
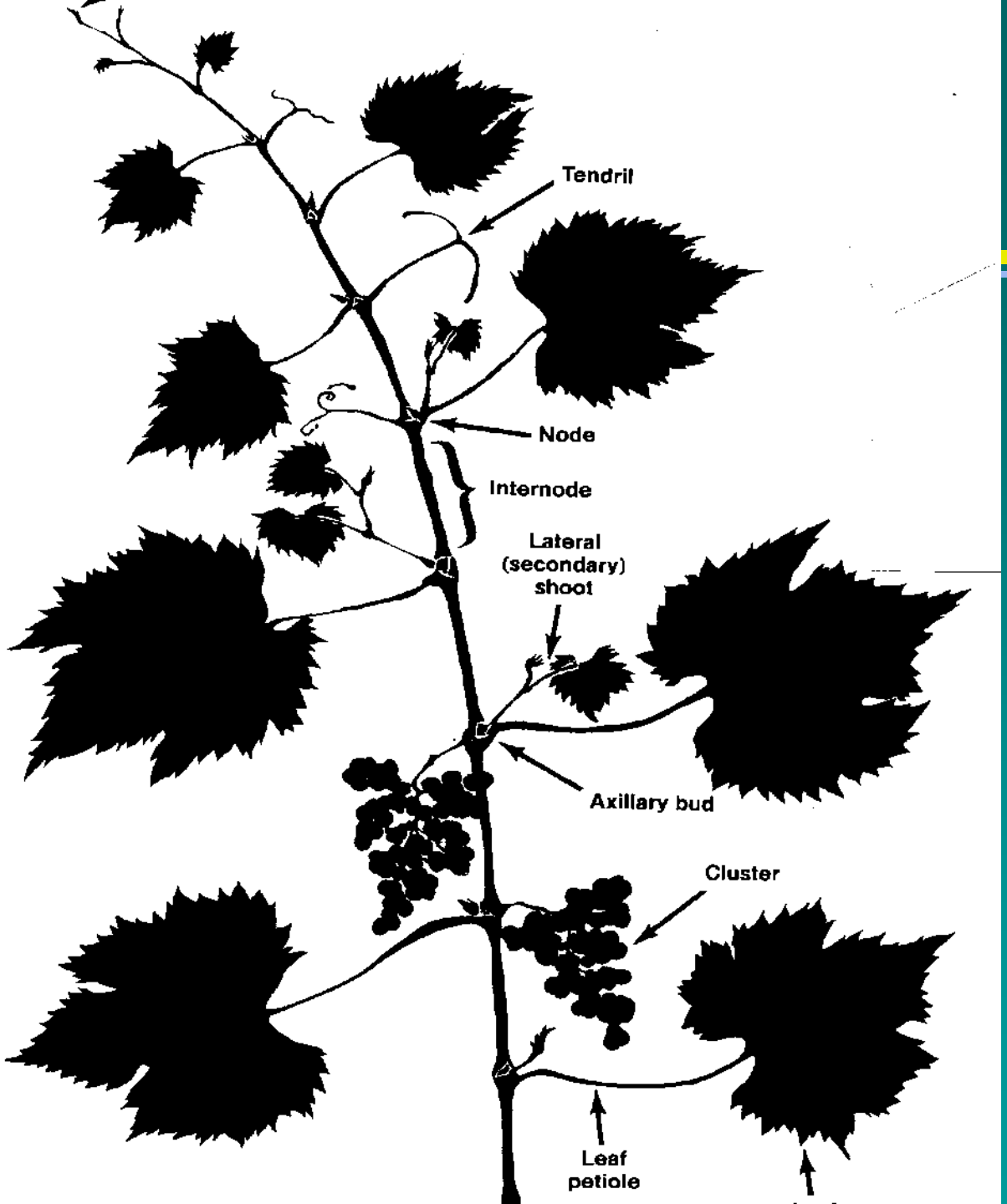
A Few Good Grape Varieties

- Table grape varieties
  - » Thompson Seedless, Flame Seedless, Black Monukka, Fantasy Seedless, Perlette, Diamond Muscat
- Red wine varieties
  - » Zinfandel, Cabernet Sauvignon, Merlot, Pinot Noir
- White wine varieties
  - » Chardonnay, Sauvignon Blanc, Pinot Gris

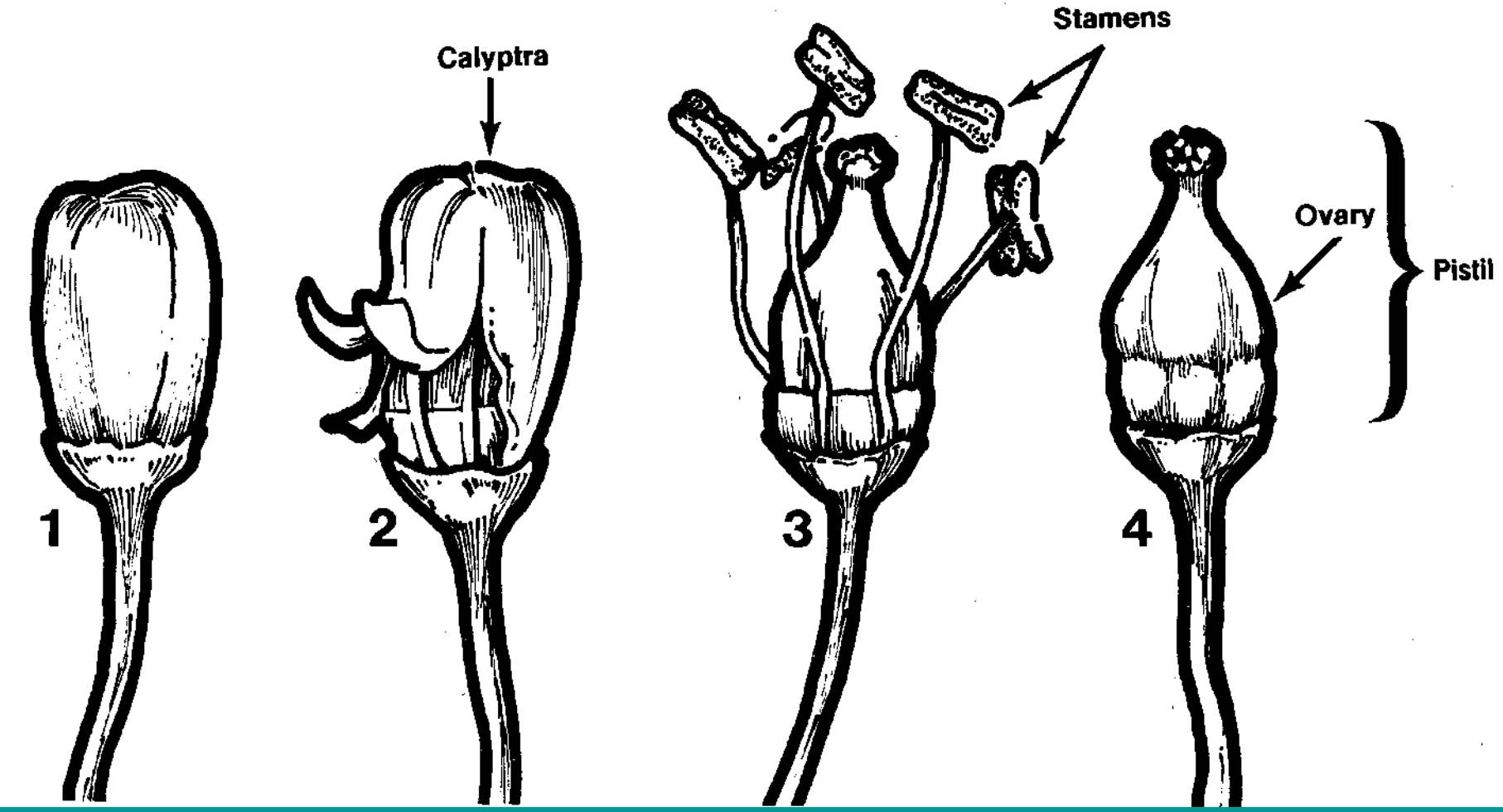
Grape Bud


Smaller secondary dormant bud
Flower cluster primordia
Apical meristem of primary bud
Tendril primordia
Larger secondary dormant bud
Diaphragm
Pith
Leaf petiole
Phloem Xylem

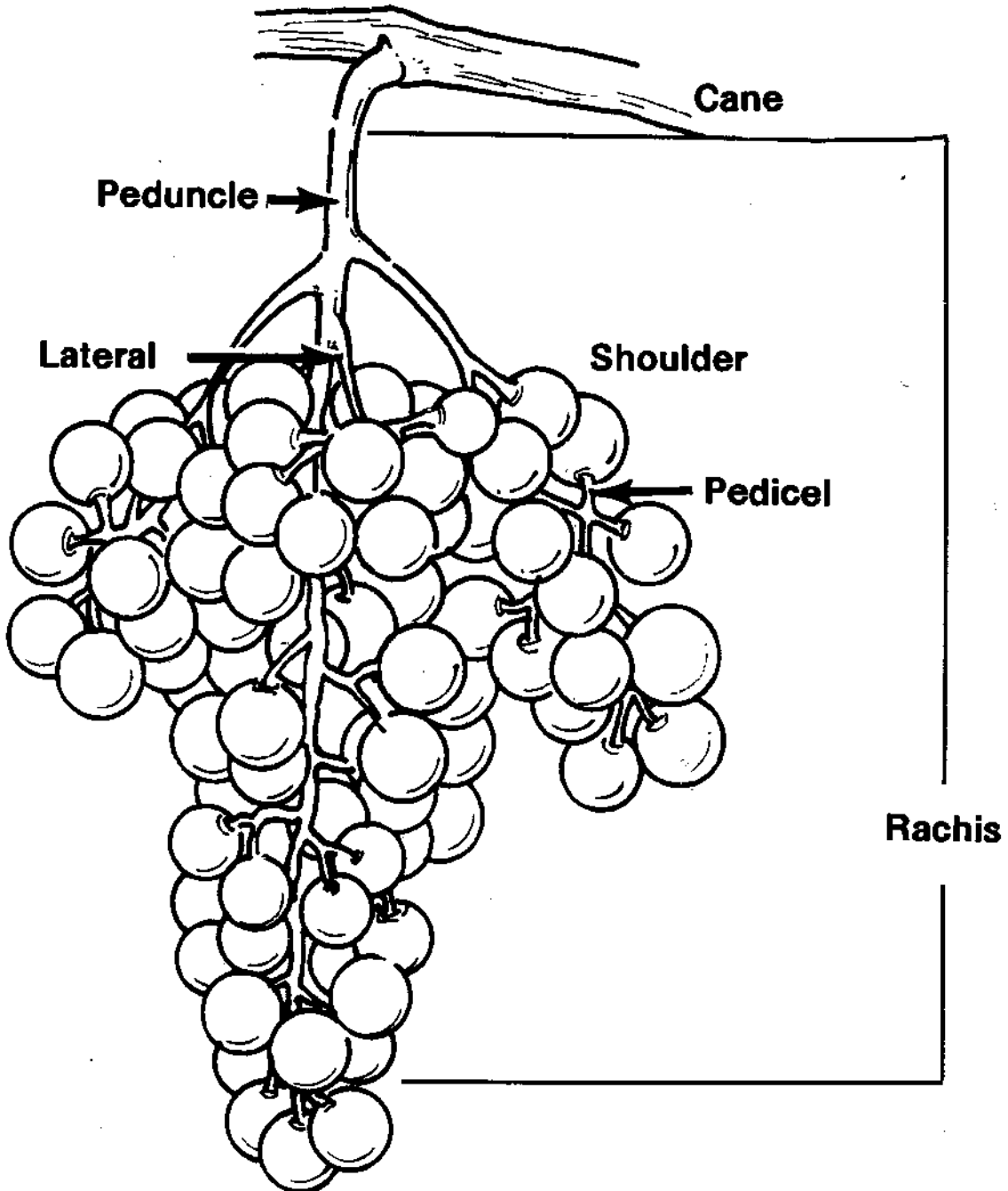
Grape Shoot


Tendril
Node
Internode
Lateral (secondary) shoot
Axillary bud
Cluster
Leaf petiole

Grape Flower



SHOULDERED CLUSTER



Growing Grapes from Cuttings

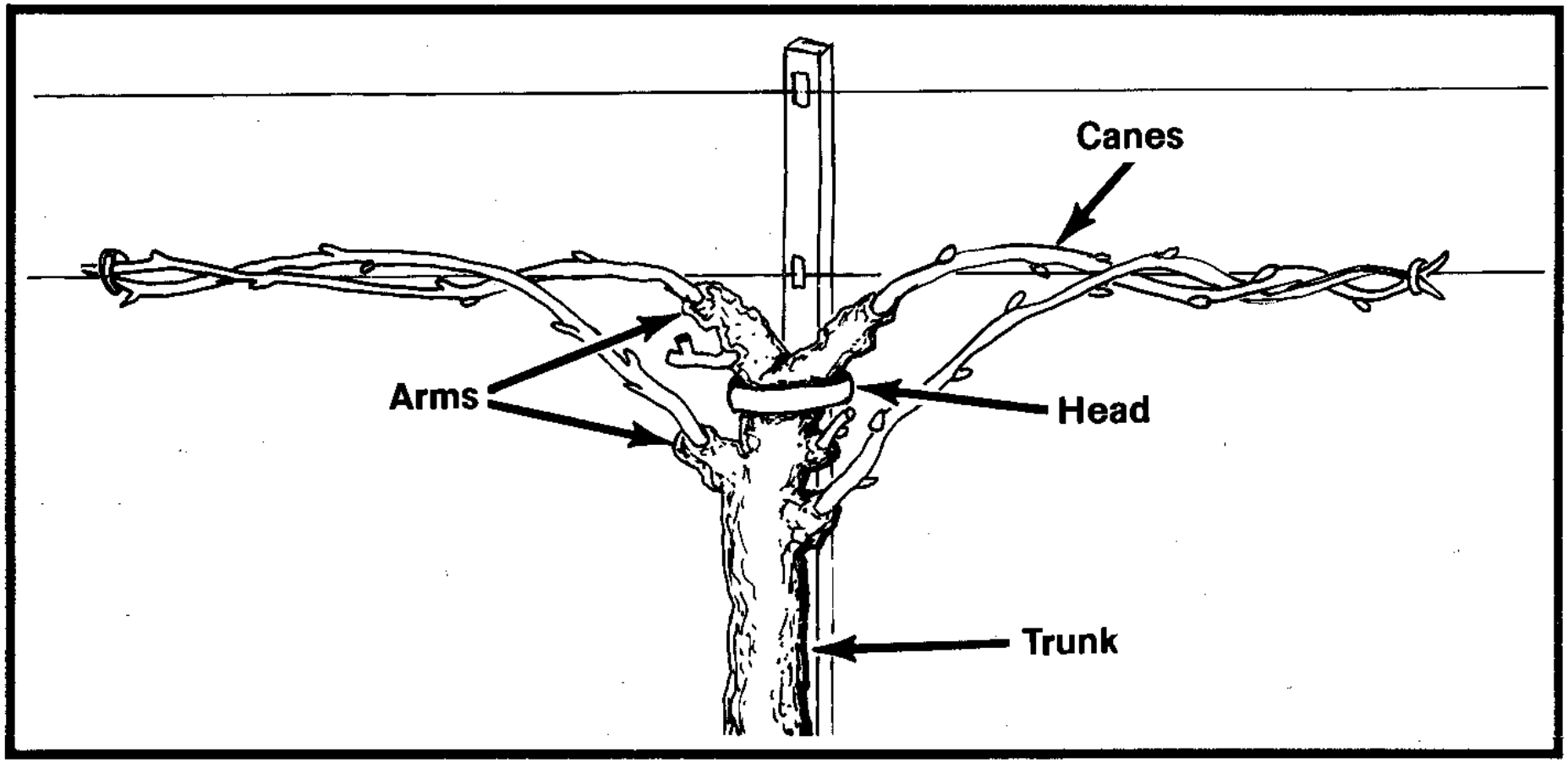
- Take cutting from dormant vine, ½ in. dia.
- Cut to 12-18 in. long
- Cut off all buds but the upper 2
- Stick in loose soil, upper 2 buds exposed

Grapevine Pruning

Grapevine Terms

- Head – upper portion of trunk
- Cordon – permanent branch on wire
- Shoot – current season's growth
- Cane – mature, woody shoot
- Spur – 2-bud section of cane for fruiting
- Arm – old growth of years of spurs
- Tendril – twining organ used for support

Head Training, Cane Pruning



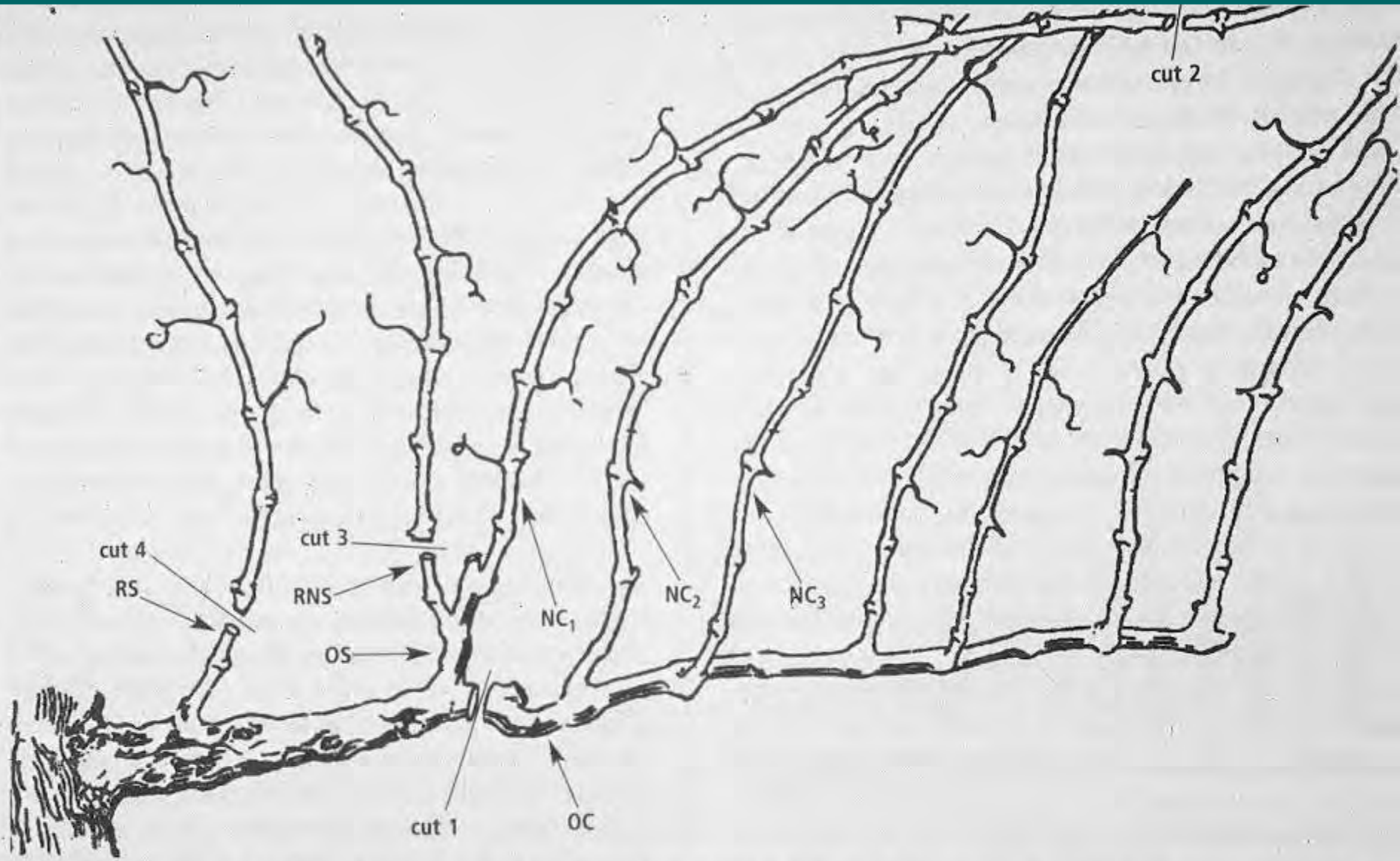
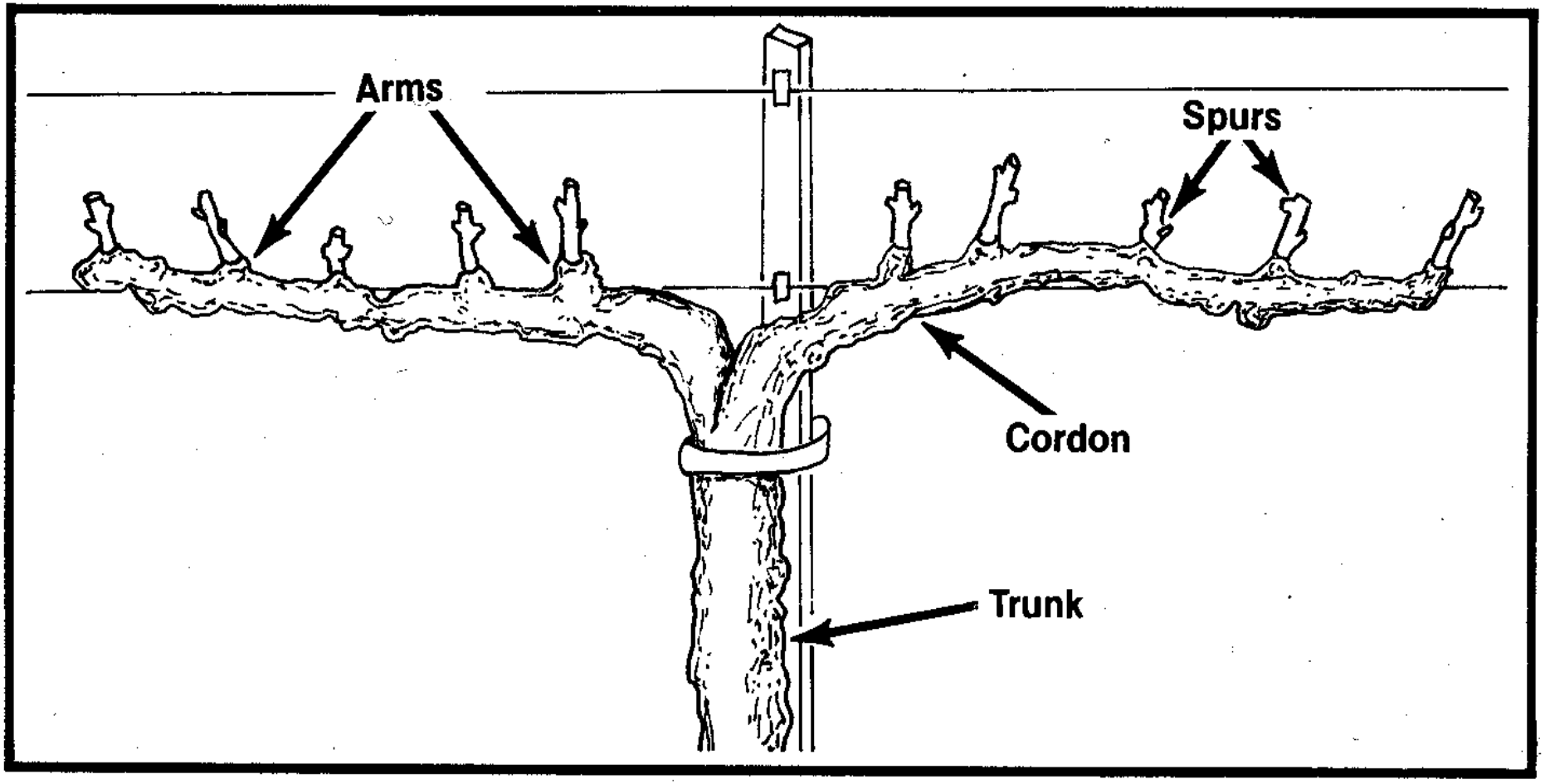


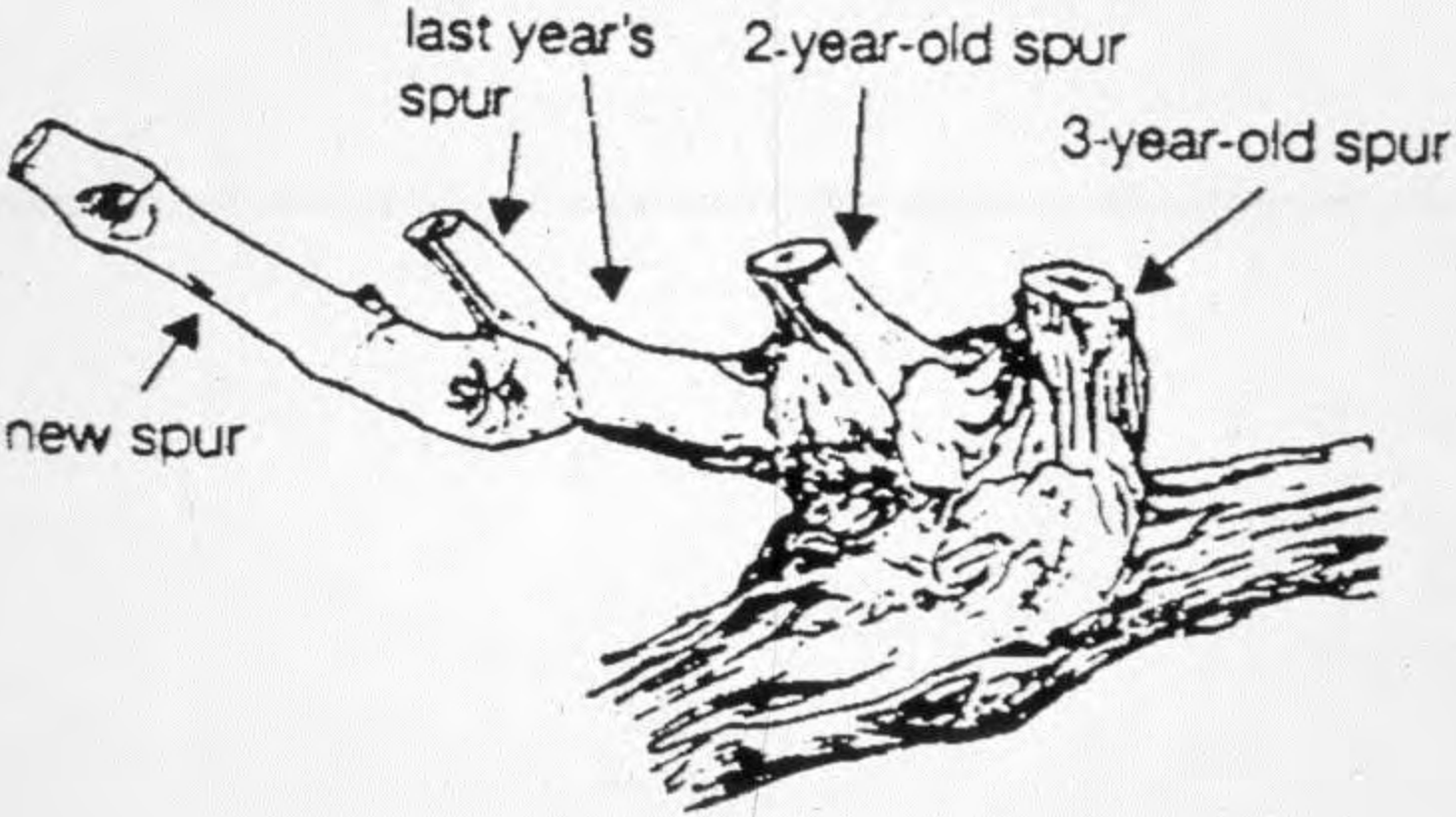
Figure 13.3 A 'Thompson Seedless' grapevine arm, showing pruning cuts for old cane removal and selection of new fruiting canes and spurs. OC = *older cane* retained the previous pruning season; NC = *new canes* from previous season's shoot growth for fruit cane selection; OS = *old spur* retained the previous year for renewal of fruit canes; RS = *replacement spur* retained for reserve of a new cane position; and RNS = *renewal spur* for the renewal or production of fruit canes for next year.

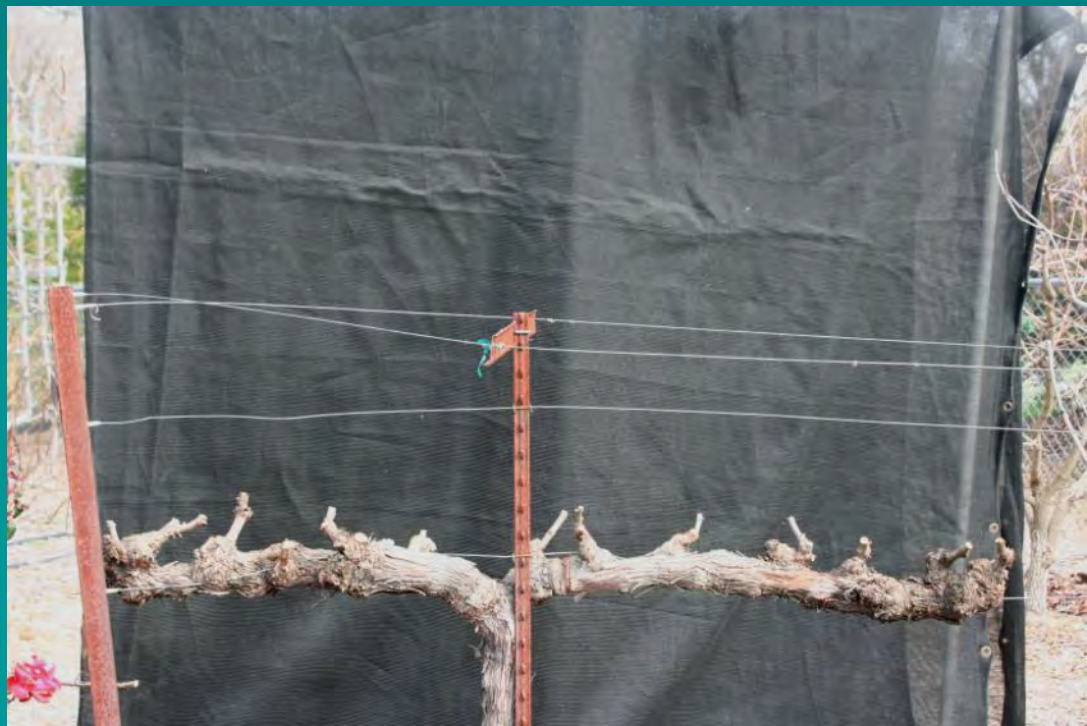
Head Training / Cane Pruning

- Used for varieties that produce no fruit from lower buds (e.g., Thomp. Seedless)
- 4-6 canes per vine, 10-14 buds long
- Wrap or tie canes along wire
- Leave ~1 spur per cane to produce replacement canes

Bilateral Cordon, Spur Pruning



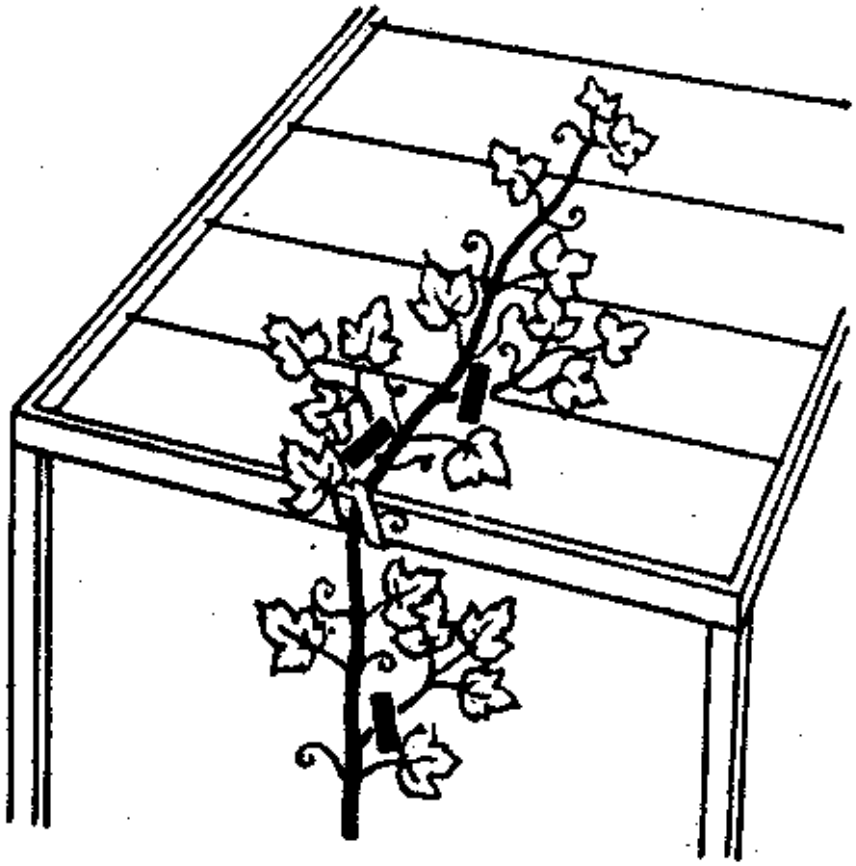

last year's
spur
2-year-old spur
3-year-old spur
new spur



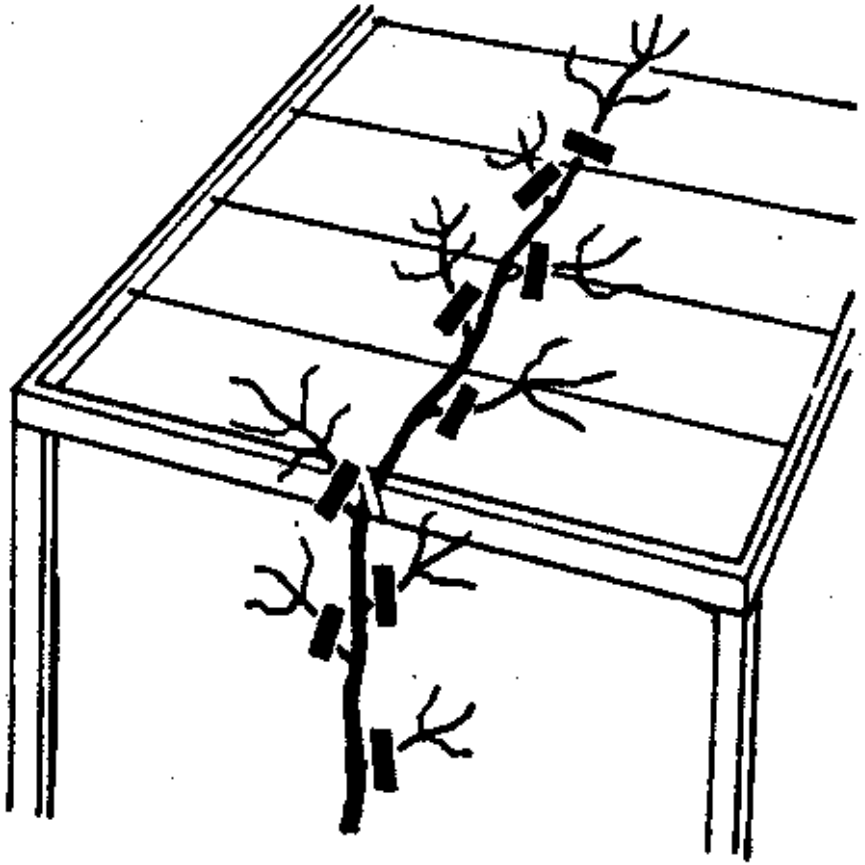
Cordon Training, Spur Pruning

- Majority of varieties
- Trunk divides into 2 or 4 cordons
- Create 5-8 spurs per side (~6 in. apart)
- Remove weak canes or make 1-bud spur
- Select lowest of the 2 canes for the spur

Arbor Pruning

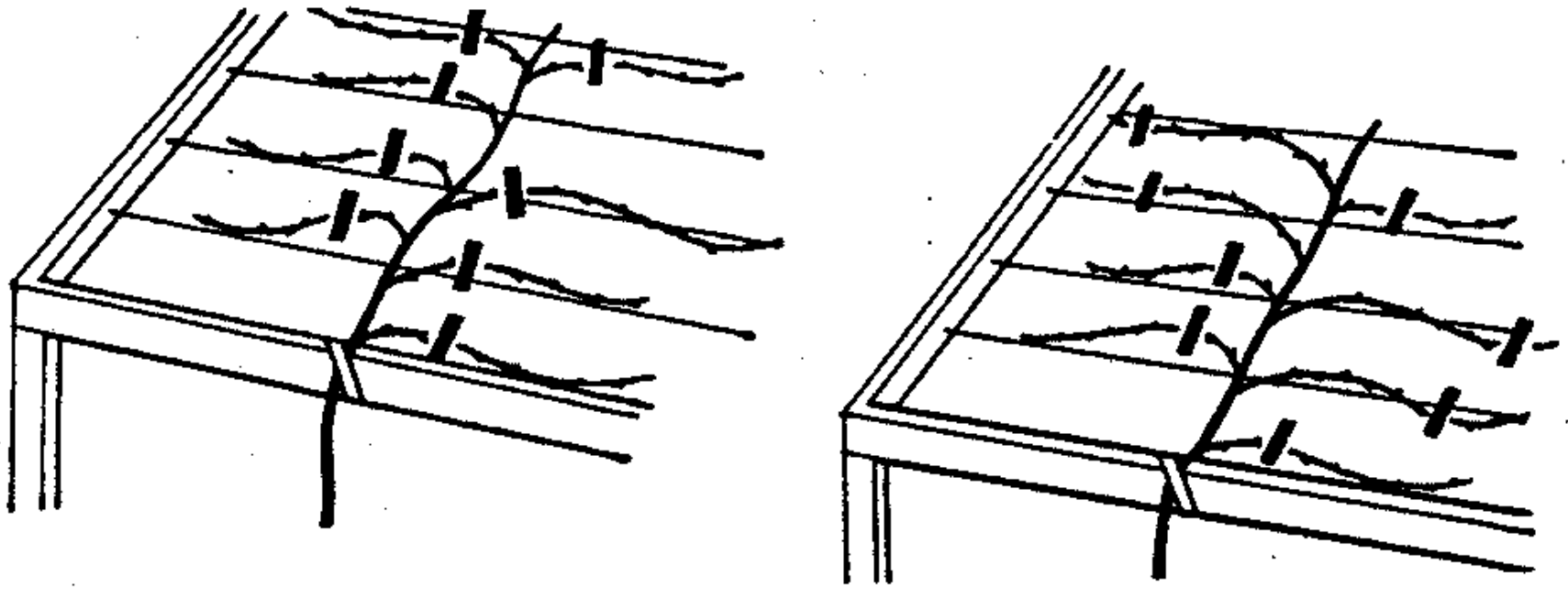


Second summer



Second winter . . .
and following spring

Arbor Pruning



Third winter ... and after

Grape Growing Terms
Increasing Fruit Size & Quality

- Cluster thinning – removal of clusters
- Berry thinning – removal of lower portion of clusters
- Girdling – removal of ring of bark
- Gibberellic acid – spray used to increase fruit size (commercial use only)
- Shoot thinning – removal of unwanted shoots to open canopy
- Leaf removal – around cluster, air circ.

Thompson Seedless

Raisin grape:
No berry thinning

Table grape:
Berry thinned

Trunk Girdling to Increase Berry Size

- Disrupts downward movement of sugars
- Increase in weight about 50% (seedless)
- Increase in weight about 5-10% (seeded)
- Done at fruit set, 10-14 days after full bloom (about mid to late May)
- Remove strip of bark ~¼ in. wide
- Cut all the way around trunk or cordon

Trunk Girdling

Callused over after 2 months

Grapevine Problems and Pest Management

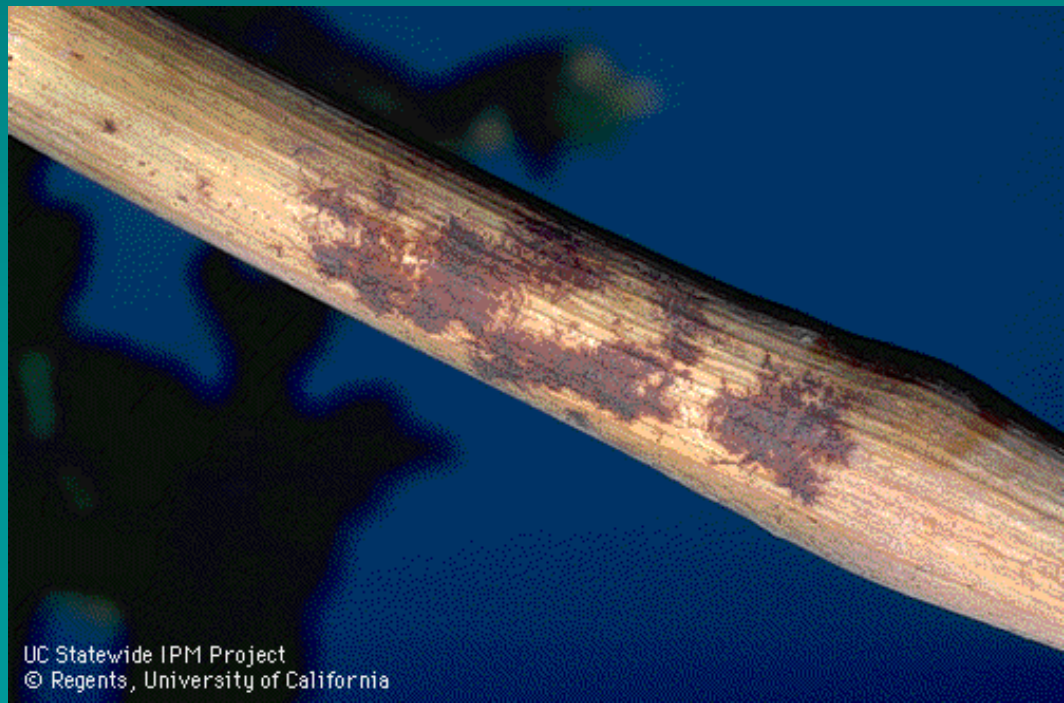
Powdery Mildew

Yellow blotches early on

Powdery Mildew

Strands of spores on berries

Brown blotches in fall/winter



Powdery Mildew
Characteristics

- Fungus – Does not require moisture
- Limiting factor in growing European grapes; American varieties resistant (Concord, etc.)
- Growth is minimal below 70 F and above 92 F
- Spring conditions required for growth:

  70 F for 6 hrs., 3 days in a row

Powdery Mildew
Symptoms

- Initial – Yellowish blotches on leaves
- Later – White powdery fungus on leaves, fruit
- Fruit – Small, don't ripen
- Canes – Brown blotches

Powdery Mildew
Control

- Plant in full sun
- Thin and trim shoots in late spring
- Thin clusters in May/early June
- Remove leaves around clusters
- Dust or spray with wettable sulfur
- Oil sprays (not with sulfur)
  - Horticultural oil, neem oil, etc., mixed in water

Powdery Mildew
Use of Sulfur or Oil

- Sulfur is preventive only, oil can kill a new infection
- Spray oil early season, sulfur late
  - Oil can damage fruits (table grapes
- 1st spray: Depends on temperatures!
  - Bud break to 2 inches of growth
- Then every 7-10 days through June
- Good coverage essential!

Erineum Mite
(Aesthetic problem only!)

Erineum Mite

- Large, puckered spots on leaves
- Felty white underneath early, brown later
- Aesthetic problem; not harmful to plant
- Sulfur or oil applications for powdery mildew control it
- Soap sprays in spring