



Tree Fruits

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UofA

DIVISION OF AGRICULTURE
RESEARCH & EXTENSION

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Tree Fruit Crops

- Tree fruits can be a valuable addition to the home garden
- Work well in your landscape design
- Home grown fruit = more flavorful
- Careful planning, care and preparation is critical to your success
- Pay attention to: site selection, variety selection, rootstock selection, weed control, irrigation, fertilization, and pest management.

Basics

- Locate in full sun (minimum of 6 hours/day)
- Can substitute for ornamentals
- Only plant what you can take care of
- Good air drainage, free from frost pockets
- Deep, well drained soil of good fertility

More Basics

- Exposure to direct sunlight
- Adequate space for plants
- What can you expect to harvest
 - Will you preserve, sell, give away, or consume??



Recommended for Arkansas

- Apples
- Pears
- Stone Fruit
 - Peaches
 - Nectarines
 - Plums



Tree Spacing & Expected Yields

<u>Crop</u>	<u>Spacing between plants</u>	<u>Yield</u>
■ Standard Apple	30 feet	1-5 bushels
■ Semi-dwarf Apple	18 feet	1-5 bushels
■ Dwarf Apple	8 feet	1-3 bushels
■ Peach	20 feet	4-7 bushels
■ Plum	10-15 feet	3-5 bushels
■ Standard Pear	25 feet	1-5 bushels
■ Dwarf Pear	12 feet	1-3 bushels

Freedom from Frost Pockets

- Cold air acts like water, seeking the lowest area in which to accumulate
- Can be pooled or dammed by obstructions to gravity flow
- Frost pockets are the lowest areas on any property where cold air can collect
- Avoid planting in frost pockets or remove the blockage to air flow

Freedom From Frost Pockets

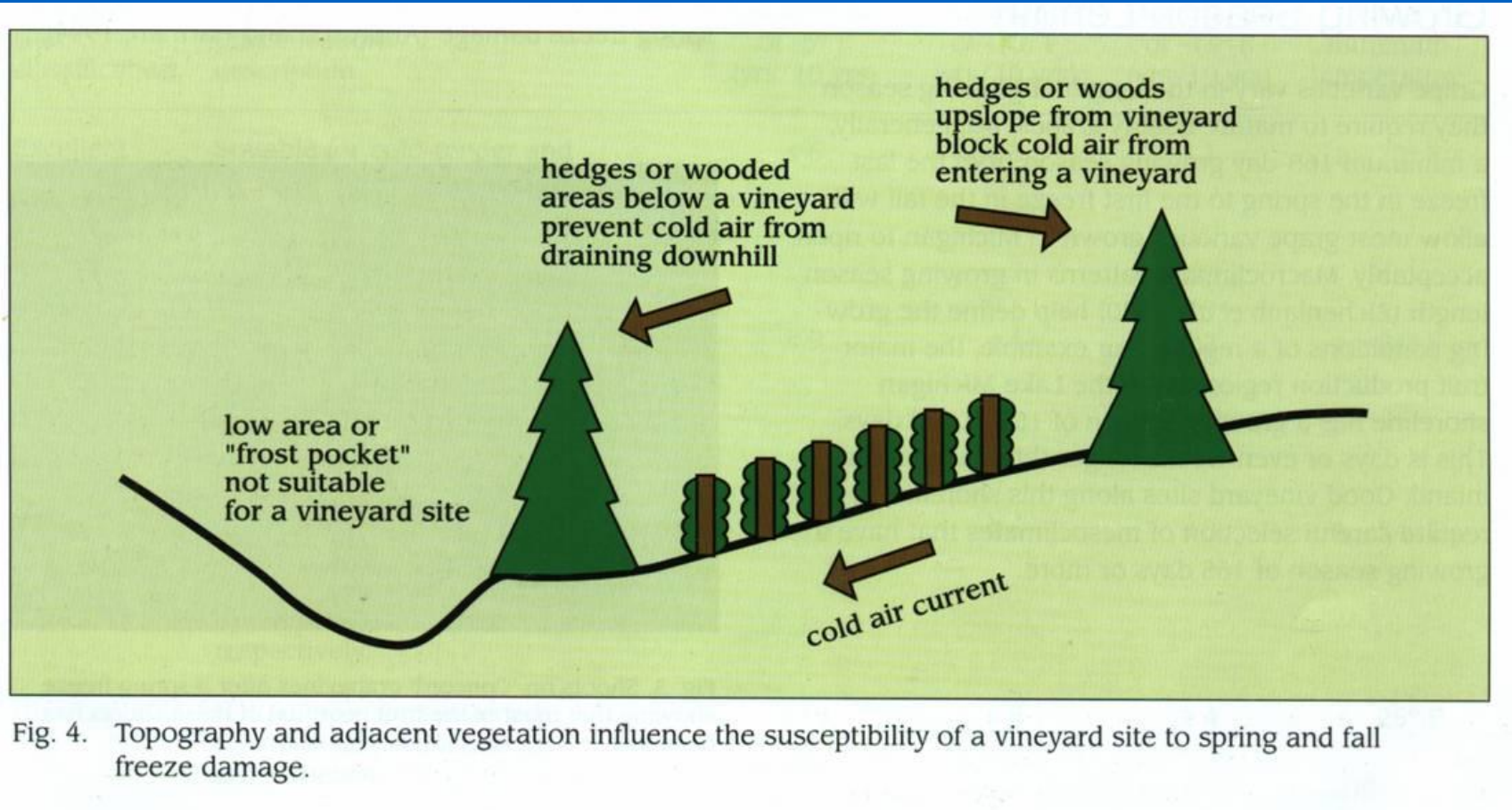
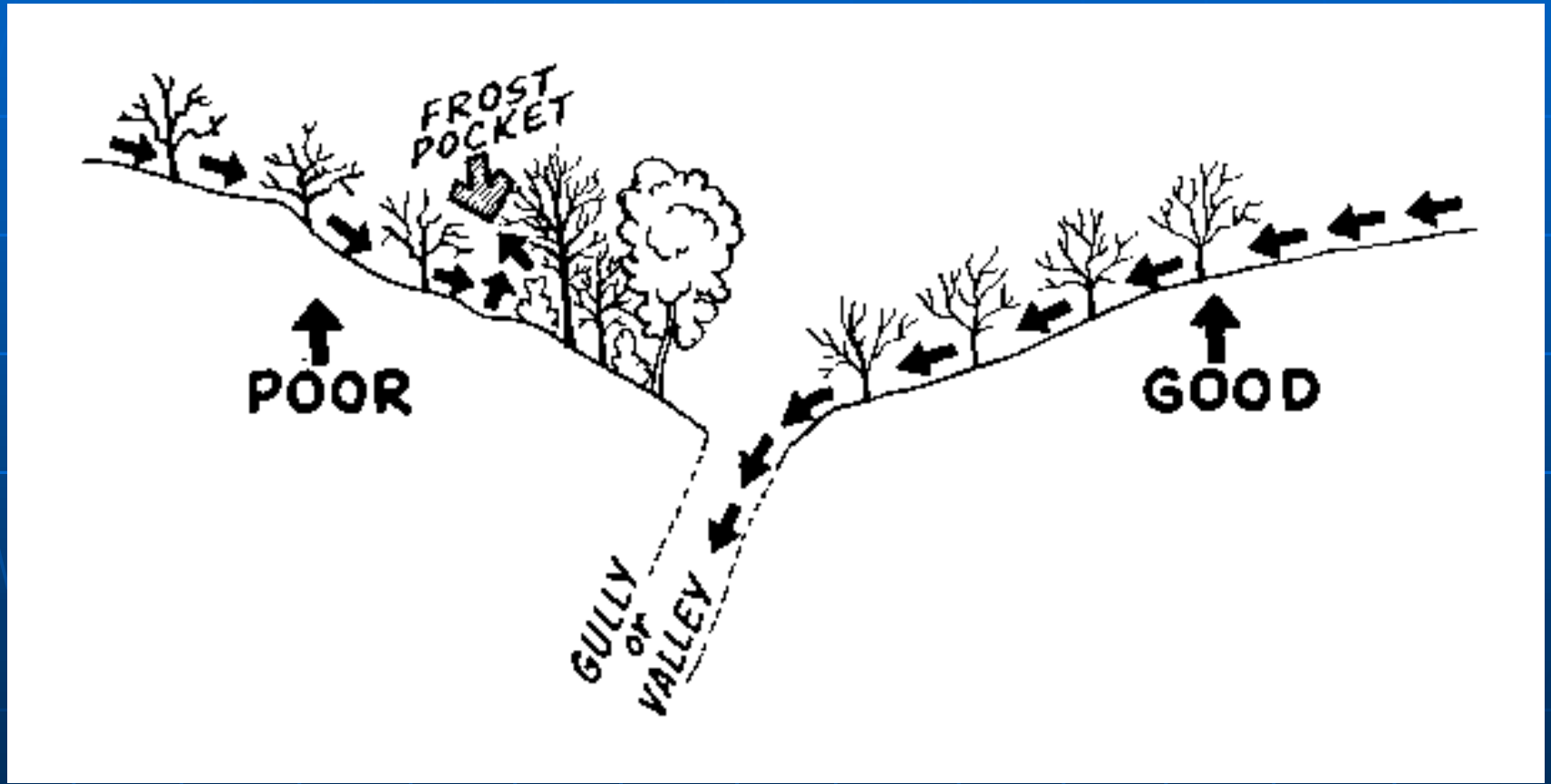


Fig. 4. Topography and adjacent vegetation influence the susceptibility of a vineyard site to spring and fall freeze damage.

Obstruction to gravity flow



Soil Drainage

- Drainage is more important than fertility
- Dig a hole 8" wide by 2 ½ feet deep and fill with water
 - Drains in 24 hours: all fruits can be grown
 - Drains in 36 hours: grow apples, pears and pecans
 - Drains in >48 hours: not suitable

Soil Fertility and pH

- Soil tests are available from U of A -- see your local agent
- Correct any pH imbalance
- Based on soil test, amend soil as needed
- Continue to monitor fertility through the planting's formative years (years 1-3)

Exposure to Sunlight

- Most fruit plants require direct sunlight to achieve maximum fruit production
- Fruitfulness of buds is strongly influenced by the quantity of sunlight they receive
- Rapid drying of the plant canopy reduces the potential for disease
- Early morning sunshine is best for quickly drying plant canopies

Got Questions?

- How do I choose the correct cultivar?
 - For extended harvest
 - For pollination
 - Adapted to this region
 - Disease resistance

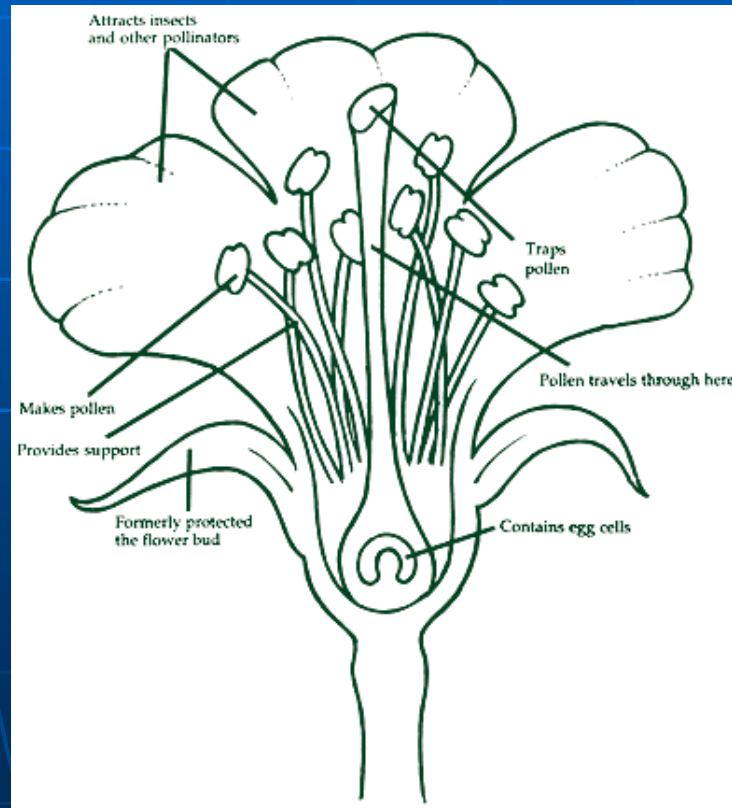
- When is the best time to plant fruit trees?
 - Late Fall / Early Winter

Pollination

- Differs among crops
 - Apples require cross-pollination
 - Most peaches are self-fruitful
 - Pear requires cross-pollination
 - Plums vary in their pollination requirement

Pollination 101

Parts of a flower



Pollination

- Most fruit crops require pollination to ensure that fruit sets.
- Pollination is the transfer of grains of pollen from the anthers (male floral part) to the stigma (female floral part) of a flower.
- Pollen grains get caught on the sticky surface of the stigma, germinate and produce a tube that grows down the style and unites with the female cell in the ovary.
- Known as fertilization.

After fertilization....

- Seeds develop and the fruit enlarges
- Honeybees.....
 - Most important natural carriers of pollen

- As bee flies from flowers on one tree to those on another, pollen sticks to its body hairs.



- The bee rubs off the pollen onto the stigma and transfers additional pollen from the anthers as it visits the flowers.

More buzz about the honey bee



- A honeybee may visit 5,000 flowers a day
- Home plantings generally have enough wild bees for adequate pollination
- Commercial orchards usually require beehives
- In some fruit crops, pollen also transferred by wind

Pollination Definitions

- Each fruit crop and even specific varieties within individual fruit crops, has distinct requirements for pollination.
- Cross-pollination
 - The transfer of pollen between two different species or varieties

Definitions

- Self-pollination
 - Transfer of pollen within single plant or among several plants of the same variety
- Self –unfruitful or self-sterile
 - Plants in which very little fruit will set
- Self-fruitful
 - Varieties that set fruit with their own pollen
- Cross-unfruitful
 - Varieties that will not set fruit even when cross-pollinated

More to Know

- Intersterile
 - Neither of two varieties will fertilize the other
- Pollinator
 - An agent (bees, insects, people) of pollen transfer
- Pollinizer
 - The plant species or variety that produces the pollen

Apples

- Harvest Season



- **Early (July-August)**

- Ginger Gold, Gala, Jonathan, William's Pride, Pristine

- **Mid (September)**

- Jonagold, Suncrisp, Red Delicious, Empire, Golden Delicious, Winesap

Apples

- Harvest Season

- **Late (October – November)**

- Arkansas Black, Rome, Granny Smith, Fuji, Pink Lady, Gold Rush, Enterprise

For more information – (disease resistance, texture/flavor, color, size. etc.) -check UACES website

More Recommendations

- Disease Resistant Apple Varieties
 - William's Pride, Pristine, gold Rush, Enterprise
- Apple Rootstock Varieties
 - EMLA 106, EMLA 26, EMLA 111, EMLA 9, BUD 9

Pears

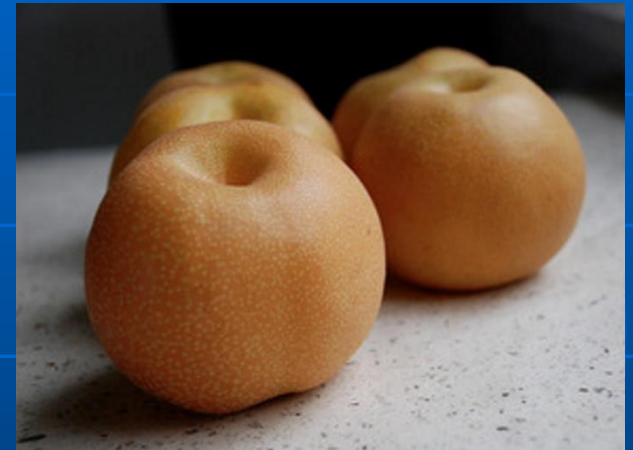
- In Order of Ripening

- Moonglow
- Harrow Delight
- Maxine
- Magness
- Seckel
- Warren
- Comice
- Kieffer



Asian Pears

- In Order of Ripening
 - Shinseiki
 - 20th Century



For fire blight tolerance, grit cells, and firmness information, consult the UACES website

Stone Fruit

- Peaches (In Order of Ripening)

- Goldcrest
- Derby
- Sentry
- Surecrop
- Redhaven
- Bellaire
- Winblo
- Contender
- Jayhaven



More Peaches

- Loring
- Cresthaven
- Ouachita
Gold
- Finale
- LaJewel
- LaWhite
- Nectar
- Carolina
Belle
- Summer
Pearl

Rootstock Varieties

- Peach
 - Lovell
 - Halford
 - Guardian
- Nectarine
 - Westbrook
 - Arrington
 - Bradley
- Plum
 - Stanley
 - Damson

Japanese Type Plums

- Requires Cross Pollination
 - A.U. Amber
 - Morris
 - Methley
 - A.U. Producer
 - A.U. Roadside
 - Ozark Premier
 - Burbank Red Ace

Sources of Fruit

Small Fruits

- Licensed Propagators for University of Arkansas
Patented Cultivars:
 - Blackberry
 - Blueberry
 - Grape

Tree Fruits

- Licensed Propagators for University of Arkansas
Patented Cultivars:
 - Nectarines
 - Fresh Market Peach
- Tree Fruit Nurseries