

Considerations for Planting New Orchard Crops

Rachel Elkins
Pomology Farm Advisor
UC Cooperative Extension
Lake and Mendocino Counties

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Thanks! to

Paul Vossen

Horticulture Advisor

UCCE Sonoma County

for originally creating many of these slides

ORCHARD LOCATION

Full Sun

Air Drainage

Deep, Well Drained Soil









Pacific Pearl's finely ground Oyster Shell is excellent as a soil conditioner, a barn lime, or an absorbent. It's organic, it's safe, and it's absolutely effective.

Ag/Lime Soil Conditioner

Promotes healthy, vigorous plants
and substantially improves soils

BENEFITS:

- Provides an essential plant growth element
- Regulates soil moisture, soil heat, and soil pH
- Keeps topsoil loose and aerated
- Controls soil pH balance
- Corrects soil nutrient deficiencies
- Improves fertilizer action and uptake
- Reduces water runoff and reduces water waste
- Reduces soil compaction, increases moisture and aeration
- Improves plant root resistance and reduces plant stress
- Safe to spread—fast leaching

USES AND DIRECTIONS:

- New Lawns:** At seeding time, spread 10 pounds per 1000 square feet. Lightly water in.
- Existing Lawns:** Initial application 10 lbs. per 1000 square feet. Lightly water in. Repeat applications 4-8 lbs. per 1000 square feet. Water apply several times a year, any time of the year.
- Rowcrops:** 4 to 5 lbs. per 25 feet row, lightly water in. Repeat 2-3 lbs. per 25 feet row, 1-2 times per growing season. Water in. Small amounts, 1 tablespoon per plant when sowing.
- Vegetables:** 4 to 5 lbs. per 25 feet row. Water in.
- Tree & Shrub Strips:** 1 inch trunk: 1 to 2 1/2 inch trunk: 2-3 lbs. larger: 4 lbs. and over: 6 lbs. More for initial application. Apply several times a year.
- Ornamental plants and potting soils:** Mix in 1-2 lbs. per 500 cubic inch bag of shipping media, per 500 cubic inch potting mix.
- Houseplants:** 1 teaspoonful per 2 inch pot. Water in. Repeat 1 or 2 times a year.
- Perennial crops, shrubs, small grains:** For pre-plant application, broadcast uniformly over soil surface, 1000 lbs. per acre. Water in. Lightly water in. For post-plant application, broadcast 500 lbs. per acre. Water in. Lightly water in.

Barn Lime

Oyster shell barn lime helps horse and livestock owners control problems related to moisture and waste water accumulation. Oyster shell is slow burn, neutralized acid, highly absorbent, and is an excellent deodorant.

Spread Pacific Pearl oyster shell generously on wet spots in stalls, and provide thorough floor surface bedding. Scatter on water accumulation to absorb unpleasant properties. Oyster shell is safe, dries 1 hour or so, and there is no danger of tissue damage from inhalation or ingestion.

Absorbent

Spread generously on spilled oil or other liquids. Allow to stand until absorbed, then remove to spill source.

Analysis

Calcium Carbonate (CaCO₃) 76% min. (Dry Basis)
Elemental Calcium (Ca) 100% min. (Dry Basis)

Manufactured by Pacific Pearl, Inc., 10000 S. 10th St., Tacoma, WA 98404

POWER
potassium nitrate KNO_3


13.75-0-44.50
SOLUBLE

GUARANTEED ANALYSIS
Total Nitrogen (N) 13.75%
(13.75% NITROGEN IN NITRATE FORM)
Soluble Potash (K_2O) .. 44.50%



MANUFACTURED BY
Cedar Chemical Corporation
Vicksburg, MS

NET WEIGHT 50 LBS.

When Quality is The Priority

13.75-0-44.50

POWER

































Value of Water

- **Yield**
- **Fruit Size**
- **Fruit Quality - Color & Taste**
- **Cover Crop Mgmt.**
- **Erosion Control**
- **Frost Control**
- **Pest Mgmt.**
- **Nutrition Enhancement**

IRRIGATION

How much - how often - how long ?

SPRINKLERS

- Use Rate (ET)
- Application Rate
- Rooting Depth
- Soil Water Holding Capacity

DRIP IRRIGATION

- Use Rate (ET) - Plant Size (Area in Ft²)
- Application Rate (Emitter Spacing and Size)

Seasonal Water Requirement

April - October (30 yr. average in inches)

	<u>Marine</u>	<u>Coastal Cool</u>	<u>Coastal W arm</u>
• April	2.8	4.0	4.5
• May	2.9	5.8	6.9
• June	2.8	5.6	7.0
• July	3.4	6.1	7.9
• August	3.1	5.2	6.8
• Sept.	3.1	4.4	5.7
• Oct.	<u>3.1</u>	<u>3.3</u>	<u>3.7</u>
TOTAL	21.2	34.4	42.5

Water Use in Gallons / Day

	0.1"/day	0.2"/day	0.25"/day	0.3"/day
1 ft ²	0.062	0.125	0.156	0.187
10 ft ²	0.62	1.25	1.56	1.87
36 ft ²	2.25	4.50	5.61	6.73
100 ft ²	6.20	12.5	15.6	18.7
200 ft ²	12.4	25.0	31.2	37.4
300 ft ²	18.6	37.5	46.8	56.1
1 acre	2,715	5,431	6,788	8,146

5 gpm X 60 min/hr X 24 hrs/day = 7,200 gallons per day

















Rootstock Influence

- **Tree size**
- **Vigor determination**
- **Precocity**
- **Water sprout and sucker development**
- **Fruit size and quality**
- **Cold tolerance**



ASIAN PEAR
ON BETULAEFOLIA

OLYMPIC











Tree Training

- **Tree Form (light mgmt.)**
- **Low Branching**
- **Structural Strength**
- **Access for Thinning & Harvest**
- **Max Fruiting Area**

Tree Training Systems

- **Vase - Open Center**
- **Central Leader - Slender Spindle - Vertical Axis - Monocone**
- **Espalier - 'Y' - 'U' - Parallel 'Y' - Perpendicular 'Y'**
- **Lincoln Canopy**
- **Tatura - 'V'**
- **Bush**
- **Pergola**

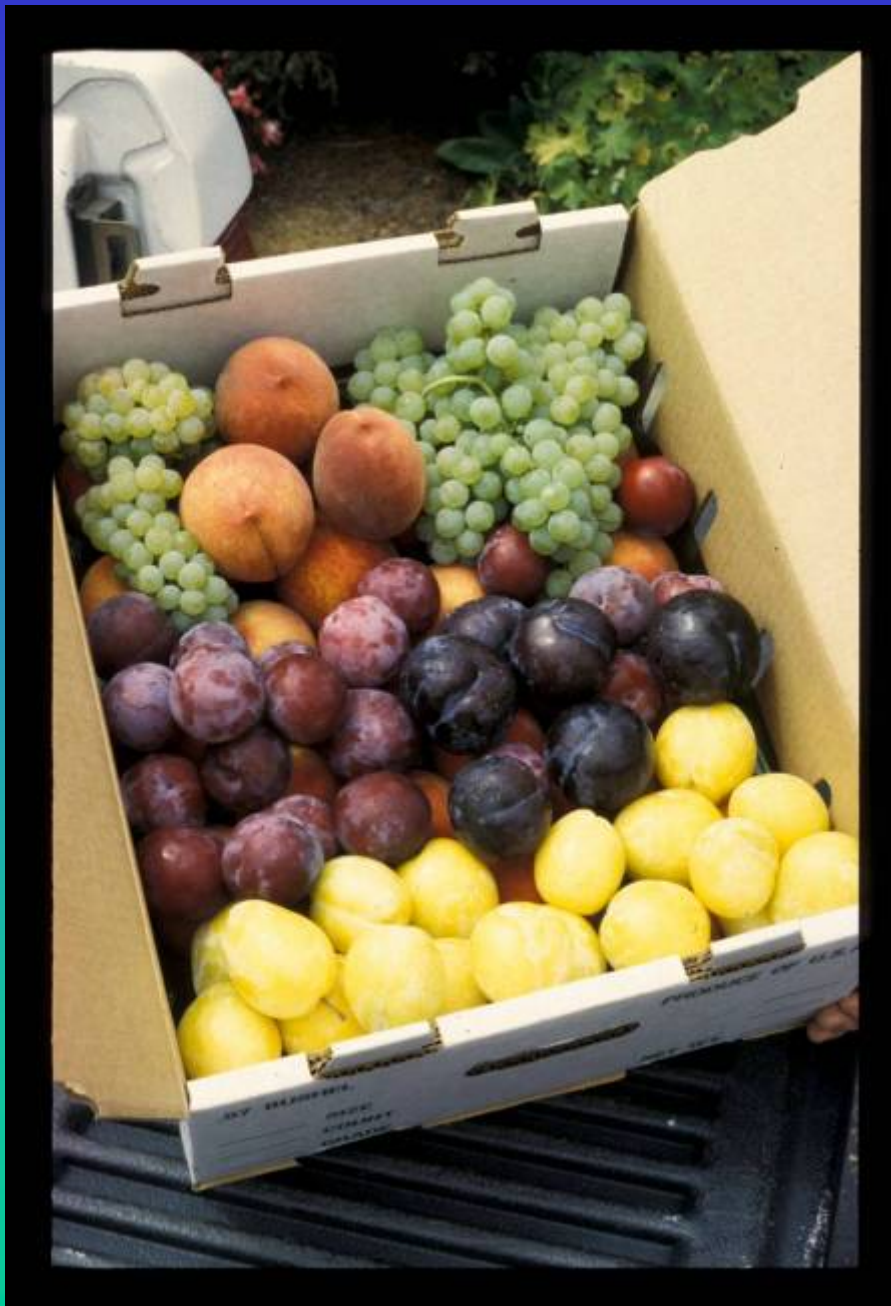
















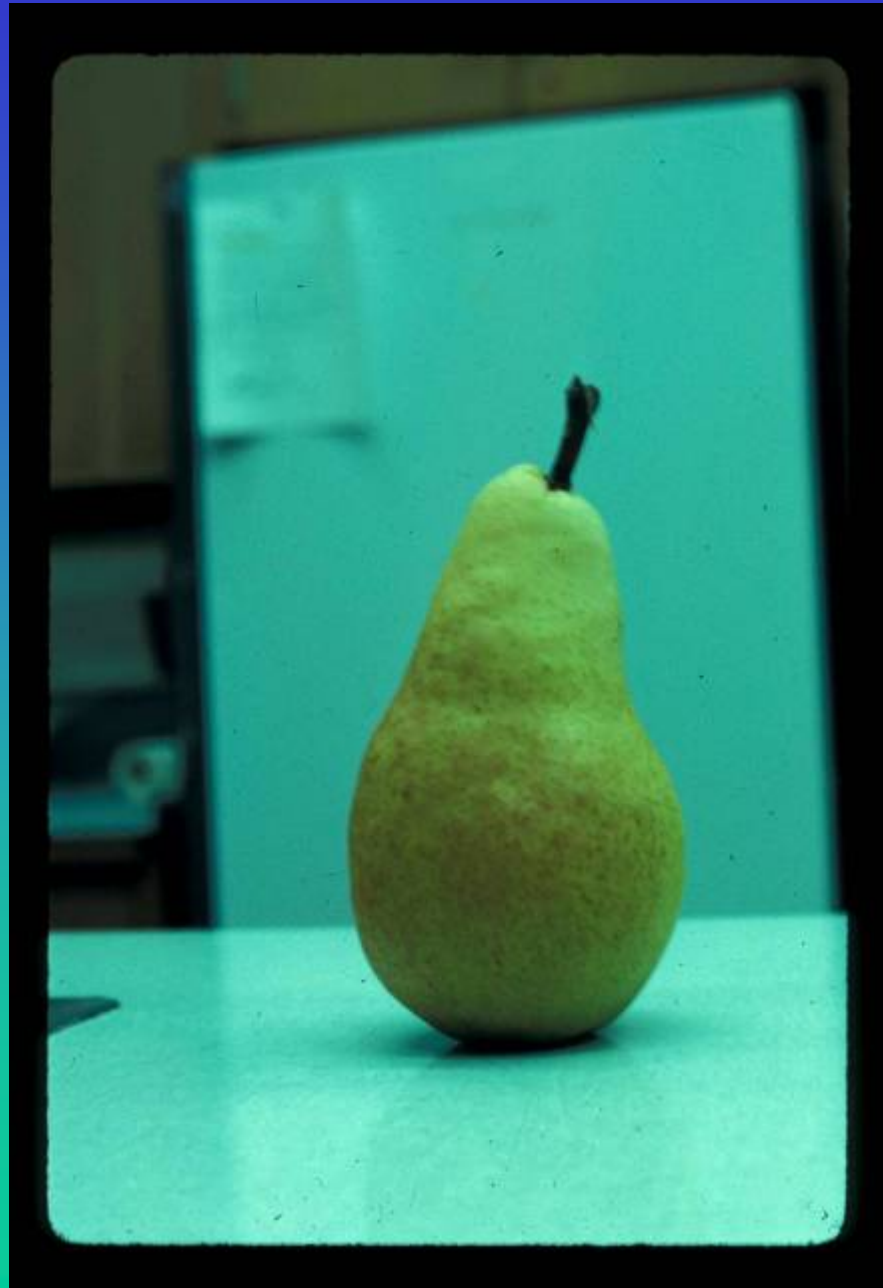


*Sierra
Beauty*



Pink Pearl





































Saijo

Hachiya

Jumbu (Giant Fuyu)

Diospyros virginiana

Fuyu









Flame Seedless



Centennial

Centennial Seedless

AVIS
SERVICE



Italia





































Whatever the crop:

- Plan ahead! www.coststudies.ucdavis.edu
- Talk with other growers
- Contact UCCE
 - celake.ucdavis.edu
 - cemendoncino.ucdavis.edu
 - cesonoma.ucdavis.edu
 - ALL COUNTIES HAVE SAME URL PATTERN
- Fruit and Nut Research and Information Center
 - <http://fruitsandnuts.ucdavis.edu>

Thanks very much!