

Vegetable Crop Production



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Vegetable Crops

- **There are innumerable vegetable crops in the world**
- **Vegetables form an important part of the human diet**
- **They provide minerals, fiber, vitamins, antioxidants, sugars, starch, etc.**
- **They provide flavor and variety to the diet**

Topics

1. **Types of vegetable crops**
2. **Their season**
3. **Growing requirements**
4. **Growing Systems**
5. **Equipment**
6. **Financing**
7. **Quality & Marketing**
8. **What to Grow**
9. **Sources of Information**

Cool Season Vegetables

Lettuces



Baby Leaf



Endive

Cole Crops



Artichokes



Cardoon

Peas Celery



Warm Season Vegetables

Sweet Corn

Cucurbits



Solanaceous



Chili Pepper



Green Beans



Root Vegetables

Alliums



Leek



Potato



Sweet Potato



Daikon Radish

Specialty Vegetables



Vegetable Seasons

- **Cool Season**

- **Vegetables that can be grown fall through winter to spring (nearly year round in the Salinas Valley)**
- **Typical mean growing temperatures range from 50 to 70 °F**
- **Can handle light frosts or even freezing**
- **Edible portions are often leaves, stems or roots**
- **Examples are cabbage, potato, carrot, lettuce & spinach**

Vegetable Seasons

- **Warm Season Vegetables**
 - **Grown spring through fall (April to November)**
 - **Typical temperature range is from 65 to 85 °F**
 - **Intolerant of frost**
 - **Edible portions are usually fruit or pods**
 - **Examples are green beans, tomatoes, melons and squash**

Growing Requirements

With reference to Salinas Valley

- **A key factor affecting ability to grow vegetables**
 - **Length of growing season**
 - Nearly year round for cool season vegetables and April to November for warm season vegetables
 - **Climatic factors (highs and lows)**
 - Below freezing and over 90 °F can be problematic
 - **Soil quality factors**
 - Drainage, depth, texture (affects ability to get into production early), slope, etc.

Growing Requirements

With reference to Salinas Valley

- Adequate and timely irrigation



Growing Requirements

With reference to Salinas Valley

- **Fertility**

- Nitrogen is always necessary to add
- Phosphorus and potassium are also macronutrients
- Calcium is mostly added to amend the soil
- Zinc is the most common micronutrient that is needed

Growing Requirements

Low total N content <120 lbs/acre	Medium total N content 120-200 lbs/acre	High total N content >200 lbs/acre
Baby Greens	Carrot	Broccoli
Beans	Garlic	Cabbage
Cucumbers	Lettuce	Cauliflower
Radish	Melons	Celery
Spinach	Onions	Potato
Squashes	Peppers	
	Sweet Corn	
	Tomatoes	

Insect Issues

With reference to Salinas Valley

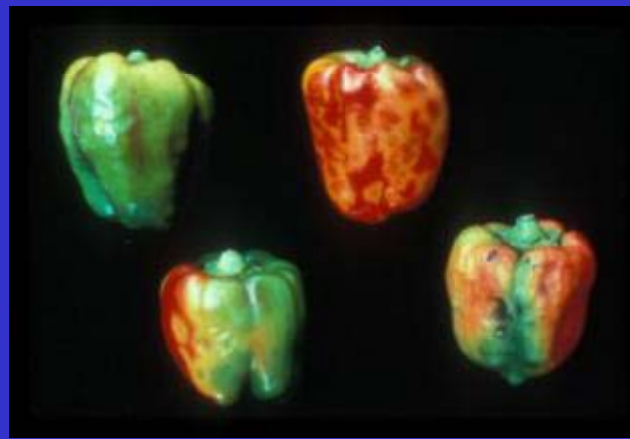
- Aphids (many different species)
- Worms (larvae of moths)
- Symphyllans
- Leafminer
- Many others



Disease Issues

With reference to Salinas Valley

- Downy mildew of lettuce
- Sclerotinia
- Powdery Mildew
- Verticillium
- Viruses
- Many others



Weed Issues

With reference to Salinas Valley

- **Cool and Warm Season Weeds**

Winter annuals



Summer Annuals



Purslane



Nightshades

UC Statewide IPM Project
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Nettleleaf Goosefoot

UC Statewide IPM Project
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Weed Control Strategies

- Cultural
- Biological
- Chemical

Growing Systems

- **Conventional**
 - Able to utilize standard pesticides to control insects, disease, nematodes and weeds
 - Can use standard fertilizers
- **Organic**
 - Only able to use organically approved products for pest management, soil fertility
 - Emphasis is placed on building soil fertility and quality

Equipment

- Vegetable farming is equipment intensive and you can almost never have enough equipment



Disc



Listing Beds



Deep Ripper



Spike Tooth Harrow

Equipment



Planter



Cultivator



Brush Hoe



Following Cultivation

Financing

- Finding capital to finance planting and growing operations before the crops mature and can be sold



Quality and Marketing

- **Quality is critical to success**
- **Consumers demand high quality, blemish free produce**



Quality and Marketing

- Marketing is critical to getting the best returns for your investment of time and money

There are many options

- Farmer's Markets
- Direct to retail/food service
- Community Supported Agriculture
- Wholesale

The right choice will be key to the success of your operation



What to Grow

- **This is a key question that only you can answer**
- **The answer comes as the result of much investigation on market prices, times of production for vegetables in your area, evaluations of cost of production, etc**
- **Given the high cost of production in this area, mostly we are growing high value products (berries, flower, vegetables, organic, etc)**

Sources of Information

- **Numerous websites**
 - See handout
- **University of California Cooperative Extension**
- **Seed companies/catalogs**
- **Other farmers**
- **Conferences**
- **Equipment dealers**