Transplanters

"Many small vegetable farmers think using transplants and transplanters is too expensive or complicated, but there are good reasons to take another look. Transplanters attach to the back of a tractor on a three-point hitch or toolbar, or are pulled. They can plant from one to 16 or more rows at a time. One or two people feed the plants into the machine's plant pockets. Often a water tank mounted on the tractor waters and fertilizes the plants continuously or intermittently. The transplanter performs five functions:"

1. Opens the furrow
2. Meters the plant
3. Places the plant
4. Covers the plant
5. Firms the soil around the plant.

"A new single-row transplanter costs about $1,000 and multiple-row, multiple-feature transplanters cost over $7,000. Used units are available for less. Most farmers modify their machines. California distributors of two major transplanters:

Holland Transplanters Co.
Solex, 220 South Jefferson St.
Dixon, CA 95620
Tel. 916-678-5533

Mechanical Transplanter Co.
Salinas Equipment Co.,
1051-B Tervenae
Salinas, CA 93901
Tel. 800-331-5675 or 800-237-4585" (Small Farm News, May/June 1993).

Research Highlights

Local Bird Factoids

◊ Species which cause damage to vegetables in Hawaii:
   Skylark*, pheasants, cardinals, doves, mejiro,
   sparrows, quails*, mynah, mockingbirds*, and Linnet
   (*= cause damage at 1000-4000 ft elevation in Maui,
   Kamuela and Kauai).

◊ Crops mostly affected: lettuce, daikon, melons, cucumbers,
   corn, chinese cabbage, beans, peas, tomato, rice, vanda
   joaquim, and anthuriums.

◊ Types of damage:
   a) feeding on planted and germinating seeds.
   b) picking on young seedlings
   c) picking on growing shoots of cucurbits, flowers, and
      immature bean pods, ripening tomatoes, eggplants,
      anthurium spadix (mejiro), and vanda orchid pollinia
      (mejiro).
   d) Feeding on grain crops- rice, sorghum, and corn and
      other crops grown for seed.

◊ Time of year with highest losses: dry summer months
   when weed growth is low.

◊ Controls available include: scarecrows; shotgun;
   firecrackers, carbide gun and other noisemakers; strings
   with fluttering pieces of cloth and shiny metal; 
   chemical seed treatments (repellants); poison baits.
   None of these are very effective.

◊ Loss assessment estimate: 20% of acreage in affected 
crops.
PHOSPHORUS WATCH
Assessing P needs in Florida Vegetables

Four year trials were initiated in 1991 in Lake Apopka, Florida by Dr. J.M. White, to evaluate P fertilization on carrots and sweet corn. Initial soil levels indicated adequate P content in the soil before initiation of the experiments. As expected, P application rates had no significant effect on yields of carrots (30-33,600 lbs/Acre) or sweet corn (300-360 bushels/Acre). Typical commercial application rates for growers which do not rely on soil tests are 120 lbs/Acre \( P_{205} \) for carrots and 72 lbs/Acre \( P_{205} \) for sweet corn (Vegetarian 93-5).

NITROGEN WATCH
Effects on snapbeans and watermelons in Florida

Nitrogen application rates ranging from 0-200 lb/Acre determined that application rates of 72 lb/Acre were sufficient to obtain maximum yields of snap beans in Live Oak, Florida in 1989 and 1990 trials. Timing or application technique (banding or broadcast) had little effect on final yields. Leaf N content at fertilizer rates of 80 lb/Acre was about 3.5% with yields of about 8,000 lbs/Acre. Similar results from 9 Florida experiments indicate that 120 lbs/Acre N is required for maximum watermelon yields in fields where little leaching occurs (M. Lamberts. Dade Veg. Newsletter 3(1):3-4.; Hochmuth, Vegetarian 93-04).

Chemical Black Scale Control in Olives

Black scales are among the most prevalent pests in California olives. The scales excrete a sticky honeydew on leaves of infected trees. Affected leaves turn black from the sooty mold fungus growing in the honeydew. Tree productivity is reduced with heavy scale infestations. Chemical Summer treatments in California consist of 1.5 gallons of light medium or superior grade oil plus 1-2 pounds of Sevin per 100 gallons of water per acre. One or two summer treatments are normally required. An alternative approach includes a fall application of 2 pounds of Supracide per 100 gallons of water per acre to control the following year's hatch. Some growers combine the Supracide treatment with the late October Kocide copper spray to combine peacock spot fungal disease control with the scale control treatment (Agribusiness Fieldman 21(10)1992).

Tips to Reduce Incidence of Tip-burn in Chinese Cabbage

* Use tolerant types (Napa types most susceptible)
* Use appropriate rates of N and K
* Use split application rates of N and K.
* Irrigate Uniformly.
(Vavrina, Vegetarian 93-06).

Etephon on Cucumbers

Cucumber Sex Expression

Several flowering habits exist in cucumbers. Most cultivars are monoecious, with separate male and female flowers in the same plant. Gynoecious or "all-female" cultivars produce only female flowers resulting in up to 13 times more female flowers than those obtained in monoecious cultivars. The so-called "PF" hybrids produce predominantly female flowers but also produce a small number of male flowers. Cultivars grown in the greenhouse such as European cucumbers are parthenocarpic which means that no pollination is required for fruit production. The first flowers of monoecious plants are staminate or 'male' followed by pistillate or 'female flowers from which fruits are born. Some markets, such as the Japanese market, prefer 'bloomless' fruits, or fruit free of the natural film or powdery tissue that cover the skin of cucumbers and several other vegetables. Sex expression in cucumber may be affected by several factors such as plant density, plant stress, temperature, and light intensity. Reduced rates of female flowers in gynoecious cultivars may result from exposure to stress caused by high plant population densities, insect attack, wind damage, and combinations of low light intensity and high ambient temperatures. Cucumbers will not interbreed with melons nor squash, but it will interbreed with other cucumber cultivars.

Use of Etephon or Ethrel (trade name)

The commercially available hormone etephon, 2-chloroethylphosphonic acid, (an ethylene releasing substance) at 125-250 ppm increases the production of pistillate or female flowers in gynoecious cultivars. Also increased pistillate flower number in monoecious pickling cucumber cultivars (McMurray and Miller, 1969). Applied
after the true first true leaf is fully expanded and again 1 week later. Mainly increase of early yields but not total yields. Etephon significantly reduced number of male flowers and increased the number of female flowers produced by several cultivars of cucumber. Currently, one brand of etephon is labeled for use in pickling cucumber production. This chemical increases the no. of female flowers, resulting in potential for larger yields of fruits and fewer oversized fruits. 250 ppm ethrel levels also increased female flower number, increased fruit numbers of butternut squash but not total yields (Coyne 1980). Internode length of treated plants was also reduced with ethrel applications, but ethrel had no effect on appearance, flavor, texture, firmness, bloater formation or acceptability of pickling cucumbers (Miller et al., 1970).

**Etephon References**


**Marketing Corner**

**Pesticide Attitudes**

* The Louisiana consumer believed that organically grown produce is safer than conventionally grown produce.
* 60% of Georgia respondents preferred organic over conventional produce because it is considered pesticide-free.
* Louisiana respondents agreed, along with 75% of California and Washington respondents, with statement that "I would buy blemished [produce] if these were certified to be produced without pesticides"
* Most farmers have already made changes in their practices in response to public's opinion about pesticides.
* 92% of farmers are likely to use safer pesticides in the future.
* 64% of farmers favor tougher penalties for misapplication (Schupp et al., Louisiana Agr. 36(2):4-6(1993); Amer. Veg. Grower 41(4):43, April 1993).

**Marketing Resources**

**Major California Terminal Markets**

Los Angeles Wholesale Produce Market  
1601 E. Olympic Blvd.  
Los Angeles, CA 90021

7th Street Market  
1318 E. 7th Street  
Los Angeles, CA 90021

The City Market  
1057 San Pedro Street  
Los Angeles, CA 90015

San Francisco Produce Market  
2095 Jerrold Avenue  
San Francisco, CA 94124

Golden State Produce Terminal  
131 Terminal Court  
San Francisco, CA 94080

Sacramento Produce Market  
Corner of 16th and 13th Street  
Sacramento, CA 95814

**Produce Directories (published quarterly)**

The Blue Book  
Fruit and Vegetable Credit and Mkt. Service  
Produce Reporter Co.  
Wheaton, Ill 60187  
Tel. 708-668-3500 or 213-868-1815

The Red Book  
7950 College Blvd.  
Overland Park, KS 66210-1821.  
Tel. 800-451-2200.

**Produce Price Information**

* Yearly summary of weekly prices is available, along with on-line or telephone daily price quotations for fresh produce.

Federal-State Market News Service (offices are available in the major markets including Miami, Philadelphia, New York, Chicago, Seattle, San Francisco and Los Angeles). A local branch is located in Honolulu for local price quotations.

1320 East Olympic Blvd., Room 212  
Los Angeles, CA 90021  
Tel. 213-894-3077
Typical Wholesaler's Expectations

1. At least 7-10 days notice on large deliveries or a one day notice on small volume deliveries.
2. Items should be packed in standarized containers.
3. Items should be of high quality.
4. Amounts to be shipped should be determined before shipment.
5. Price per weight of your product should be negotiated and determined the day before shipment. For the grower, it is important to know that these houses sell your product on a consignment basis. That is the grower assumes all price and product risk until the product is sold.
6. Whenever possible, supply of these items should be consistent over the season (Small Farm News Sep/Oct. '92).

UPCOMING EVENTS


10TH Annual Hydroponic Grower's Conference, 5-6 November, 1993. Ramada Hotel Resort, Orlando, Florida. Registration= $120, special per night hotel rate= $54. Send Registration to Hydroponic Grower Conf, c/o CropKing Inc. POB 310, Medina OH 44258. Tel. 216-725-5656; Fax 216-722-3958.
RESOURCES

Farmer Worker/Safety Regulations

For information contact your regional EPA office or:
1) Sharon Hughes, Exec. VP. National Council of Agricultural Employers, 1735 1 St., NW., Suite 704, Washington DC, 20006, Tel. 202-728-0300.
3) Al French, Office of Labor Affairs, USDA, Office of the Secretary, 14th and Independence SW, Rm. 227E, Washington DC, 20250, Tel. 202-720-4737 (Ag Consultant, 48(9)1993).

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