Texas Agricultural Extension Service

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Double-Cropping Pointers

This article by George Hochmuth, Extension Vegetable Specialist, University of Florida, appeared in the ***American Vegetable Grower,*** *September 1995.*

Double cropping of plastic-mulched beds is increasing in popularity, and becoming more economical in most vegetable-producing areas of the country. If properly managed, double cropping can allow a grower to produce a second crop with a short turnaround time and minimal inputs compared to the first crop. Double cropping thus allows a grower to increase efficiency by making multiple uses of production inputs such as polyethylene mulch, drip tubing, and several pesticides. To realize the maximum benefit offered by double cropping, there are several points that should be kept in mind.

SELECT THE RIGHT CROPS

Cultural practices used in the production of the first crop may influence the performance of the second crop and, therefore, some special precautions need to be considered.

The compatibility of crops for double-cropping systems must first be determined. When selecting the second crop to be grown, growers may want to focus on those with relatively short growing seasons, low fertility requirements, and the potential for producing high-quality fruit when grown on polyethylene mulch. It is wise to select crops that have different pest problems. Since no tillage is practiced between crops, there will be a considerable amount of old crop refuse present which might contain disease organisms and insects.

PESTICIDE CONSIDERATIONS

Special consideration needs to be given to the kinds of pesticides used in a double-cropping system. Certain pesticides can't be used in double cropping due to label restrictions. Chemical labels used on the first crop should be reviewed to determine if such limitations apply for any specific double-cropping situations. If this review is made prior to producing the first crop, it might be possible to select a pesticide program for the first crop that is more flexible and compatible with the second crop.

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FIELD PREPARATION

The second crop should be planted as soon as possible following the first crop. Long delays between crops allow for additional buildup of diseases, insects, and nematodes, and may result in the beds drying out. The lack of tillage between the two crop sequences illustrates the importance of insect and disease control for the first crop; otherwise, pests will move quickly from the old crop to the second crop.

CHANGE MULCH COLOR

Mulch color will affect the performance of the second crop, especially when producing a fall second crop following a spring first crop. If black plastic mulch was used for the spring crop, it may be beneficial to apply a white color to it when establishing the second crop under high temperatures. In southern climates, this is done easily by spray painting the black mulch with white latex paint, usually diluted as one part paint to four or five parts water. Cooler soil temperatures under the white mulch will help crop establishment and promote earlier crop vigor under high late-summer or early-fall temperatures.

FERTILIZER MANAGEMENT

Best fertilizer efficiency is realized by planning fertilizer programs for each crop independently.

● ***Don't overfertilize.*** Although there is the possibility of utilizing residual fertilizers by double cropping, growers should not overfertilize the first crop just to have large amounts of residual fertilizer for the second crop. Overfertilization could result in soluble salt damage to the primary crop, fertilizer loss between the two crops, and potential negative environmental impacts.

● ***Use soil tests cautiously.*** Soil testing to predict fertilizer need for the second crop is more problematic since there is no soil test calibration data for double-cropping systems. Where the fertilizer for the first crop was broadcast and incorporated in the bed under the mulch, random soil probes can be taken from beds across the field, mixed together, and analyzed by a soil testing lab. In most cases, if phosphorus was added to the soil for the first crop, it probably won't be needed for the second crop. This will probably also be true for micronutrient management.

● ***Potassium management.*** Since potassium can leach in sandy soils, the soil test might show a need for potassium application. With the presence of the mulch from the first crop, however, potassium leaching should not be great. The K application would probably be less for a second crop because there probably will be residual potassium from the initial crop. On heavier soils, where potassium does not leach easily, it is likely that K requirements for the second crop will be minimal.

● ***Nitrogen application.*** Don't assume there will be any residual N left for the second crop. Plan to apply N to the second crop as you did for the first. Practically speaking, for most double-cropping situations, nitrogen and potassium are the most-often needed nutrients for the double crop. Fertilization for the second crop should start as soon as possible after planting so that the young seedlings are never lacking for nutrients.

CROP ESTABLISHMENT

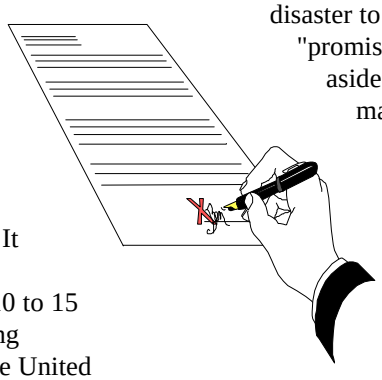
Second crops may be either direct seeded or transplanted into the field. Either way, consideration should be given to residual soluble salt levels and moisture presence in the old plant bed when determining where to place the seeds for the second crop. Excessive fertilization for the first crop can contribute to soluble salt damage and reduce plant stands in the second crop. If drip irritation is being used, place the seeds close to the irrigation tube so that they germinate in moist soil.

The University of Florida Cooperative Extension Service has a booklet on double cropping: ***Double Cropping Vegetables on Polyethylene-Mulched Beds.*** It can be ordered for $6 plus tax from the University of Florida, IFAS Publications, P. O. Box 110011, Gainesville, FL 32611. ❖

Contracts Becoming More Widespread in Produce Industry

*This article by John Unrein, Marketplace Editor of **The Packer**, appeared in the December 16, 1995, issue of that publication.*

Derek Derdivanis of "facilitator" Fresh Network, Salinas, California, conducted an informal survey recently on the popularity of produce contracts. Speaking at a December 8 workshop of the United Fresh Fruit and Vegetable Association's 9th annual Foodservice Produce Seminar, Derdivanis first asked how many in the audience had contracts, and then followed with a query about their level of satisfaction in such arrangements. Based on the number of hands raised by the 70 or so attendees, many had at least some dealings with contracts, but few were completely satisfied with how they turned out.



Derdivanis estimates that most grower-shippers today sell 10 percent to 20 percent of their volume on contract. It is almost hard to believe that produce contracts barely existed in foodservice 10 to 15 years ago. Today, contracts are becoming widespread -- but are they working? The United workshop proved a springboard for discussion.

"It really is 'What is your word, and do you follow through on what you say you're going to do?'" said Derdivanis, managing partner of Fresh Network, a company that facilitates transactions, including contract deals, for customers nationwide. "It takes a crisis to know what kind of relationship you have. That's the litmus test of partnering."

And events of the past year have been particularly enlightening. Spring floods in California caused huge supply shortages and invoked Act of God clauses in scores of contract deals. Some suppliers lived up to 100 percent of their contractual commitments. Others decided they could not afford to. Should a grower who loses 20 percent of his lettuce crop fulfill 100 percent of commitments to contracts before selling one box to anyone else? Plenty of buyers think so. A contract is a promise, they argue. Any supplier should take care of all customers with written contracts first, a buyer might say. But after listening to several workshop panelists, I'm beginning to understand that buying and selling produce has never, can never, and will never be that simple. Of course, anyone involved in a contract deal should live up to their end of the bargain. But flexibility and understanding are always necessary when times get tough.

What irks buyers most is when suppliers invoke Act of God clauses when the situation doesn't truly warrant it, and the supplier simply looks to take advantage of the chance to make a lot of money without regard to prior commitments. But doesn't it seem fair for a supplier who loses 20 percent of his crop from a natural disaster to agree to fulfill most of the volume "promised" to contract buyers, but still set aside enough to sell to others at current market prices? If not, some growers will lose their shirts. Then the grower is not around next year, and the partnership ends by default.

Workshop panelist Frank Hennessey, senior commodity buyer for Darden Restaurants Inc. of Orlando, Florida, which operates the Red Lobster and The Olive Garden chains, said partnerships work when all parties have well defined roles. And more work in this area is needed. "Relationships aren't enough anymore; the important question is, does everyone understand their role?" Hennessey said. "The bottom line is that very clear parameters have to be made (in contracts). Everybody must understand what will happen in most every situation. As many of you have told me, produce is not a widget."

Derdivanis points out variations from fixed-price contracts -- such as high-low programs, caps, escalating scales, and break points -- are becoming more popular as firms explore ways to work within the up-and-down realities of doing business in produce. That's a good sign for the future of contracts. Produce buyers and sellers shouldn't give up now. Contracts can work, but those involved can do more to define roles and honor commitments. Otherwise, current partners will become future enemies. ❖

Understanding the Terminology

*This article appeared in **The Grower**, September 1995.*

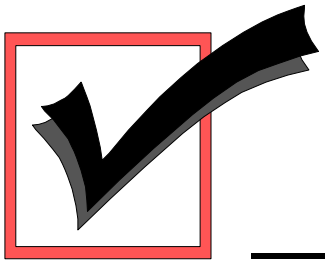
Global Positioning Satellite (GPS) receivers read signals from satellites in orbit 23,000 miles above the Earth's surface. The signals are translated into coordinates on the Earth's surface. Thanks to micro-chip technology, these receivers come in units half the size of a laptop computer. GPS receivers allow farmers to track information about individual portions of ground with accuracy within a few feet. The same technology was used to guide missiles and track troop movement during the Persian Gulf War.

Computer field mapping with Geographic Information Systems (GIS) refers to the saving of field information in the computer and linking that information to specific locations provided by the GPS coordinates. Yield data, nutrient levels, weed pressure, soil type, and soil pH are examples of information that can be stored in a GIS database and used to make decisions that enhance crop production, save money and labor, and provide optimum environmental stewardship.

Yield monitors (currently installed in the cabs of combines) provide accurate and immediate data on crop yields as crops are harvested. Sensors measure the yield, and that information is electronically displayed inside the cab as it is stored on a data card in the yield monitor. Yield data is matched to field coordinates by the computer with the help of the GPS receiver. Maps then can be printed out showing yield variability within the field. This information can be used to decide the best placement for seeds, fertilizers, and chemicals.

Variable Rate Technology, or VRT, refers to a system of varying the application rate of seed, fertilizer, or chemicals as the spreading equipment moves over a field. In the case of fertilizer application, the process begins in the fall when soil samples are pulled throughout the field and tested. Information on nutrient levels then is stored on computer according to the field's GPS coordinates. The next spring, the fertilizer is applied using spreading equipment controlled by an on-board computer. Sensors driven by the computer change the application rates of different nutrients held in the spreader's bins, resulting in varying amounts being applied to different field locations. ❖

Source: The Fertilizer Institute



Mark Your Calendar

EAST TEXAS VEGETABLE CONFERENCE

Harvey Hall, Tyler, Texas • February 20, 1996 • 8:30 am - 4:00 pm
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