

CULTURAL CONTROLS: Off-Season Management and Double Cropping



INTRODUCTION:

Double cropping is the practice of planting successive crops on the same mulched bed to gain multiple use of production inputs from the first crop, thereby spreading the costs of these inputs over two or even three crops (triple cropping). The cultural management program practiced during double cropping can have a significant impact on pest management the following season. Crops planted as a second crop must be considered from a number of standpoints in terms of their effect on the primary crop.

PLAN AHEAD:

- Consider pest complexes for each crop in the rotation. Try not to use a second crop that is a host for pests that also affect the first or primary crop. In most cases, tomatoes or peppers are the primary crop and a cucurbit is the secondary crop and they are not hosts for the same diseases; however, they do have nematode and insect pests in common.
- When planting a second crop, make sure all first crop vegetation is completely killed in order to destroy potential hosts for primary crop insect, disease and nematode pests which could adversely impact successive crops (**Figure 18**).



Figure 18. Tomato yellow leaf curl infected re-growth from tomatoes in a double-cropped field seeded to cucumber. Infected tomato re-growth can serve as a reservoir for virus which can then be carried to neighboring new fields. This grower resorted to hand-pulling the entire field of old tomato plants, a considerable labor expense. Photograph by: Phyllis Gilreath.

With the impending loss of methyl bromide, field histories of soil borne pests, pathogens and weeds become very important for both the first and the double crop.

DURING THE OFF-SEASON:

Keep a Field history:

- Know what pests are present. With the impending loss of methyl bromide, field histories of soil borne pests become very important for both the first and the double crop. Knowing what pests are present allows the grower to tailor the fumigant or herbicide program for best results.
- Ensure that pesticides used in the first crop or the double crop do not have plant back or other label restrictions that would affect the other crop.



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DURING THE OFF-SEASON:

- Practice good weed control in the double crop since weeds can increase the population of some insects, diseases and nematodes that must be controlled prior to the next primary crop season (**Figure 19**).
- Destroy the second or double crop completely and in a timely manner to allow time for plant residue to break down prior to the next primary crop. Too much non- or partially decomposed organic debris can interfere with bed preparation and reduce efficacy of fumigant materials applied for the next primary crop.



Figure 19. Heavy weed infestation in a mulched double cropped cucumber planting along with re-growth of peppers from the first crop. This situation can increase nematodes and other pests which can be carried over to the next primary pepper crop. Photograph by: Phyllis Gilreath.

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