NUTSEDGE CONTROL WITH REDUCED RATES OF METHYL BROMIDE AND VIRTUALLY IMPERMEABLE FILM MULCH

James P. Gilreath[1]*, Carlene A. Chase[2] and Daniel O. Chellemi[3]
IFAS, University of Florida
Bradenton, FL 34203[1] and Gainesville,FL 32611[2]
and
USDA, ARS
Ft. Pierce, FL 34945 [3]

The impending 50% reduction in methyl bromide availability in developed countries as of January 1, 2001 will have a very significant impact upon vegetable and ornamental growers in the U.S.A. It is anticipated that this reduction in supplies will be dealt with by increasing the price of methyl bromide and reducing the percentage composition of available product from a 67% methyl bromide and 33% chloropicrin mixture to a 50/50 mixture. Assuming the mixture application rate remains constant, there most likely will be reductions in efficacy, particularly for control of purple and yellow nutsedge, *Cyperus rotundus* and *C. esculentus*.

In anticipation of this reduction, studies were conducted at the Gulf Coast Research and Education Center of the University of Florida with virtually impermeable film (vif) mulch and reduced rates of methyl bromide in bedded production of bell pepper, *Capsicum annuum*. Methyl bromide/chloropicrin (67/33%) was applied at 88, 175, and 350 lb./acre to raised beds and covered with standard low density polyethylene (ldpe) film and virtually impermeable film mulch in the spring and fall of 1999. Treatments were arranged in a randomized complete block design with five replications. Bell pepper were grown in two rows per bed using standard production practices, including drip irrigation.

Nutsedge control with as little as 88 lb./acre of methyl bromide/chloropicrin combined with vif mulch was similar to the level of control obtained with 350 lb./acre with standard ldpe film. Pepper fruit yield was not affected by methyl bromide rate or type of mulch film, suggesting soilborne diseases and nematodes were not a factor in this study.