The strawberry season has again concluded, and as in years past, sting nematode was a significant problem in many fields, including fields where sting nematode had never been detected before, even after field survey and soil analysis in a previous research study. We do not claim to understand how or why this happens, although it is noteworthy that changes in management and cropping practices were observed for some. One of the new sting nematode discoveries this past season, and one we were actually pleased to find, turned out to be the strawberry research fields at the UF / IFAS Gulf Coast Research & Education Center in Balm. Sting problems were severe, suggesting that this new research facility will provide excellent opportunity to study sting nematode biology and pest management.

Although harvesting operations may be over, now is not the time to forget about sting nematode management. It is painfully apparent that sting nematode management cannot exclusively rely upon methyl bromide. What previous research has clearly demonstrated is that a year-long, multi-tactic, integrated strategy is necessary to manage sting nematode. One of these tactics, which should be immediately considered, is rapid destruction of the strawberry crop immediately after harvesting is complete. Even though the irrigation is off and plastic pulled, strawberry plants continue to survive, providing food supply for continued reproduction of sting nematode. Delays in destruction of the crop thus result in higher soil density of the nematode, increased difficulty of control, and potential for greater losses in any subsequent crop. This past season we observed the benefits of killing last year’s strawberry crop with a post season drip application of metam sodium (vapam; 75 gal/a) before we removed the plastic and drip tape and disked the field. Whether a post season crop destruction chemical is used or not, the field should be disked as soon as possible after the picking season to expose nematodes to the killing action of sun and wind.
Off season weed management is another critical element of the overall sting nematode management plan. We have repeatedly demonstrated the hosting ability of various grasses, broadleaves, and leguminous weeds when allowed to grow and proliferate in sting nematode infested fields over the spring and summer months. The list of weeds that host sting nematode continues to grow like the weeds in the field. A new winter weed becoming increasingly important to strawberry crop growth and production, Black Medic (Medicago lupinus), was added to the excellent host list for sting nematode this spring. In another study this past summer, we were not able to demonstrate a meaningful reduction in sting nematode populations and crop impact when weed growth was excluded for a 6 to 7 week period during July and August. The results of this study suggest that longer weed-free (food-free) periods are required to starve sting nematode. At this point, we would still highly recommend that if the field is to be fallowed until land preparation for the next strawberry crop, that it be periodically disked to minimize weed growth and soil density of sting nematode.

Finally a few comments about sting nematode management, methyl bromide, and the chemical alternatives. This will be the second year in which methyl bromide will be made available to strawberry growers for soil fumigation use as a result of an international approval of a Critical Use Exemption (CUE). Each year the approved amount (as a proportion of 1991 baseline level) continues to decline. This year, the 2006 CUE allowance consists of 29% new production and another 5% coming from any existing supplies. A sales representative of a major gas distributor indicated in a recent meeting that there appears to be a lack of existing stocks compared to previous years. When thinking about acquiring methyl bromide for fall use, the lack of existing supplies concerns us and it should concern you. Since methyl bromide price is generally considered to be a direct function of supply and demand, we would strongly encourage growers to prepay gas distributors to acquire the best price and to ensure delivery of adequate gas quantities this fall. Since we see so little use of alternatives, we would also strongly encourage growers to consider broader use and evaluation of alternatives such as Telone C35. With the continued depletion of existing methyl bromide supplies and diminishing levels of approved CUE levels, we believe it is time growers finally gain working experience with the alternatives, identify any shortcomings and define any other management practices required to achieve equivalent pest control.

It also seems clear that new EPA regulatory decisions regarding the re-registration of the alternative fumigants (metham sodium, chloropicrin, methyl iodide, dazomet, and others) are expected to pose new problems and product label constraints such as mandatory requirements for reduced application rates, additional personal protective equipment, and expanded buffer zones between a treated agricultural and urban area, i.e., occupied structure. If true, this scenario in itself mandates a more intensive, overall evaluation of new alternatives and reduced rate fumigant application technology on the part of growers. As a result, we would also highly encourage growers to identify plastic mulch distributors with products such as high barrier/virtually impermeable film (VIE) plastic mulches, which restrict rapid gas
movement through the mulch and allow significant rate reductions to occur without compromise of crop yield or pest control efficacy.

Finally, and based on recent field research by Dr. Jim Gilreath, successful use of VIE involves more than just reducing gas flow and laying the more gas impermeable mulch film. Reduced rate applications requires a new level of sophistication and application technology, such as balancing gas flow between chisels by reducing line size or use of orifice plates to ensure sufficient back pressure on each gas delivery line. These are but a few new considerations and equipment modifications required to use VIF and reduced rates of methyl bromide or any other fumigant. We would encourage growers to address these issues well in advance of the strawberry fumigation season beginning in August.