ARS AREA WIDE PROJECT IN NORTH CAROLINA AND SURROUNDING STATES

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As methyl bromide is phased out of use, more and more growers in NC and surrounding states have transitioned to alternative fumigants or other practices to manage soilborne diseases and weeds. An integral component of transition has been the development of data that supports the best IPM Practices to adopt and/or the best fumigants to use. The loss of methyl bromide has afforded growers an opportunity to seek out site-specific solutions for their farm or region of production. For example, pathogen and weed profiles are different in eastern NC production regions compared to the mountain production region, and the pathogens and weeds are best managed by site or region specific practices.

The USDA Area-Wide program has provided an opportunity to conduct multiple large scale on-farm experiments in strawberry, tomato and other vegetable production systems (Table 1 and 2). Examples of the type of data generated have been reported in previous symposiums and current work has generated similar data where growers were able to use alternatives effectively in their farm system. We will seek to integrate this data into a compiled analysis for growers and other stakeholders.

Efficacy studies and working with growers to transition to alternatives has been an important priority. With the recent changes in risk mitigation measures on fumigant labels, we have also worked with a multi-institutional team to conduct agent training programs, grower training programs, and other measures to assist smooth transition to the new label requirements. Two regional CES agent training programs were featured, consisting of 35 to 50 agents per site. Specialty Crop presentations included sessions or forums at the Southeastern Strawberry Expo, Virginia Beach, VA; The Southeastern Fruit and Vegetable Expo, Myrtle Beach, SC; the Crop Protection School, Raleigh, NC and the regional Winter Vegetable Meeting, Asheville, NC. An example of the 2.5 hr agenda in Asheville consisted of: I) Introduction to the session: Frank Louws (Chair); II) New Regulations / New Labels: Bob Bruss, Structural Pest Control & Pesticides Division, North Carolina Department of Agriculture & Consumer Services; III) Good Agricultural Practices and Current Recommendations for Tomato Growers; Rob Welker and Frank Louws, Dept Plant Pathology, North Carolina State University; IV) Worker Protection Requirements, Robin Tutor, Interim Director, NC Agromedicine Institute, Eastern Carolina University; V) Fumigant Management Plans and Post Application Summary Reports, Bob Bruss; VI) Handler Training Overview (Industry comments); VII) Compliance Assistance and Resources; General Discussion ï Panel. A similar series of events are scheduled for the fall of 2011 and winter of 2012 to further interact with clientele as the 2012 label changes come into effect.

Table 1: On-Farm Research or Demonstrations to Collect On-Farm Data and Enable Growers to Transition in Strawberry Production Systems.

Year and Location	Telone-C35 [x]	Metam sodium	Pic	Other or combinations	control	Design [w]
2004-05						
Str-N GA[z]				T-C35+ms	MB	RCBD, 4reps
Str-SE VA	x		x		MB, non	RCBD, 3reps [w]
Str-E NC	x		x		MB	RCBD, 3reps
2005-06						
Str-E. NC	x		x		MB	RCBD, 3reps [w]
2006-07[y]						
Str-E NC	x			Pic+ms(drip)	MB	RCBD, 4reps
Str-P NC1	x		x		MB	RCBD, 4reps
Str-P NC2				ms+TC35; ms+pic	MB, non	RCBD, 3reps
Str-WP NC	x 1 rep	x 1 rep	x 1 rep	ms+Tc35; ms+pic	MB, non	RCBD, 5 reps
2007-08						
Str-P SC	x			Midas 2 film types	MB	RCDB, 3reps
Str-E NC				Pic+1,3-D (60:40); InLine	MB	RCDB, 4reps
Str-P NC	x +Goal	x +Goal		Pic+1,3-D (60:40) + Goal	MB, non	RCDB, 3reps
2008-09						
Str-P NC	x			Midas	MB, non	No reps
Str-E NC				Pic-Clor 60 InLine	MB, non	RCDB, 4reps
2009-2010						
Str-P SC	x			Pic-Clor 60 Midas	MB, non	No reps
Str-P NC (drip study)		x		Pic-Clor 60 Inline	non	RCDB, 5reps
Str-E VA				Pic-Clor 60	MB, non	RCDB, 4reps

[z] N-north, SEï southeast, E-east, W-west, P-piedmont (central); Georgia (GA), Virginia (VA), South Carolina (SC), North Carolina (NC).

[y] 2006-2011 trials are part of the Area Wide Program.

[x] Fumigant broadcast rates are Telone-C35 28-35 gal/A; metam sodium (ms) 35-70 gal/A; Pic 100-150 lb/A, MB (67:33 or 50:50) 200-400 lb/A. Several trials included virtually impermeable film and often included reduced rates (50-75%) of MB or alternative fumigants.

[w] The MB and/or the non-fumigated (non) treatment was not replicated.

Table 2: On-Farm Research Or Demonstrations to Collect On-Farm Data and Enable Growers to Transition in Vegetable Production Systems.

Year and Location	Telone-C35 [x]	Metam sodium	Paladin+ Pic	Other or combinations	control	Design [w]
2007 Tom W-NC1				Midas	MB 2 rates	RCBD, 4 reps
2008						
Tom W-NC1	x		x	VIF	MB, non	No reps
Pep SC	x			Midas	MB, non	RCBD, 4 reps
Tom W-NC2			x	InLine	MB	RCBD, 4 reps
2009						
Tom P-NC	x various plastics					No reps
Pep E-NC				Mulch study	MB	RCBD, 4 reps
Tom W-NC				Grafting, Verticillium	MB, non	RCBD, 4 reps
Tom W-NC				Grafting, bacterial wilt	Non-grafted	RCBD, 4 reps
2010						
Tom W-NC				Pic-Clor 60 TIF study	MB, non	RCBD, 2-4 reps
Tom W-NC				Grafting, Verticillium	MB	RCBD, 4 reps
Pep/Sq E-NC			x	Rate study	MB, non	No reps

[z] N-north, SEï southeast, E-east, W-west, P-piedmont (central); Georgia (GA), Virginia (VA), South Carolina (SC), North Carolina (NC). Tomatoes; Pepper or Squash.
[y] 2006-2011 trials are part of the Area Wide Program.
[x] Fumigant broadcast rates are Telone-C35 28-35 gal/A; metam sodium (ms) 35-70 gal/A; Pic 100-150 lb/A, MB (67:33 or 50:50) 200-400 lb/A. Several trials included virtually impermeable film and often included reduced rates (50-75%) of MB or alternative fumigants.
[w] The MB and/or the non-fumigated (non) treatment was not replicated.
The 2004-05 data has been reported previously (Driver et al. 2005; MB Proceedings).