2011 WSSA Committee Progress Report
January 2012

Committee Code and Name: Herbicide Resistant Plant Committee – E12

Committee Chair: William Vencill

Committee Members, 2011: Stachler, J.M. (2012-NC); Curran, W. (2012-NE); Smeda, R. (2013-NC); Tardif, F. (2013-C); Burgos, N. (2014-S); Nandula, V. (2012-S); Burke, I. (2015-W); Kniss, A. (2015-W); Huff, J. (2015-NC)

Board Coordinator: Mike Owen

Committee Members Rotating Off: William Curran (NEWSS), Vijay Nandula (SWSS), Jeff Stachler (NCWSS)

Suggested Replacements: Prashant Jha (SWSS), Kassim Al-Khatib (NCWSS), Andrew Skibo (NEWSS)

2011 Summary of Activities:

- See attached.

2011 Plan for Committee Activities

- See attached.

Recommendations for Board/Society Action:

- See attached.

Herbicide Resistant Plant Committee (E12) Minutes – 2011 WSSA Meeting – Portland

Present: William Vencill, Chair; Les Glasgow (Syngenta), Robert Nichols (Cotton Inc.), Siyuan Tan (BASF), Monica Sorribas (DowAgro), Jonathan Huff (DowAgro), Jeff Ellis (DowAgro), Marvin Schultz (DowAgro), Jeff Stachler (NDSU, UMn), Dave Saunders (Dupont), James Whitewood (MANA), Jill Schroeder (NMSU), Carol Mallory-Smith (OSU), Alejandro Perez-Jones (Monsanto), Hugh Beckie (Ag Canada), Ian Heap (Weed Smart), Brent Philbrook (Bayer), Phil Stahlman (KSU), Rick Evans (BASF), David Shaw (MSU), Vijay Nandula (MSU), Ray McAllister (Crop Life America), John Soteres (Monsanto), Francois Tardif (U. Guelph), Barb Glenn (Crop Life America), Janis McFarland (Syngenta)

Meeting was called to order.

The first order of business was to go around and list cases of new resistance by region.
Eastern Canada – Tardif
As of Fall 2009, 46 sites had been tested for glyphosate-resistant giant ragweed. Sixteen sites had tested positive. Glyphosate-resistant horseweed in Ontario has been confirmed and it is resistant at 10X field rate.
For Group 2 resistance, 20-50 samples per year are screened. Resistance in common ragweed, common lambsquarters, redroot pigweed, and yellow foxtail are common. These samples are also screened for triazine-resistance. About 10% of the samples have double Group 2/Group 5 resistance.
Western Canada – Beckie
There have been no confirmed cases of glyphosate resistance in western Canada.
100% of the kochia screened has Group 2 resistance; 60-70% of the wild oat has Group 1 resistance. About one half of the cases of Group 1 resistance are non-target site resistance.
Group 2 resistant Avena fatua is starting to appear.
Western US – Mallory-Smith
Auxin-resistant prickly lettuce has been confirmed.
Multiple-herbicide resistant ryegrass has been confirmed. Resistance to all available herbicides for control except flufenacet have been confirmed and OSU is testing for this as well.
Hexazinone- and sulfometuron-resistant ryegrass has been confirmed.
Low-level glufosinate resistance has been confirmed in ryegrass and it seems related to glyphosate-resistance.
More ALS-resistant ryegrass with non-target site resistance is being confirmed.
Clearfield wheat-jointed goatgrass hybrids have been discovered.
Glyphosate-resistant bentgrass that is transgenic Roundup Ready creeping bentgrass and still is regulated is becoming a weed on the other side of Oregon from where it was planted. It is a weed in ditches.
North Central – Stachler
Glyphosate-resistant Kochia has exploded this past year in Kansas with over 50 fields being detected.
HPPD-resistant waterhemp has been confirmed in Illinois and Iowa. These were from seed corn production fields with continuous HPPD use. All the cases have multiple resistance to HPPD, ALS, and triazine herbicides. The Illinois population is still susceptible to glyphosate.
In Minnesota and North Dakota, glyphosate-resistant waterhemp extends to the Canadian border in the Red River valley.

Glyphosate-resistant giant ragweed is spreading in MN and ND. There is glyphosate-resistant waterhemp in the Red River valley where Roundup Ready sugarbeets are grown.
ACCase and ALS-resistant wild oat have been confirmed. Sethoxydim and clethodim still work on these populations.
In Minnesota, more non-target site ACCase resistsant wild oat has been discovered and ACCase and ALS-resistant yellow and green foxtail have been discovered.

Southern US – Nandula
Glyphosate-resistant waterhemp and goosegrass has been found in MS.

Three way (ALS, ACCase, glyphosate) resistant Italian ryegrass confirmed in MS.

In MS, screening is being done to test for glyphosate-resistance in common lambsquarters.

Testing for glyphosate resistance in pigweed populations collected from all across MS is currently in progress.

In Georgia, glyphosate-resistant Palmer amaranth now infests 52 counties. Multiple-resistant Palmer amaranth to glyphosate and ALS is common. Three way resistant Palmer amaranth (atrazine, glyphosate, ALS) has been confirmed. The triazine resistance here is non-target site based. ACCase resistant ryegrass has been confirmed in northern GA.
In LA, glyphosate-resistant Palmer amaranth and Johnsongrass has been confirmed.
In Alabama, they have gone from 2 counties of glyphosate-resistant Palmer amaranth to 23 counties. It seems particularly bad in the Tennessee River Valley.

Other Business:

An overview of the Herbicide Resistance Education Committee (S-71) was provided by David Shaw in addition to the reviews being written for APHIS on the current state of herbicide resistance (APHIS I) and recommendations (APHIS II).

The committee approved the addition of a new herbicide mechanism of action code for the herbicide indaziflam. It is now Group 29.

The committee also revised WSSA Classification sheet from the Herbicide Handbook and worked with the webmaster for the WSSA, David Krueger, to have it placed on the WSSA website so it can be used in conjunction with training materials being developed by the S-71 Herbicide Resistance Education Committee.

The committee has been working with the EPA Liaison, Jill Schroeder, to develop a list of resistance terms for EPA that covers herbicide, insecticide, and fungicide resistance.