WSWS Officer and Committee Report
2019 Summer Board Meeting – Denver, CO

Office or Committee Name: Herbicide Resistant Plants
Officer or Chairperson Name: Vipan Kumar
Date of Preparation (include year): 31 July 2019

Activities during the year: The WSWS Herbicide-Resistant Plants committee conducted an online Qualtrics survey on suspected new cases of herbicide-resistant weed biotypes across member states. The purpose of this survey was to identify and record suspected new resistant weed biotypes that have not yet been listed on the International Survey of Herbicide Resistant Weeds (weedscience.org) website. We hope that by sharing this information with WSWS members, it might foster collaborative interactions among members. A brief summary of this survey results will be published in WSWS newsletter.

The survey was comprised of about 14 different questions and the link to this survey was sent out to all WSWS members. The online survey was kept active for a little over a month (April 4 through May 16). We received complete information about 15 confirmed/suspected cases from seven different member states, including California, Colorado, Kansas, North Dakota, South Dakota, Washington, and Wyoming. These cases mainly came from different agronomic crops such as winter wheat, corn, rice, grain sorghum, soybeans, as well as rangelands, and fallow fields.

The survey results highlighted kochia (*Bassia scoparia*) and Palmer amaranth (*Amaranthus palmeri*) as dominant broadleaved weed species reported with resistance to glyphosate and synthetic auxins (dicamba, fluroxypyr, and 2, 4-D) in Colorado, Kansas, North Dakota, South Dakota, and Wyoming. The biotypes from these two species were also suspected to have multiple resistance to ALS inhibitors. Interestingly, kochia with multiple resistance to five sites of action (glyphosate, dicamba, fluroxypyr, atrazine, and chlorsulfuron) and Palmer amaranth with multiple resistance to five sites of action (glyphosate, 2, 4-D, atrazine, mesotrione, and chlorsulfuron) were both reported in Kansas.

Among grass species, rice sedge (*Cyperus difformis*) resistant to carfentrazone (protox inhibitor) and bearded sprangletop (*Leptochloa fascicularis*) resistant to thiobencarb (very-long-chain fatty acids inhibitor) were reported from rice fields in California. Similarly, downy brome (*Bromus*

tectorum) and jointed goatgrass (*Aegilops cylindrica*) resistant to imazamox herbicide (ALS inhibitor) were reported from wheat-fallow fields in Washington.

The committee is considering whether to repeat this online survey next year. If repeated, the survey will be distributed to selective members from the representative states rather than to all WSWS members. In addition, the committee is considering an assessment of the role of herbicide-resistant crop technologies as an integrated weed management tool for controlling herbicide-resistant weed biotypes in the western US.

Recommendations for Board Action: Joan Campbell has completed her term and become involved with the WSSA Herbicide Resistant Plants Committee. She has also volunteered to serve as an ex officio member to the WSWS Herbicide Resistant Plants committee to facilitate communication between the two committees. Dr. Caio Brunharo from Oregon State University has been appointed as the new member to the committee. Tara Burke (student representative) graduated in May of 2019 and is currently working as a postdoc. A new student representative needs to be appointed to this committee.

Budget Needs: None

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