PA-68

Prediction of Herbicide-resistant Weed Dominance Occurred in Major Rice Paddy Fields of Gyeongsangbuk-do Province in Korea

Sang-Kuk Kim[1*], Chae-Min Han[1], Jong-Hee Shin[1], Se-Jong Kim[1], Tae-Young Kwon[1]

[1]Division of Crop Breeding, Gyeongsangbuk-do Provincial Agricultural Research & Extension Administration, Daegu 41404, Republic of Korea

[Introduction]

Since then over 347 resistant weed biotypes have been reported; virtually all major modes of action of herbicide have certain weeds that have developed resistance to them. Agronomic weed management is increasingly difficult and costly due to the apparent increase in the rate of development of weed resistance to herbicides and the lack of development of new modes of herbicide action. No new class of herbicides has been registered in the Korea. In potentially increasing weeds to resistant to herbicides, some data were collected at twenties two city and county in Gyeongsangbuk-do.

[Materials and Methods]

Distribution of weed species and density of herbicide resistant weed occurrence were carried out targeting 415 rice paddy fields at Gyeongsangbuk-do province including twenties two city and county. The soil was sampled at each lot of major rice fields and then sampled soil was put into plastic pots with and without basal dosage of herbicide. Density and identification of weeds occurred in plastic pots were surveyed at two weeks after treatment.

[Results and Discussions]

The weed species occurred in paddy fields were conducted in Gyeongbuk province, Korea to identify weed occurrence from November 2016 to May 2017 for the purpose of the study which get change of weed distribution resistant to herbicides performed in 2012. Total 415 sites of paddy fields in 22 cities and counties were investigated and sampled. 19 weeds species in 12 families were identified and relative distribution ratio was counted to 71.3% in annuals and 28.7% in perennials. In morphological distribution of weeds, broad leaf weeds were 53.7%, sedge was 20.1%, and grass weed was 26.2%, respectively. In weed distribution on life cycle, annual weed was occupied by 91.8% and perennials were 8.2%, respectively. In morphological distribution of weeds, broad leaf weeds were 85.7%, sedges was 9.1%, and grass weed was 3.8%, respectively. Sulfonylurea-resistant weeds in paddy fields of twelve regions were widely occurred except for Yecheon region. It revealed that occurrence rate and area resistant to herbicide were about 35.2% and 35,176 ha in Gyeongbuk province.

[Acknowledgements]

This work was carried out the support of "Cooperative Research Program for Agriculture Science & Technology Development (Project No. PJ01245707), Rural Development Administration, Republic of Korea

*Corresponding author: Tel. +82-53-320-0224, E-mail. sk2@korea.kr