



Third Laureate Applied Research



Project Title: Investigation and discovery of weeds resistant to herbicides and choosing management strategies for their control

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Abstract:

Due to dissatisfaction of farmers from some currently applied wheat herbicides, the hypothesis of reduction in herbicides quality or evolution of resistance in weeds was suggested. So, six experiments were conducted to explain the reasons of these problems. In the first experiment, herbicides quality was studied and it was found that this factor could not be the main reason of farmers' dissatisfaction. In the second experiment, herbicide resistance was investigated and it was revealed that evolution of weeds resistant to these chemicals is the main reason for farmers' dissatisfaction. In the third and fourth experiments, the distribution of the resistant weeds were studied throughout the country and it was found that in vast areas of wheat fields in Khuzestan and Fars provinces and to a less extent in Kermanshah, Golestan and Ilam provinces, grass weeds have evolved resistant.

In the fifth experiment, chemical and non-chemical approaches to prevent expanses of the resistant patches and to control resistant weeds were suggested. In the last experiment, molecular techniques were applied to distinguish resistant weeds and to determine the mechanism of resistance to herbicides. Overall, the results of this set of researches could significantly prevent serious damage to farmers of Khuzestan and Fars provinces due to weed resistance and useful suggestions were offered to prevent the occurrence of such problems in other provinces of the country.