

Weeds management in wheat crop

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WEEDS constitute the single greatest cause of crop loss in Pakistan. Because their effect on yield tends to be under estimated, their presence is often tolerated. The reduction in wheat yield due to weeds ranges from 15-35 per cent. The crop totally fails in the field that is infested with weeds.

The quality of produce from weed infested field is inferior due to mixing of weed seeds with wheat grains. Weeds also act as an obstacle in the cultural practices e.g. harvesting. Some weeds also help in the spread of diseases and act as multiplication places.



Integrated weed management makes use of a combination of different agronomic practices to manage weeds, so that the reliance on any one weed control technique is reduced. Reducing the reliance on one or two specific weed control techniques means that those techniques or tools will be effective for the future use. The object of integrated weed management is to maintain weed densities at manageable levels while preventing shifts in weed populations to more difficult-to-control weeds. Losses caused by weeds will be minimized without reducing farm income.

Controlling weeds with one or two techniques gives the weeds a chance to adapt to those practices. For example, the use of herbicides with the same mode of action (belonging to the same herbicide group) year after year has resulted in weeds that are resistant to those herbicides. The continuous production of certain types of crops also gives weeds a chance to adapt.

Integrated weed management uses a variety of control techniques to keep weeds “off balance”. Weeds are less able to adapt to a constantly changing system that uses many different control practices, unlike a program that relies on one or two weed control tools.

An integrated weed management system that combines cultural and chemical weed management practices is the most effective and economical way to manage weeds in wheat. Although several effective herbicides are available to control broadleaf weeds and grasses in wheat, herbicides should be viewed as an additional tool, not as a remedy. Often, when one control method, whether chemical or mechanical, is used continuously, a shift in the weed population toward a difficult to control species will occur. Herbicide resistant plants within a species can be selected from a susceptible species and can increase in number. Most commonly, tolerant species can replace sensitive ones that have been eliminated by herbicides.

This problem can be avoided by integrating as many control measures as possible such as crop rotation, using mixtures of herbicides with different modes of action, and by rotating herbicides

from one season to the next. A properly prepared seedbed can significantly reduce weed infestation. If possible, germinate the weeds before beginning tillage operations using irrigation. Plough as deeply as possible to break up soil compaction and reduce risk of herbicide carryover if wheat is planted after other crops. The tillage should be just before planting wheat so that any germinated weeds do not have a competitive advantage.

Good field sanitation is essential for weed control. When possible one should select a field free from hard-to-control weeds. Clean planting, harvesting, and tillage implements prior to entering a field to eliminate introducing new weeds. Keep field perimeters weed free because they serve as an initial reservoir for seed to infest the field.

Planting wheat seed contaminated with weeds is one of the most common ways to introduce weeds into wheat field. Plant certified wheat seed. Certified seed is slightly higher priced, but it is cheap compared with managing a weed problem that can result from seed contaminated with weeds.

Weed infestations can be reduced by rotating to crops with a different life cycle or ones in which different cultural and chemical practices are used. Crop rotation regularly changes the crop in each field, the soil preparation practices in that field, subsequent tillage, and weed-control techniques. All these factors affect weed populations. Rotating wheat with summer crops having allelopathic potential such as sorghum is a very logical weed control practice.

Management practices which encourage a healthy and vigorous wheat crop will reduce losses from weeds. Some of these practices may include: seeding at the proper depth; seeding at the appropriate rate and time; selecting the correct amount, timing, and placement of fertilizers; using adapted cultivars.

The importance of herbicide use is closely related to the cost and availability of labor. Herbicides are one of the first labor saving technologies to be adopted as labor costs rise. As a consequence, the use of herbicides varies considerably between countries. Weed management is not accomplished by using cultural practices exclusively. Some weeds are favored by the same management practices that favor wheat. Herbicides offer an additional tool to control weeds in conjunction with cultural practices, but are not intended as a replacement for proper management practices.

The success of an herbicide application is dependent upon weed species, the timeliness and thoroughness of application, conditions at the time of application, herbicide rate, and crop management after the application. If the decision is to use a herbicide, carefully read the label. Following the label will reduce the likelihood of crop injury, reduce off-target movement of herbicide, and maximize weed control.