

WHEAT AGAINST WEEDS AND WINDSTORM ON SMALL FARMS

WEEDS AND WINDSTORM – DOUBLE SCOURGE TO WHEAT CROP OF THE SMALLHOLDERS IN DURMON VILLAGE IN THE COLD WINTER DESERT OF UZBEKISTAN

Weeds are known to cause grain yield reductions in field crops, but the smallholders living in Durmon village in the cold winter desert of Uzbekistan face the menace of weed infestation in a hard way. Some of the smallholders mowed their small wheat plots, an important source of food grain for the families, due to smothering of wheat plants by the weeds (**Figure 1**). Additional damage was caused by windstorm that occurred in the region on 27 April 2020 (**Figure 2**). The damage to the wheat crops caused by weeds and windstorm forced the farmers abandon their crops at the grain-filling stage of wheat in mid-May. Therefore, there was a loss of a crop season of eight months. However, not all small wheat farmers abandoned their wheat fields in the village suggesting that something could be done to avoid losses from the weeds and windstorm. It was interesting to note that one of the small wheat farmers lost only one of the four plots. The damaged plot has been planted with a different variety than the other three plots. There was a noticeable difference in wheat crops between the plots planted with farmer's variety and that with improved variety (**Figure 3**).

WHAT WERE THE POTENTIAL SOURCES OF WEEDS IN THE INFESTED FIELDS?

- Weed seed in the soil from the previous year
- Weed seed present in manure applied to the crop this year
- Wheat seed infested with weeds
- Weed seeds carried by wind and irrigation water to the field

WHAT WERE THE DAMAGES CAUSED BY WINDSTORM?

- Broken spikes
- Broken plants
- Lodging of crop

WHAT WORKED POORLY IN THE WHEAT FIELD?

Local wheat variety purchased from grain market without any information on variety and poor seed quality (**Figure 2**).



Figure 1. Heavily weed infested wheat plot mowed in mid-May



Figure 2. Wheat crop severely damaged by the windstorm on 27 April 2020



Figure 3. Farmers' Wheat varieties from unknown source (A) and research institute (B)



Figure 4. Healthy crop of improved wheat variety Shams planted with improved seed



WHAT WORKED NORMALLY IN THE WHEAT FIELD?

Good quality seed of improved wheat varieties (Gozgon and Shams) from Kashkadarya Branch of Grain and Leguminous Crop Research Institute (**Figure 4**).

LESSON LEARNED

Good quality seed of improved wheat varieties should be made available to the resource poor small farmers living in the cold winter desert climate to improve their food security.