

Effect of tillage and hydrogel application on the productivity of sunflower under rainfed conditions in Kashkadarya province of Uzbekistan

Aziz Nurbekov¹, Muhammadjon Kosimov¹, Oybek Amonov², Diyor Juraev², Abror Shomurodov², Zafar Ziyaev³, Khafiza Ergasheva⁴.

- 1. FAO Representation in Uzbekistan, University str. 2, Kibray district, Tashkent region 100140, Republic of Uzbekistan.
- 2. Kashkadarya Research Institute of Breeding and Seed Production of Cereals, Karshi, Uzbekistan
- 3. Uzbek Research Institute of Genetics and Experimental Biology, Tashkent, Uzbekistan.
- 4. Uzbek State World Languages University.

Introduction

Sunflower was grown mostly in irrigated conditions of Uzbekistan but not rainfed areas in the country. The objective of the study was hinged on possibility of growing sunflower under different tillage methods with and without hydrogel application in rainfed conditions of Uzbekistan.

Results

- Sunflower plant height ranged between 162 and 173 cm on different tillage methods and hydrogel application (figure 1).
- Sunflower yields ranged under rainfed conditions from 0.60 to 1.1 t ha⁻¹, averaged over treatments, with a mean around 0.87 t ha⁻¹. The highest yields were received in with no-till treatment without hydrogel (1.1 t ha⁻¹) while lowest yield (0.87 t ha⁻¹) was recorded with no-till treatment with hydrogel.

Conclusion

Our research shows that there is a potential entry for no-till adoption in rainfed condions of Uzbekistan

For the first time sunflower was grown in rainfed conditions of Uzbekistan using no-till and hydrogel application.

The results should be studied further in order to receive solid results..

Figure 1: Effect of tillage and hydrogel application on sunflower plant height, cm

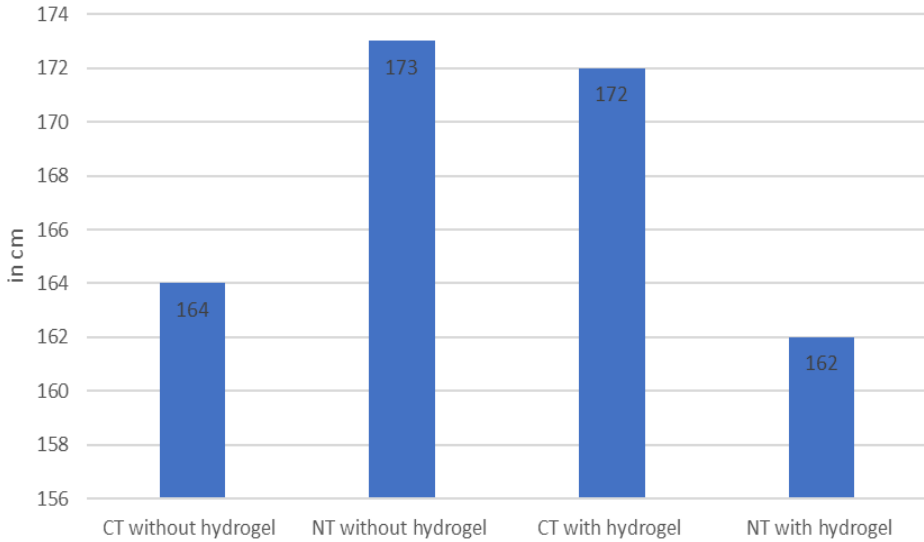


Figure 2: Effect of tillage methods and hydrogel application on productivity of sunflower, t/ha

