BASF
We create chemistry

Clearfield® Plus
Production System for Sunflower

Resistance Management and Stewardship Guidelines

Stewardship is essential to preserve the long-term benefits of the *Clearfield® Plus* Production System for sunflower. The following stewardship guidelines should be followed:

Guidelines	Why	How to do it
Rotate crops	This allows use of alternate mode-of-action herbicides and tillage. Crop rotation is a good agronomic practice in general in that it reduces disease, *Orobanche*, and insect pressure in the sunflower crop.	ALWAYS grow *Clearfield Plus* sunflowers in rotation with other non-*Clearfield* crops, i.e cereals/maize. Use at least a three-year crop rotation.
Rotate herbicides with the crop rotation	This reduces the selection pressure caused by continuous use of ALS-inhibiting herbicides, and provides alternate mode-of-action to control volunteer *Clearfield Plus* sunflowers and other ALS-resistant weeds that may be present.	DO NOT exceed a maximum of two exclusive ALS inhibitor herbicides (HRAC group-B) on any one field, in any 4 year period. DO NOT solely rely on ALS chemistry in your crop rotation.
Control volunteers	Volunteer plants act as competitive weeds in rotation crops, and may contribute to the build-up and spread of major diseases. Cross-pollination from volunteer plants increases the risks of inadvertent herbicide tolerance spreading.	*Clearfield Plus* sunflower volunteers can be controlled by all herbicides currently registered for control of volunteer sunflowers, with the possible exception of sulfonylureas, where a low level of cross-tolerance could result in unacceptable control. Avoid seed production from volunteer plants in and outside of your fields.
***Control wild sunflower**	This minimizes the potential of out-crossing to wild-type sunflowers with *Clearfield Plus* Sunflowers that could result in the herbicide tolerance trait being transferred to the wild-type sunflower.	Control wild sunflowers in areas around *Clearfield Plus* sunflower fields (road ditches, field borders, fence rows) through the use of non-ALS herbicides and/or mowing prior to seed set.

ONLY and ALWAYS use the registered dose rate

The rate of herbicide recommended provides the most effective control over a wide range of environmental conditions. This will help to ensure weed seed is not added to the seed bank in the soil, while minimizing selection pressure and avoiding development of weed resistance.

Follow the herbicide label rates, which are developed through rigorous efficacy trials designed to identify both crop yield response, and the optimum weed control.