

## Clearfield® Sunflower Stewardship

To ensure that the benefits of the **Clearfield** Production System for sunflower are sustained, certain stewardship guidelines have to be followed:

Guidelines	Why?	How to do?
<b>Rotate crops</b>	This allows use of alternate mode-of-action herbicides and tillage. It also advocates good agronomics by reducing disease, orobanche and insect pressure in sunflower.	ALWAYS grow <b>Clearfield</b> sunflower in rotation with other non <b>Clearfield</b> crops, i.e cereals/maize. Use at least a 3-year crop rotation.
<b>Rotate herbicides with the crop rotation</b>	This reduces the selection pressure from continuous dependence on the ALS-inhibiting herbicide, and provides alternate mode-of-action to control volunteer <b>Clearfield</b> sunflower and other ALS resistant weeds that may be present.	DO NOT exceed a maximum of two <u>exclusive</u> 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.
<b>Control volunteers</b>	Volunteer plants act as competitive weeds in following crops and may be important in the build-up and spread of major diseases.  Cross-pollination from volunteer plants increases the risks of herbicide tolerance spreading.	<b>Clearfield</b> sunflower volunteers can be controlled by all herbicides currently registered for this plant, 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
<b>*Control wild sunflower</b>	This minimizes the potential of tolerance out-crossing to wild-type sunflowers with <b>Clearfield</b> sunflower.	Control wild sunflower in areas around <b>Clearfield</b> sunflower fields (road ditches, field borders, fence rows) through the use of non-ALS herbicides and/or mowing prior to seed set.
<b>Keep registered dose rate</b>	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, while minimizing selection pressure and avoids development of weed resistance.	Follow the herbicide label rates, which are a reflection of efficacy trials that indicated crop yield responses and best possible weed control.
<b>** Avoid persistent ALS herbicides</b>	To avoid a carry over effect to <b>Clearfield</b> sunflower with a negative impact on crop tolerance.	NO "persistent" ALS compounds used in the previous crop.

Growers should view **Clearfield** Production System as one tool in the toolbox, and use them on fields where they're needed.

\* To communicate in the countries with wild sunflower population

\*\* Contact your local BASF representative for further information.