

Guideline for the Management of Cotton Volunteers¹, including herbicide tolerant varieties (LLCotton25 and GHB614 cotton)

Guideline provided by BASF Agricultural Solutions Seed US LLC

A. Background

The import and use of the genetically modified cotton grain is authorised in the European Union according to Regulation (EC) No 1829/2003 (Commission Decision 2011/354/EU of 17 June 2011). The authorisation refers to GHB614 cotton which provides tolerance to glyphosate herbicides. An authorisation for the glufosinate ammonium tolerant LLCotton25 was granted already in 2008 (Commission Decision 2008/837/EC).

These authorisations are accompanied by a monitoring plan which includes measures to be taken by the authorisation holder to prevent any damage to health and the environment in the event of accidental spillage of cotton grain, which may include LLCotton25 and/or GHB614 cotton.

More specifically, the monitoring plan establishes that operators who handle and process bulk mixtures of imported cotton grain have to be alerted to the possibility that accidental spillage of imported cotton grain in ports and crushing facilities may result in the germination and establishment of LLCotton25 and/or GHB614 cotton volunteers. In the event that these cotton volunteers include LLCotton25 and/or GHB614 cotton, the monitoring plan specifies that the authorisation holder has to:

- Inform operators that these volunteer plants should be eradicated to minimize the potential for unanticipated adverse effects arising from LLCotton25 and/or GHB614 cotton.
- Provide operators with appropriate plans for eradicating volunteer cotton plants including LLCotton25 and/or GHB614 cotton.

The scope of this guideline is to translate into practice the measures of the EU Commission accompanying the LLCotton25 and GHB614 cotton authorisation and to assist the operators importing cotton grain in the EU by providing them the appropriate technical advice to eradicate cotton volunteers which may include LLCotton25 and/or GHB614 cotton.

¹ A volunteer is a crop plant growing from a self-sown or accidentally dropped seed, rather than being deliberately sown or planted.

B. Accidental spillage of cotton grain and eradication of volunteer plants that may include LLCotton25 and/or GHB614 cotton

Most processors and ports have procedures in place to clean accidental grain spillages and to control unwanted vegetation. The following recommendations for controlling herbicide tolerant plants are, therefore, based on standard procedures for managing volunteers arising from spillages of conventional grain.



Identification of cotton plants

Cotton is easily recognized both as a small plant and when flowering. In case of doubts, please consult a trained agronomist or your agrochemical supplier.

Images: Cotton seedling (left) and cotton at true leaf stage (right).

Management tools in ports and crushing facilities

• Hygiene

The prevention of grain spills and the efficient clean up after spillages are the basis of all good management practices for handling grain.

• Site maintenance

The unnecessary accumulation of detritus, particularly on hard surfaces and around buildings, should be avoided because it provides a substrate for seed germination. Good maintenance of hard surfaces and filling cracks, when they occur, reduces the opportunity for germination, as does regularly sweeping all surfaces. Regular sweeping or brushing will remove very small volunteer plants, soon after germination. Once they are established, these methods are inadequate and volunteer plants can be managed by mechanical means (*i.e.* mowing) or eradicated by hand pulling or by chemical control (*i.e.* herbicides).

• Herbicide control

LLCotton25 and GHB614 cotton are tolerant to the herbicide glufosinate-ammonium and to glyphosate respectively. Therefore, applications based on only one of these two active ingredients alone should be avoided. Control can be achieved using the herbicide active substances listed below (see list A).

The herbicides available for use vary between Member States, depending on local registrations. There may also be different products allowed for use in different regions within Member States. It is essential to check what products can be used according to local legislation.

The best control of volunteers can be achieved by applying the herbicide when the volunteer plants are small and before stem extension occurs. The dose rate should be adjusted according to recommendations on the label.

A. Options for total vegetation control in combination with glyphosate or glufosinate-ammonium:

- 1. 2,4-D**
- 2. MCPA**
- 5. Triclopyr**
- 6. Flazasulfuron**
- 7. thifensulfuron-methyl**

For further advice on the use of herbicides:

- consult an accredited agronomist
- refer to product labels for local recommendations (including phone number for technical advice)
- contact a reputable contractor for herbicide application.

C. Contact points

In case of:

- clarifications on the content of this guideline
- need of additional information on the management of herbicide tolerant volunteers
- known or suspected spread of herbicide tolerant volunteers please, contact BASF Agricultural Solutions Seed US LLC (info.operators@basf.com).