

Deployment of IR-maize through the StrigAway® Technology¹

Consideration for Potential Seed Producers

Imidazolinone-resistant (IR) maize contains a natural form of herbicide resistance which was originally found in a mutant. The seed of IR maize can be treated (seed-coated) with Imidazolinone to provide an effective protection against *Striga*, a parasitic weed which attaches to maize roots and results in severe yield reduction. IR maize restores maize production under *Striga*-infested conditions to normal levels and also depletes the *Striga* seed bank in the soil. IR maize can also be grown in non-*Striga* affected areas, like any other maize cultivar.

Deployment of the Imidazolinone resistance trait and seed dressing needs to be done in a responsible manner to assure the effectiveness and durability of the technology, to the benefit of seed producers, farmers and the environment. Unless such measures are taken, seed may be improperly treated and the crop fail, *Striga* may develop resistance against the herbicide, the seed company may contaminate other seed stocks with the herbicide, or farmers' may improperly use the technology and incur crop losses.

To ensure responsible deployment, CIMMYT entered into an agreement with the African Agricultural Technology Foundation (AATF) and BASF for deployment of IR maize hybrids and varieties under the trade name "StrigAway®". This partnership will provide the necessary know-how and rights to deploy the technology in an appropriate manner. The partnership will also continue to raise awareness about the technology in Sub-Saharan Africa, so that seed labeled as StrigAway® will be recognized as seed that provides effective control against *Striga*.

To the extent as the partnership between CIMMYT, AATF and BASF provides support for the responsible deployment of StrigAway® technology, interested seed producers need to meet certain requirements to qualify as a seed producer/disseminator for StrigAway® cultivars. The seed producer needs to:

1. Be registered as a seed producer.
2. Using own or contracted facilities (e.g. from other StrigAway® seed producers), be able to separately treat and store StrigAway® maize seed so that the risk of contamination of non-StrigAway ("normal") maize seed and seed of other crops with the herbicide is minimized.
3. Test and confirm the herbicide tolerance (Trait Purity) and proper seed treatment rate of seed lots prior to commercial sale so that over-treatment and treatment of non-herbicide tolerant seed is prevented – These are tests similar to a germination test and need to be conducted for each seed lot (e.g. the truck load of seed delivered by a seed producer).
4. Implement a program devised by BASF to ensure appropriate stewardship of the technology to prevent the build-up of resistance and ensure a farmers' long-term ability to control *Striga*. - This program involves information and training of seed retailers involved in deploying seed of StrigAway® cultivars.
5. Use BASF Trade Intellectual Property for seed treatment, and applicable patent numbers, trademarks and seed package labels, to ensure appropriate

¹ StrigAway® technology combines a non-GMO herbicide tolerant CLEARFIELD® maize seed and an innovative herbicide seed treatment.

seed treatment. – Note, the herbicide cannot be simply mixed into commercially available seed treatment but needs to employ an appropriate coating technology otherwise the herbicide may prove to be ineffective or reduce the germination rate. Information on the costs of the herbicide (incl. coating technique) can be obtained from BASF.

6. Annually report on:

- Adverse effects of herbicides
- Observations relating to enhancements or changes associated with herbicide tolerance
- Results of herbicide tolerance tests that have been conducted
- Market results and future goals for seed production and marketing

Provided these conditions can be met, AATF and BASF will sign with the seed producer an appropriate trait technology license and herbicide supply agreement.

If you have any question or suggestion, pls send them to

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BASF – Volker Sthamer - basf.tro@ethionet.et

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Pls note that an information workshop is planned for April 2006, for discussing the details of these agreements with seed producers in Kenya where several StrigAway® maize cultivars have been and are in the course of being released.