

CORN



BIOTECH TRAIT STEWARDSHIP

INSECT RESISTANCE MANAGEMENT



Growing biotech trait seed requires sound stewardship to preserve the benefits and value of this technology for years to come.

Insect-protected crops are genetically improved to provide in-plant protection against selected insect pests. Beneficial insects are not affected.

To preserve the benefits and insect protection of these technology crops, insect resistance management (IRM) must be part of long-term and short-term planning by the seed industry and growers alike. IRM is a requirement when purchasing and planting insect-protected crops.

Failure to follow IRM guidelines and properly plant a refuge may result in the revocation of the grower's Monsanto Technology Agreement and loss of access to insect-protected technologies. Please do your part to ensure these technologies are preserved by following the IRM Stewardship guidelines.

REFER TO THE CURRENT *IRM Guide FOR YIELDGARD AND/OR BOLLGARD TRAITS OR MONSANTO'S CURRENT Technology Use Guide.*

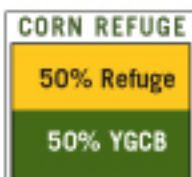
In corn-growing areas, refuges must be established as follows:

- On each farm, plant up to 80 percent of corn acres with YieldGard Corn Borer corn. Plant at least 20 percent of the corn acres to a corn refuge that does not contain a Bt technology for control of European or southwestern corn borer. The refuge corn can be treated with insecticides only when the level of pest pressure meets or exceeds economic thresholds. Sprayable Bt insecticides must not be applied to the refuge corn. Corn refuge options include YieldGard Rootworm, Roundup Ready Corn with YieldGard Rootworm, Roundup Ready Corn and conventional corn, but no other Bt product for corn borer management.
- Plant the corn refuge within, adjacent to or near YieldGard Corn Borer corn fields.
- Plant the corn refuge within $\frac{1}{2}$ mile of the YieldGard Corn Borer field (within $\frac{1}{4}$ mile or closer preferred).



In cotton-growing areas, there are special refuge requirements for YieldGard Corn Borer corn, as follows:

- On each farm, plant up to 50 percent of corn acres with YieldGard Corn Borer corn. Plant a minimum of 50 percent of corn acres to a corn refuge that does not contain a Bt technology for control of European or southwestern corn borer. The refuge corn can be treated with insecticides only when the level of pest pressure meets or exceeds economic thresholds. Sprayable Bt insecticides must not be applied to the refuge corn.



- Plant the corn refuge within, adjacent to or near the YieldGard Corn Borer corn fields.
- Plant the corn refuge within $\frac{1}{2}$ mile of the YieldGard Corn Borer field (within $\frac{1}{4}$ mile or closer preferred).

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YIELDGARD PLUS/YIELDGARD ROOTWORM REFUGE PLANTING REQUIREMENTS

Any corn hybrid that does not contain a Bt technology for control of western, northern or Mexican corn rootworm and is planted within or adjacent to the YieldGard Plus/YieldGard Rootworm field can serve as a refuge for corn rootworm. Any corn hybrid that does not contain a Bt technology for control of European and southwestern corn borers and is planted within $\frac{1}{2}$ mile (within $\frac{1}{4}$ mile preferred) of the YieldGard Plus/YieldGard Rootworm field can serve as a refuge for corn borers.

Options include:

- Plant a corn refuge on every farm where YieldGard Plus/YieldGard Rootworm corn hybrids are planted.
- Plant the corn refuge at the same time as YieldGard Plus corn.
- Mixing non-Bt seed with YieldGard Plus/YieldGard Rootworm seed for use in the refuge is not permitted.
- Adjacent refuge fields must be owned or managed by the grower.
- Plant the refuge and the YieldGard Plus/YieldGard Rootworm corn in fields with similar crop history. For example, if the field planted with YieldGard Plus was corn the previous year, then the refuge must also be planted in a field that was planted with corn the previous year.
- Requires a 20 percent refuge in non-cotton areas, 50 percent in cotton growing areas.

YIELDGARD ROOTWORM REFUGE CONFIGURATIONS*

Examples of Within-Field Configurations



Examples of Adjacent-Field Configurations



■ YGRW
■ Refuge

*Separated by road, path, ditch, etc., but not by another field.