

524-545

4/14/2004  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

1/9

APR 14 2004

Mr. Dennis P. Ward  
Regulatory Affairs Manager  
Monsanto Company, Mail Zone E3NB  
800 N. Lindberg Blvd.  
St. Louis, MO 63017

Dear Mr. Ward:

Subject: Registration Expiration Date Extension Request and Amended Label Text; Your Applications of 1/14/04 and 2/10/04; YieldGard® Plus Corn  
EPA Registration Number 524-545

The amendments referred to above, submitted in connection with registration under FIFRA section 3(c)(7)(A), are acceptable provided that:

1. You submit and/or cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
2. Item 1 of the 10/31/2003 notice of registration is hereby modified such that the subject registration will automatically expire on midnight February 24, 2006. Based on the Agency's review of the data submitted or cited in response to the conditions of this product's registration, the expiration date of this registration may be extended in the future.
3. Item 8 of the 10/31/2003 notice of registration is hereby modified/clarified that the refuge requirements do not apply to seed increase/propagation of inbred and hybrid seed corn.
4. You make the following change to the label:

Modify the statement "These refuge requirements do not apply to operations engaged in the propagation of inbred and hybrid seed corn." to read "These refuge requirements do not apply to seed increase/propagation of inbred and hybrid seed corn."

CONCURRENCES

SYMBOL	7511 C						
SURNAME	S. L. HAY						
DATE	4-14-04						

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e).

A stamped copy of the label is enclosed for your records.

Sincerely,

Dennis Szuhay, Chief  
Microbial Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511C)

CONCURRENCES

SYMBOL			2				
SURNAME							
DATE							

**YieldGard® Plus Corn**

[Alternate brand name: *YieldGard® Plus: Corn Borer | Rootworm*]

*Note to Reviewer: Alternative wording appears in brackets { }.*

This product is effective in controlling corn leaf, stalk, and ear damage caused by corn borers and root feeding damage caused by corn rootworm larvae.

**Active Ingredients:**

- Bacillus thuringiensis* Cry1Ab delta-endotoxin and the genetic material necessary for its production in corn..... 0.002 – 0.005%
- Bacillus thuringiensis* Cry3Bb1 protein and the genetic material necessary for its production (ZMIR13L) in event MON 863 corn..... 0.003 - 0.016%

**Other Ingredients:**

Substance produced by a marker gene and the genetic material necessary for its production (ZMIR13L) in event MON 863 corn..... 0.00005 – 0.0001%

Percentage (wt/wt) on a dry weight basis.

KEEP OUT OF REACH OF CHILDREN  
**CAUTION**

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® *YieldGard* is a registered trademark of Monsanto Technology LLC

EPA Registration No. 524-545

EPA Establishment No. 524-MO-002

Monsanto Company  
800 North Lindbergh Blvd  
St. Louis, MO 63167

NET CONTENTS \_\_\_\_\_

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated  
APR 14 2004**

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 524-545

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in any manner inconsistent with this labeling. The following information regarding commercial production must be included in the *YieldGard Plus corn* Technology Use Guide {IRM Guide}.

*YieldGard Plus corn* combines the insect protection features of *YieldGard<sup>®</sup> Corn Borer corn* and *YieldGard<sup>®</sup> Rootworm corn* in the same corn hybrid. *YieldGard Plus* hybrids protect corn crops from leaf, stalk, and ear damage caused by corn borers and root damage caused by corn rootworm larvae. In order to minimize the risk of these pests developing resistance to *YieldGard Plus corn*, an insect resistance management plan must be implemented which includes planting of a structured refuge.

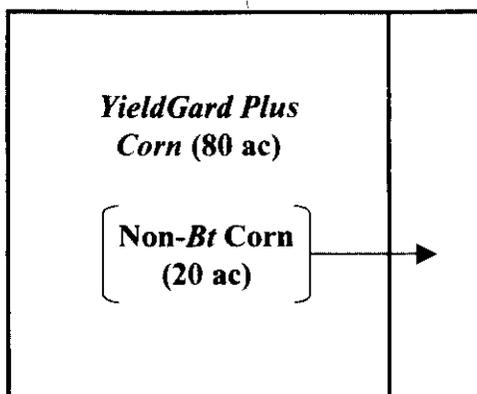
**INSECT RESISTANCE MANAGEMENT**

**Corn Growing Areas {Corn Belt / Noncotton Growing Region Refuge Requirements}**

For *YieldGard Plus corn* grown in noncotton growing regions of the United States, two options for deployment of the refuge are available to growers.

The first option is planting a common refuge for both corn borers and corn rootworms. The common refuge must be planted with corn hybrids that do not contain *Bacillus thuringiensis (Bt)* technologies for the control of corn borers or corn rootworms. The refuge area must represent at least 20% of the grower's corn acres (i.e., sum of *YieldGard Plus* acres and refuge acres). {The refuge area must contain 20 acres of corn for every 80 acres of *YieldGard Plus corn* planted}. It can be planted as a block within or adjacent to the *YieldGard Plus* field, strips around the field, or in-field strips. If perimeter or in-field strips are implemented, the strips must be at least 6, and preferably 12, consecutive rows wide. The common refuge can be treated with an insecticide to control rootworm larvae and other soil pests. The refuge can also be treated with a non-*Bt* foliar insecticide for control of late season pests if pest pressure reaches an economic threshold for damage; however, if rootworm adults are present at the time of foliar applications then the *YieldGard Plus* field {acres} must be treated in a similar manner. Economic thresholds will be determined using methods recommended by local or regional professionals (e.g., Extension Service agents, crop consultants, etc.). A schematic of one common refuge deployment option is shown below:

### Common Refuge

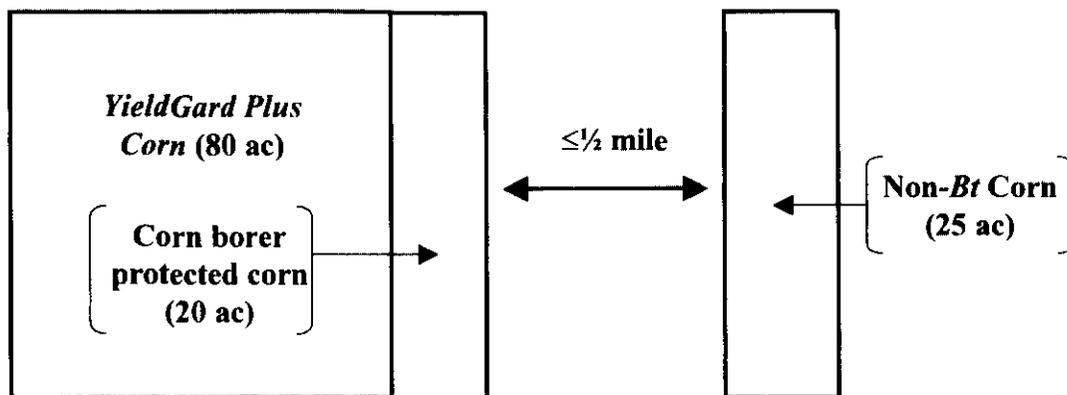


The second option is planting separate refuge areas {two refuge areas, a double refuge, paired refuge areas} for corn borers and corn rootworms. The corn borer refuge must be planted with corn that is not a lepidoteran-protected *Bt* hybrid, must represent at least 20% of the grower's corn acres, and must be planted within ½ mile of the *YieldGard Plus* field. The corn borer refuge can be treated with an insecticide for corn rootworm larval control, or a non-*Bt* foliar-applied insecticide for corn borer control if pest pressure reaches an economic threshold for damage.

The corn rootworm refuge must be planted with corn that is not a rootworm-protected *Bt* hybrid, but can be planted with *Bt* hybrids that control corn borers. The corn rootworm refuge must represent at least 20% of the grower's corn acres {The corn rootworm refuge must contain 20 acres of corn for every 80 acres of *YieldGard Plus* corn planted} and can be planted as a block within or adjacent to the *YieldGard Plus* field, strips around the field, or in-field strips. The corn rootworm refuge can be treated with an insecticide to control rootworm larvae and other soil pests. The refuge can also be treated with a non-*Bt* foliar insecticide for control of late season pests; however, if rootworm adults are present at the time of foliar applications then the *YieldGard Plus* field must be treated in a similar manner. A schematic of one separate refuge option with the corn rootworm refuge planted as a block within the field and the corn borer refuge planted within a ½ mile of the *YieldGard Plus* field is shown below:

### Separate-Refuge Option

{Two-Refuge Option, Double-Refuge Option, Paired-Refuge Option}



### Corn/Cotton Growing Area {Cotton Growing Area} Refuge Requirements

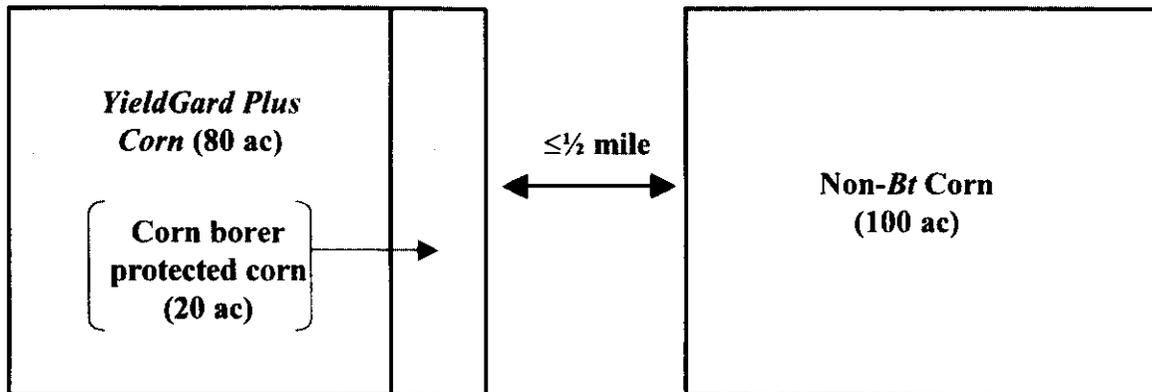
For *YieldGard Plus* corn grown in cotton growing areas of the US the common refuge and separate refuge options {two-refuge options, double-refuge options, paired-refuge options} are also available, however, the refuge area is larger. Cotton growing areas include the following states: Alabama, Arkansas, Florida, Georgia, Louisiana, North Carolina, Mississippi, South Carolina, Oklahoma (only the counties of Beckham, Caddo, Comanche, Custer, Greer, Harmon, Jackson, Kay, Kiowa, Tillman, and Washita), Tennessee (only the counties of Carroll, Chester, Crockett, Dyer, Fayette, Franklin, Gibson, Hardeman, Hardin, Haywood, Lake, Lauderdale, Lincoln, Madison, Obion, Rutherford, Shelby, and Tipton), Texas (except the counties of Carson, Dallam, Hansford, Hartley, Hutchinson, Lipscomb, Moore, Ochiltree, Roberts, and Sherman) Virginia (only the counties of Dinwiddie, Franklin City, Greenville, Isle of Wight, Northampton, Southampton, Suffolk City, Surrey, and Sussex), and Missouri (only the counties of Dunkin, New Madrid, Pemiscot, Scott, and Stoddard).

The first option is planting a common refuge for both corn borers and corn rootworms. The common refuge must be planted with corn hybrids that do not contain *Bt* technologies for the control of corn rootworms or corn borers. The refuge area must represent at least 50% of the grower's corn acres {The refuge must contain 50 acres of corn for every 50 acres of *YieldGard Plus* corn planted}. It can be planted as a block within or adjacent to the *YieldGard Plus* field, strips around the field, or in-field strips. If perimeter or in-field strips are implemented, the strips must be at least 6, and preferably 12 consecutive rows wide. The common refuge can be treated with an insecticide to control rootworm larvae and other soil pests. The refuge can also be treated with a non-*Bt* foliar insecticide for control of late season pests if pest pressure reaches an economic threshold for damage; however, if rootworm adults are present at the time of foliar applications then the *YieldGard Plus* field

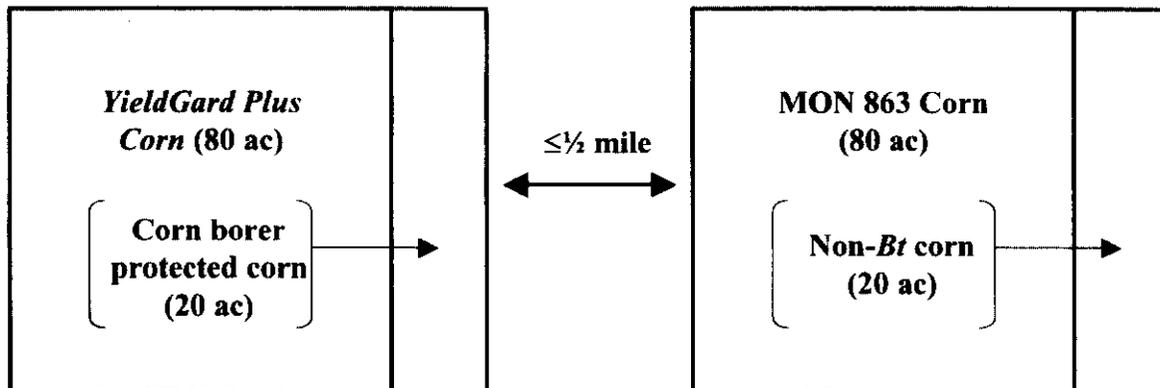


### Separate -Refuge Options

{Two-Refuge Options, Double-Refuge Options, Paired Refuge Options}



- or -



Grower agreements will specify that growers must adhere to the refuge requirements that will be described in the Technology Use Guide {IRM Guide} for *YieldGard Plus corn* or other applicable product use documents. Growers who fail to comply with the IRM requirements risk losing access to the product.

These refuge requirements do not apply to operations engaged in the propagation of inbred and hybrid seed corn.

### CORN INSECTS CONTROLLED OR SUPPRESSED

Field corn has been genetically transformed to produce the *Bt* proteins, Cry1Ab and Cry3Bb1, for control or suppression of the following lepidopteran and coleopteran insects:

- European corn borer (*Ostrinia nubilalis*)
- Southwestern corn borer (*Diatraea grandiosella*)
- Southern cornstalk borer (*Diatraea crambidoides*)

Sugarcane cornstalk borer (*Diatraea saccharalis*)  
Corn earworm (*Helicoverpa zea*)  
Fall armyworm (*Spodoptera frugiperda*)  
Stalk borer (*Papaipema nebris*)  
Western corn rootworm (*Diabrotica virgifera virgifera*)  
Northern corn rootworm (*Diabrotica barberi*)  
Mexican corn rootworm (*Diabrotica virgifera zea*)

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*YieldGard Plus corn* is a product of Monsanto's research program offering unique genetic characteristics for specific grower needs and may be protected by one or more of the following U.S. Patents: 5,023,179, 5,352,605, 5,424,412, 5,484,956, 5,859,347, 5,593,874, 6,063,597, 6,174,724, and 6,331,665.