67979-8 01/24/2007 1/16

U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Biopesticides and Pollution Prevention Division (7511P) Ariel Rios Building 1200 Pennsylvania Ave., NW Washington, D.C. 20460	EPA Reg. Number: 67979-8	Date of Issuance: 1/24/07
NOTICE OF PESTICIDE: x Registration ___ Reregistration (under FIFRA, as amended)	Term of Issuance: Conditional Name of Pesticide Product: Bt11 x MIR604 Corn	

Name and Address of Registrant (include ZIP Code):

Syngenta Seeds, Inc. - Field Crops – NAFTA
P.O. Box 12257, 3054 East Cornwallis Road
Research Triangle Park, NC 27709-2257

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

The registration application referred to above, submitted in connection with registration under § 3(c)(7)(A) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable provided that you do the following terms and conditions

1) The subject registration will automatically expire on midnight October 15, 2008.

2) The subject registration will be limited to mCry3A [modified Cry3A protein and the genetic material necessary for its production (via elements of pZM26) in Event MIR604 corn SYN-IR604-8] X Cry1Ab [Bacillus thuringiensis Cry1Ab delta-endotoxin and the genetic material necessary for its production (Plasmid Vector pZ01502) in corn] corn for use in field corn.

3) Submit/cite all data required for registration of your product under FIFRA § 3(c)(5) when the Agency requires registrants of similar products to submit such data.

4) Submit/ cite all data required to support the individual plant-incorporated protectants in Bt11 Cry1Ab corn and MIR604 mCry3A corn within the timeframes required by EPA Registration Numbers 67979-1 and 67979-5.

Signature of Approving Official: see last page	Date: 1/24/07

EPA Form 8570-6

7511P Mendelsohn 1/23/07   7511P Reilly 1/23/07

5) Additional Southern analyses of a Bt11 x MIR604 hybrid along with the parental Bt11 and MIR604 maize inbreds must be submitted as confirmatory data within one (1) year to complete the database for the stacked Bt11 x MIR604 maize hybrid. The analysis must utilize a new molecular weight reference DNA ladder and attempt to demonstrate a lack of any non-specific sequence binding of the labeled ladder probe to the plasmid vector probes.

6) You must commit to do the following Insect Resistance Management Program:

a. Refuge Requirements

These refuge requirements do not apply to seed increase/propagation of inbred and hybrid seed corn.

Grower agreements (also known as stewardship agreements) will specify that growers must adhere to the following refuge requirements as described in the grower guide/product use guide and/or in supplements to the grower guide/product use guide.

Corn Belt / Non-Cotton Growing Region Refuge Requirements

For corn grown in the US Corn Belt 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 Bt technologies for the control of corn rootworms or corn borers. The refuge area must represent at least 20% of the grower's corn acres (i.e. sum of [Bt11 x MIR604] acres and refuge acres). It can be planted as a block adjacent to the [Bt11 x MIR604] field, perimeter strips, or in-field strips. If perimeter strips are implemented, the strips must be at least 4, and preferably 6 consecutive rows wide. If strips within the [Bt11 x MIR604] field are implemented, then at least 4, and preferably 6 consecutive rows should be planted. The common refuge can be treated with a soil-applied or seed-applied 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 [Bt11 x MIR604] field must be treated in a similar manner.

The second option is planting separate refuge areas for corn borers and corn rootworms. The corn borer refuge must be planted with a non-Bt/lepidopteran-protected hybrid, must represent at least 20% of the grower's corn acres (i.e. sum of [Bt11 x MIR604] acres and corn borer refuge acres), and must be planted within ½ mile of the [Bt11 x MIR604] field. The corn borer refuge can be treated with a soil-applied or seed-applied 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 a non-Bt/corn

rootworm-protected hybrid, but can be planted with Bt corn hybrids that control corn borers. The corn rootworm refuge must represent at least 20% of the grower's corn acres (i.e. sum of [Bt11 x MIR604] acres and corn rootworm refuge acres) and can be planted as an adjacent block, perimeter strips, or in-field strips. The corn rootworm refuge can be treated with a soil-applied or seed-applied 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 [Bt11 x MIR604] field must be treated in a similar manner. Growers who fail to comply with the IRM requirements risk losing access to the product.

Cotton Growing Area Refuge Requirements

For [Bt11 x MIR604] corn grown in cotton-growing areas the common refuge and separate 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, Greensville, 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 (i.e. sum of [Bt11 x MIR604] acres and refuge acres). It can be planted as a block adjacent to the [Bt11 x MIR604] field, perimeter strips, or in-field strips. If perimeter strips are implemented, the strips must be at least 4, and preferably 6 consecutive rows wide. If strips within the [Bt11 x MIR604] field are implemented, then at least 4, and preferably 6 consecutive rows should be planted. The common refuge can be treated with a soil-applied or seed-applied 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 [Bt11 x MIR604] field must be treated in a similar manner.

The second option is planting separate refuge areas for corn borers and corn rootworms. The corn borer refuge must be planted with a non-Bt lepidopteran-protected hybrid, must represent at least 50% of the grower's corn acres (i.e. sum of [Bt11 x MIR604] acres and corn borer refuge acres), and must be planted within ½ mile of the [Bt11 x MIR604] field. The corn borer refuge can be treated with a soil-applied or seed-applied 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 a non-Bt

corn/rootworm-protected hybrid, but can be planted with Bt corn hybrids that control corn borers. The corn rootworm refuge must represent at least 20% of the grower's corn acres (i.e. sum of [Bt11 x MIR604] acres and corn rootworm refuge acres) and be planted as an adjacent block, perimeter strips, or in-field strips. The corn rootworm refuge can be treated with a soil-applied or seed-applied 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 [Bt11 x MIR604] field must be treated in a similar manner. Growers who fail to comply with the IRM requirements risk losing access to the product.

b. Grower Agreements

1] Persons purchasing the Bt corn product must sign a grower agreement. The term "grower agreement" refers to any grower purchase contract, license agreement, or similar legal document.

2] The grower agreement and/or specific stewardship documents referenced in the grower agreement must clearly set forth the terms of the current IRM program. By signing the grower agreement, a grower must be contractually bound to comply with the requirements of the IRM program.

3] The registrant must develop a system (equivalent to what is already approved for Bt11 field corn, EPA Reg. No. 67979-1) which is reasonably likely to assure that persons purchasing the Bt corn product will affirm annually that they are contractually bound to comply with the requirements of the IRM program. The proposed system will be submitted to EPA within 90 days from the date of registration.

4] The registrant must use grower agreements and submit to EPA within 90 days from the date of registration a copy of that agreement and any specific stewardship documents referenced in the grower agreement. If Syngenta wishes to change any part of the grower agreement or any specific stewardship documents referenced in the grower agreement that would affect either the content of the IRM program or the legal enforceability of the provisions of the agreement relating to the IRM program, thirty days prior to implementing a proposed change, the registrant must submit to EPA the text of such changes to ensure that it is consistent with the terms and conditions of the amendment.

5] The registrant must establish a system (equivalent to what is already approved for Bt11, EPA Reg. No. 67979-1) which is reasonably likely to assure that persons purchasing the Bt corn sign grower agreement(s), and must provide within 90 days from the date of the registration a written description of that system.

6] The registrant shall maintain records of all Bt corn grower agreements for a period of three years from December 31st of the year in which the agreement was signed.

7] Beginning on January 31, 2008 and annually thereafter, the registrant shall provide EPA with a report showing the number of units of its Bt11 x MIR604 corn seeds sold or shipped and not returned, and the number of such units that were sold to persons who have signed grower agreements. The report shall cover the time frame of the twelve-month period covering the prior August through July.

8] Beginning in January 31, 2008, and annually thereafter, the registrant shall submit annual reports on units sold by State (units sold by county level will be made available to the Agency upon request), IRM grower agreement results, and the compliance assurance program, including the education program on or before January 31st each year.

9] The registrant must allow a review of the grower agreements and grower agreement records by EPA or by a State pesticide regulatory agency if the State agency can demonstrate that confidential business information, including names, personal information, and grower license number, will be protected.

c. IRM Education and IRM Compliance Monitoring Programs

1] Syngenta must design and implement a comprehensive, ongoing IRM education program designed to convey to Bt11 x MIR604 corn users the importance of complying with the IRM program. The program shall include information encouraging Bt11 x MIR604 corn users to pursue optional elements of the IRM program relating to refuge configuration and proximity to Bt11 x MIR604 corn fields. The education program shall involve the use of multiple media, e.g. face-to-face meetings, mailing written materials, EPA reviewed language on IRM requirements on the bag or bag tag, and electronic communications such as by Internet, radio, or television commercials. Copies of the materials will be provided to EPA for its records. The program shall involve at least one written communication annually to each Bt11 x MIR604 corn user separate from the grower technical guide. The communication shall inform the user of the current IRM requirements. Syngenta shall coordinate its education programs with educational efforts of other registrants and other organizations, such as the National Corn Growers Association and state extension programs.

2] Annually, the registrant shall revise, and expand as necessary, its education program to take into account the information collected through the compliance survey required under paragraph 6] and from other sources. The changes shall address aspects of grower compliance that are not sufficiently high.

3] On January 31, 2008, the registrant must provide a report to EPA summarizing the activities carried out under the education program for the prior year. Annually thereafter, the registrant must provide EPA any substantive changes to its grower education activities as part of the overall IRM compliance assurance program report. The required features of the compliance assurance program are described in paragraphs 4]-15] below.

4] The registrant must design and implement an ongoing IRM compliance assurance program

designed to evaluate the extent to which growers purchasing its Bt11 x MIR604 Bt corn product are complying with the IRM program and that takes such actions as are reasonably needed to assure that growers who have not complied with the program either do so in the future or lose their access to the Bt11 x MIR604 Bt corn product. The registrant shall coordinate with other Bt corn registrants in designing and implementing its compliance assurance program and integrate the Bt11 x MIR604 CAP with the CAP already approved for Bt11, EPA Registration Number 67979-1. The registrant must prepare and submit within 90 days of the date of registration a written description of their compliance assurance program. Other required features of the program are described in paragraphs 5] - 15] below.

5] The registrant must establish and publicize a "phased compliance approach," i.e., a guidance document that indicates how the registrant will address instances of non-compliance with the terms of the IRM program and general criteria for choosing among options for responding to any non-compliant growers. The options shall include withdrawal of the right to purchase Bt11 x MIR604 Bt corn for an individual grower or for all growers in a specific region. An individual grower found to be significantly out of compliance two years in a row would be denied sales of the product the next year. Similarly, seed dealers who are not fulfilling their obligations to inform/educate growers of their IRM obligations will lose their opportunity to sell Bt11 x MIR604 Bt corn.

6] The IRM compliance assurance program shall include an annual survey conducted by an independent third party of a statistically representative sample of growers of Bt corn products who plant the vast majority of all corn in the U.S. and in areas in which the selection intensity is greatest The survey shall consider only those growers who plant 200 or more acres of corn in the Corn-Belt and who plant 100 or more acres of corn in corn-cotton areas.. The survey shall measure the degree of compliance with the IRM program by growers in different regions of the country and consider the potential impact of non-response. The sample size and geographical resolution may be adjusted annually, based upon input from the independent marketing research firm and academic scientists, to allow analysis of compliance behavior within regions or between regions. The sample size must provide a reasonable sensitivity for comparing results across the U.S.

7] The survey shall be designed to provide an understanding of any difficulties growers encounter in implementing IRM requirements. An analysis of the survey results must include the reasons, extent, and potential biological significance of any implementation deviations.

8] The survey shall be designed to obtain grower feedback on the usefulness of specific educational tools and initiatives.

9] The registrant shall provide a final written summary of the results of the prior year's survey (together with a description of the regions, the methodology used, and the supporting data) to EPA by January 31 of each year, beginning with 2008. The registrant shall confer with other Bt corn registrants and EPA on the design and content of the survey prior to its implementation.

10] Annually, the registrant shall revise, and expand as necessary, its compliance assurance program to take into account the information collected through the compliance survey required under paragraphs 6] through 8] and from other sources. The changes shall address aspects of grower compliance that are not sufficiently high. The registrant must confer with the Agency prior to adopting any changes to a previously approved CAP.

11] The registrant shall conduct an annual on-farm assessment program. The registrant shall train its representatives who make on-farm visits with growers of their Bt corn products to perform assessments of compliance with IRM requirements. There is no minimum corn acreage size for this program. Therefore, growers will be selected for this program from across all farm sizes. In the event that any of these visits result in the identification of a grower who is not in compliance with the IRM program, the registrant shall take appropriate action, consistent with its "phased compliance approach," to promote compliance.

12] The registrant shall carry out a program for investigating legitimate "tips and complaints" that its growers are not in compliance with the IRM program. Whenever an investigation results in the identification of a grower who is not in compliance with the IRM program, the registrant shall take appropriate action, consistent with its "phased compliance approach."

13] If a grower, who purchases Bt11 x MIR604 Bt corn for planting, was specifically identified as not being in compliance during the previous year, the registrant shall visit with the grower and evaluate whether that the grower is in compliance with the IRM program for the current year.

14] Beginning January 31, 2008 and annually thereafter, Syngenta shall provide a report to EPA summarizing the activities carried out under their compliance assurance program for the prior year and the plans for the compliance assurance program during the current year. The report will include information regarding grower interactions (including, but not limited to, on-farm visits, verified tips and complaints, grower meetings and letters), the extent of non-compliance, corrective measures to address the non-compliance, and any follow-up actions taken.

15] The registrant and the seed corn dealers for the registrant must allow a review of the compliance records by EPA or by a State pesticide regulatory agency if the State agency can demonstrate that confidential business information, including the names, personal information, and grower license number of the growers will be protected.

d. Insect Resistance Monitoring

The Agency is imposing the following conditions for this product:

1] For the Cry1Ab portion of the product , the registrant will monitor for resistance and/or trends in increased tolerance for European corn borer, Southwestern corn borer, and corn earworm. Sampling should be focused in those areas in which there is the highest risk of

resistance development. Monitoring must be carried out under the same protocols used for Bt11 corn .

2] For the mCry3A portion of the product, the registrant must monitor for mCry3A resistance and/or trends in increased tolerance for corn rootworm. Sampling should be focused in those areas in which there is the highest risk of resistance development.

a] The registrant must provide EPA its resistance monitoring plan for approval. A revised monitoring plan must be submitted to the Agency with 3 months of the date of registration consisting of a description of the steps to be taken to establish corn rootworm baseline sensitivity and damage guidelines. A detailed resistance monitoring plan must be submitted to the Agency for review by January 31, 2008. This plan must include: baseline sensitivity data, sampling (number of locations, samples per locations), sampling methodology and life-stage sampled, bioassay methodology, standardization procedures (including QA/QC provisions), detection technique and sensitivity, the statistical analysis of the probability of detecting resistance, and an interim description of rootworm damage guidelines.

b] The registrant must develop and validate an appropriate discriminating or diagnostic dose assay by January 31, 2010.

c] You must finalize rootworm damage guidelines and submit these to BPPD by January 31, 2010.

3] The registrant must follow-up on grower, extension specialist or consultant reports of unexpected damage or control failures for corn rootworm.

4] The registrant must provide EPA with annual resistance monitoring reports by April 30th (forLepidoptera) and August 31st (for corn rootworm) of each year beginning with 2008, reporting on populations collected the previous year.

e. Remedial Action Plans

For the Cry1Ab portion of the product, the Bt11 October 15, 2001 Remedial Action Plan for Responding to Resistance in European Corn Borer, Corn Earworm, and/or Southwestern Corn Borer must be used for suspected and confirmed reistance of these pests,

For the mCry3A portion of the product, the following program summary describes, in order of events, the steps that must be taken to implement a remedial action plan if resistance to corn rootworm is confirmed (this general process has been implemented for other lepidopteron and CRW Bt corn products).

1. ***Definition of Suspected Resistance:*** *Resistance will be suspected if investigations of unexpected damage reports show that:*

a. implicated maize plant roots were expressing the mCry3A protein at the expected level;
b. alternative causes of damage or lodging, such as non-target pest insect species, weather, physical damage, larval movement from alternate hosts, planting errors, and other reasonable causes for the observations, have been ruled out;
c. the level of damage exceeds guidelines for expected damage.

If resistance is "suspected", the registrants will instruct affected growers to use alternate pest control measures such as adulticide treatment, crop rotation the following year, or use of soil or seed insecticides the following year. These measures are intended to reduce the possibility of potentially resistant insects contributing to the following year's pest population.

*2. **Confirmation of Resistance**: Resistance will be confirmed if all of the following criteria are met by progeny from the target pest species sampled from the area of "suspected resistance":*

a.the proportion of larvae that can feed and survive on mCry3A roots from neonate to adult is significantly higher than the baseline proportion (currently being established);
b.the LC_{50} of the test population exceeds the upper limit of the 95% confidence interval for the LC_{50} of a standard unselected population and/or survival in the diagnostic assay is significantly greater than that of a standard unselected population, as established by the ongoing baseline monitoring program;
c.the ability to survive is heritable;
d.mCry3A plant assays determine that damage caused by surviving insects would exceed economic thresholds;
e.the identified frequency of field resistance could lead to widespread product failure if subsequent collections in the affected field area(s) demonstrated similar bioassay results.

*3. **Response to Confirmed Resistance:** When resistance is "confirmed", the following steps will be taken:*

a.EPA will receive notification within 30 days of resistance confirmation;
b.affected customers and extension agents will be notified about confirmed resistance;
c.affected customers and extension agents will be encouraged to employ alternative CRW control measures;
d.sale and distribution of mCry3A maize in the affected area will cease immediately;
e. a long-term resistance management action plan will be devised according to the characteristics of the resistance event and local agronomic needs. [The details of such a plan should be approved by EPA and all appropriate stakeholders.]

f. Annual Reporting Requirements

1) Annual Sales: reported and summed by state (county level data available by request), January 31st each year;

10/16

2) Grower Agreement: number of units of Bt corn seeds shipped or sold and not returned, and the number of such units that were sold to persons who have signed grower agreements, January 31st each year;

3) Grower Education: substantive changes to education program completed previous year, January 31st each year;

4) Compliance Assurance Plan: Compliance Assurance Program activities and results, January 31st each year;

5) Compliance: to include annual survey results and plans for the next year; full report January 31st each year;

6) Insect Resistance Monitoring Results: results of monitoring and investigations of damage reports, August 31st each year.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA Section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

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

Sincerely,

Janet Andersen, Ph.D., Director
Biopesticides and Pollution
Prevention Division (7511P)

11/16

Bt11 x MIR604 Corn Seed

[Alternate brand name: *Agrisure™ CB/LL/RW*]

Plant-incorporated protectant:
Cry1Ab and mCry3A proteins for control of corn borers and corn rootworms

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

Active Ingredients:

Bacillus thuringiensis Cry1Ab delta-endotoxin protein and the genetic material necessary for its production in corn.....≤0.0029%*
Modified Cry3A protein, and the genetic material necessary for its production (via elements of pZM26) in corn (SYN-IR604-8) .....≤0.0069%*

Inert Ingredients:

Phosphinothricin acetyltransferase marker protein and the genetic material necessary for its production (via elements of pZO1502) necessary for its production in corn.....≤0.00002%*
Phosphomannose isomerase protein, and the genetic material necessary for its production (via elements of pZM26) in corn (SYN-IR604-8).....≤0.0002%*

*Percent (wt/wt) of whole plant on a dry weight basis

KEEP OUT OF REACH OF CHILDREN
CAUTION

EPA Registration No. 67979-8
EPA Establishment No. 66736-NC-01

Syngenta Seeds, Inc. - Field Crops - NAFTA
P.O. Box 12257
3054 East Cornwallis Rd.
Research Triangle Park, NC 27709

DIRECTIONS FOR USE

It is a violation of federal law to use this product in any manner inconsistent with this labeling. All corn seed that contains the plant-incorporated protectant sold or distributed by Syngenta Seeds or its distributors must be accompanied by informational material (e.g., a bag tag) indicating the registration number (67979-8) and the active ingredients, and stipulating that growers read the Grower Guide (or equivalent guidance) prior to planting the seed.

Insects Controlled or Suppressed

Field corn has been genetically transformed to produce the insecticidal proteins, Cry1Ab and mCry3A, 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*)
Corn earworm (*Helicoverpa zea*)

Fall armyworm (*Spodoptera frugiperda*)
Western corn rootworm (*Diabrotica virgifera virgifera*)
Northern corn rootworm (*Diabrotica barberi*)
Mexican corn rootworm (*Diabrotica virgifera zeae*)

Insect Resistance Management

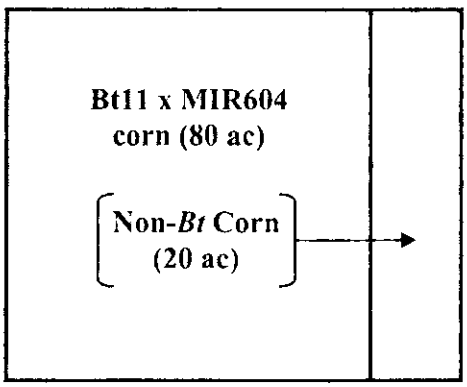
The following information regarding commercial production Bt11 x MIR604 corn must be included in the Grower Guide (or equivalent)".

Corn Belt / Non-Cotton Growing Region Refuge Requirements

For corn grown in the US Corn Belt 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 Bt technologies for the control of corn rootworms or corn borers. The refuge area must represent at least 20% of the grower's corn acres (i.e. sum of [Bt11 x MIR604] acres and refuge acres). It can be planted as a block adjacent to the [Bt11 x MIR604] field, perimeter strips, or in-field strips. If perimeter strips are implemented, the strips must be at least 4, and preferably 6 consecutive rows wide. If strips within the [Bt11 x MIR604] field are implemented, then at least 4, and preferably 6 consecutive rows should be planted. The common refuge can be treated with a soil-applied or seed-applied 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 [Bt11 x MIR604] field 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.). The following is a schematic of one common refuge deployment option:

Common Refuge

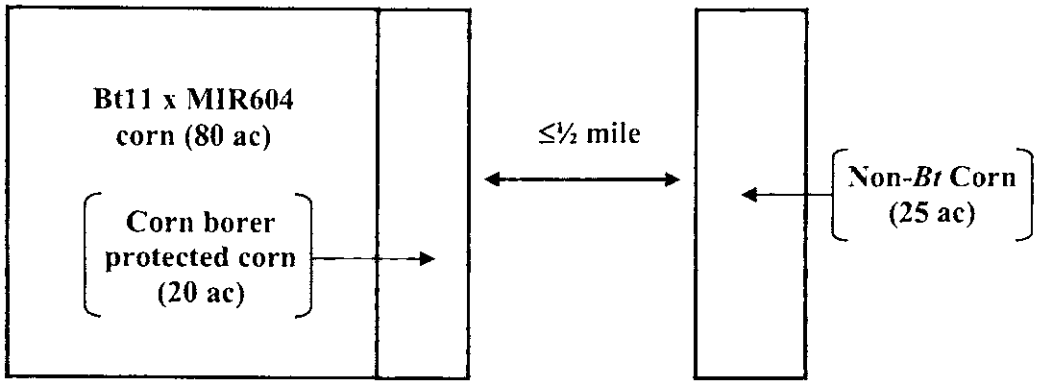


The second option is planting separate refuge areas for corn borers and corn rootworms. The corn borer refuge must be planted with a non-Bt/lepidopteran-protected hybrid, must represent at least 20% of the grower's corn acres (i.e. sum of [Bt11 x MIR604] acres and corn borer refuge acres), and must be planted within ½ mile of the [Bt11 x MIR604] field. The corn borer refuge can be treated with a soil-applied or seed-applied 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 a non-Bt/corn rootworm-protected hybrid, but can be planted with Bt corn hybrids that control corn borers. The corn rootworm refuge must represent at least 20% of the grower's corn acres (i.e. sum of [Bt11 x MIR604] acres and corn rootworm refuge acres) and can be planted as an adjacent block, perimeter strips, or in-field strips. The corn rootworm refuge can be treated with a soil-applied or seed-applied 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 [Bt11 x MIR604] field must be treated in a similar manner. Growers who fail to comply with the IRM requirements risk losing access to the product.

The following is 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 Bt11 x MIR604 field:

Separate-Refuge Option

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



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

For [Bt11 x MIR604] corn grown in cotton-growing areas the common refuge and separate 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, Greensville, 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 (i.e. sum of [Bt11 x MIR604] acres and refuge acres). It can be planted as a block adjacent to the [Bt11 x MIR604] field, perimeter strips, or in-field strips. If perimeter strips are implemented, the strips must be at least 4, and preferably 6 consecutive rows wide. If strips within the [Bt11 x MIR604] field are implemented, then at least 4, and preferably 6 consecutive rows should be planted. The common refuge can be treated with a soil-applied or seed-applied 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 [Bt11 x MIR604] field must be treated in a similar manner.

The following is a schematic of one common refuge deployment option:

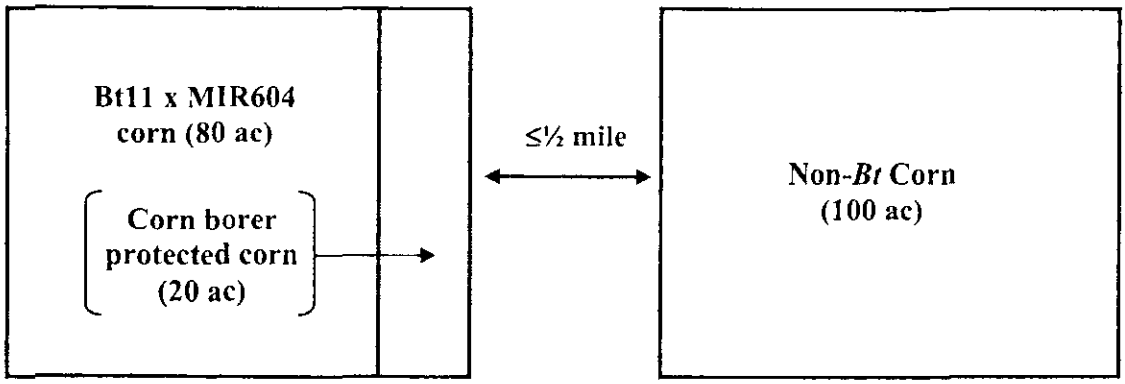
Common Refuge

Bt11 x MIR604 corn (50 ac)	**Non-*Bt* Corn (50 ac)**

The second option is planting separate refuge areas for corn borers and corn rootworms. The corn borer refuge must be planted with a non-Bt/lepidopteran-protected hybrid, must represent at least 50% of the grower's corn acres (i.e. sum of [Bt11 x MIR604] acres and corn borer refuge acres), and must be planted within ½ mile of the [Bt11 x MIR604] field. The corn borer refuge can be treated with a soil-applied or seed-applied 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 a non-Bt corn/rootworm-protected hybrid, but can be planted with Bt corn hybrids that control corn borers. The corn rootworm refuge must represent at least 20% of the grower's corn acres (i.e. sum of [Bt11 x MIR604] acres and corn rootworm refuge acres) and be planted as an adjacent block, perimeter strips, or in-field strips. The corn rootworm refuge can be treated with a soil-applied or seed-applied 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 [Bt11 x MIR604] field must be treated in a similar manner. Growers who fail to comply with the IRM requirements risk losing access to the product.

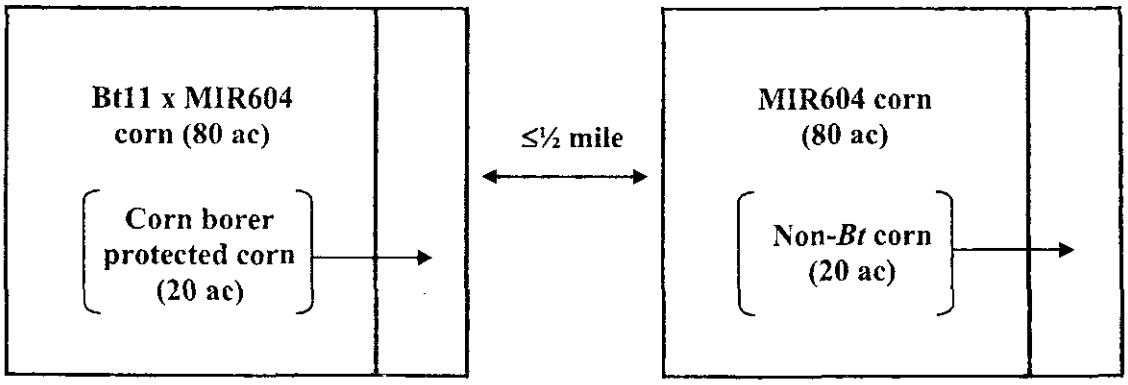
The following are schematics for two separate-refuge options with the corn rootworm refuge planted as a block within the Bt11 x MIR604 field and the corn borer refuge planted as a block within a ½ mile of the Bt11 x MIR604 field:

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



- or -

16/16



Grower agreements will specify that growers must adhere to the refuge requirements that will be described in the Grower Guide {IRM Guide} for Bt11 x MIR604 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 seed increase/propagation of inbred and hybrid seed corn.