

## Crop Rotation Restrictions corn, cotton, and soybean Herbicides

Mark P. Harrison, Normie W. Buehring, Mark W. Shankle, Erick J. Larson, Darrin M. Dodds, and Tom W. Eubank

## Introduction

Before making herbicide application decisions, it is important to understand a selected herbicide's crop rotation restrictions and it's impact on planting interval for the next crop. The following tables list selected corn, cotton, and soybean herbicides commonly used in Mississippi, along with rotation restriction intervals for planting the next crop of corn, cotton, rice, soybean, or sweetpotato. Rotational intervals may be influenced by soil type, soil pH, or the tank mixing of herbicides. Read and understand the label for different crop rotation restriction intervals when mixing or using one or more of these herbicides in the same season. These lists are not a substitute for reading the most recent label. This information is only provided as a guide. Always consult the most recent label for rotational crop restrictions before making herbicide applications.

Harrison is a research associate, and Buehring and Shankle are research professors with the Mississippi State University North Mississippi Research and Extension Center. Larson is an associate extension/research professor and Dodds is an assistant extension professor in the MSU Department of Plant and Soil Sciences. Eubank is an assistant extension/research professor with the MSU Delta Research and Extension Center. This document was approved for publication as MAFES Information Sheet 1357 of the Mississippi Agricultural and Forestry Experiment Station. It was published by the MSU Office of Agricultural Communications, a unit of the Division of Agriculture, Forestry, and Veterinary Medicine. Copyright 2012 by Mississippi State University. All rights reserved. This publication may be copied and distributed without alteration for nonprofit educational purposes provided that credit is given to the Mississippi Agricultural and Forestry Experiment Station.



MISSISSIPPI AGRICULTURAL & FORESTRY EXPERIMENT STATION • GEORGE M. HOPPER, DIRECTOR

## **2012 SOYBEAN HERBICIDE ROTATION RESTRICTIONS**

|                                 | 2012 SOYBEAN HERBICI                    | DE ROTA          | ATION RE | STRICTIO         | ONS                      |       |
|---------------------------------|---|------------------|----------|------------------|--------------------------|-------|
| Trade name                      | Active ingredients                      |                  |          | Rotation interva |                          |       |
|                                 |   | Corn             | Cotton   | Rice             | Sweetpotato <sup>6</sup> | Wheat |
| Assure II                       | quizalofop                              | 120 d            | none     | 120 d            | 120 d                    | 120 d |
| Authority MTZ                   | sulfentrazone/metribuzin                | 4 m              | 12 m     | 10 m             | 18 m                     | 4 m   |
| Authority XL                    | sulfentrazone/chlorimuron               | 18 m             | 18 m     | 18 m             | 36 m                     | 4 m   |
| Boundary                        | s-metolachlor/metribuzin                | 8 m              | 8 m      | 8 m              | 18 m                     | 4.5 m |
| Canopy – pH>7 (>3 oz//          | A) metribuzin/chlorimuron               | 18 m             | 18 m     | 18 m             | 30 m                     | 4 m   |
| Canopy – pH<7                   | metribuzin/chlorimuron                  | 9 m <sup>2</sup> | 10 m     | 10 m             | 18 m                     | 4 m   |
| Canopy EX                       | chlorimuron/tribenuron                  | 7 m              | 8 m      | 9 m              | 18 m                     | 3 m   |
| Clarity                         | dicamba                                 | none             | none     | none             | ns                       | none  |
| Classic <sup>3</sup>            | chlorimuron                             | 10 m             | 9 m      | 9 m              | 10 m                     | 3 m   |
| Command                         | clomazone                               | 9 m              | none     | none             | none                     | 12 m  |
| Enlite                          | chlorimuron/flumioxazin/thifensulfuron  | 9 m              | 9 m      | 9 m              | 30 m                     | 4 m   |
| Envive – pH>7                   | chlorimuron/flumioxazin/thifensulfuron  | 18 m             | 30 m     | 10–18 m          | 12 m                     | 4 m   |
| Envive – pH≤7                   | chlorimuron/flumioxazin/ thifensulfuron | 10 m             | 10 m     | 9 m              | 12 m                     | 4 m   |
| First Rate <sup>3</sup>         | cloransulam-methyl                      | 9 m              | 9 m      | 9 m              | 30 m                     | 4 m   |
| Firstshot SG                    | thifensulfuron/tribenuron               | 14 d             | 14 d     | none             | 45 d                     | none  |
| Frontrow <sup>3</sup>           | cloransulam-methyl/flumetsulam          | 9 m              | 9 m      | 9 m              | 30 m                     | 3 m   |
| Fusilade DX                     | fluazifop                               | 60 d             | none     | 60 d             | none                     | 60 d  |
| Gangster <sup>3</sup>           | flumioxazin/cloransulam-methyl          | 9 m              | 9 m      | 9 m              | 30 m                     | 3 m   |
| Glyphosate                      | glyphosate                              | none             | none     | none             | none                     | none  |
| Gramoxone SL                    | paraquat                                | none             | none     | none             | none                     | none  |
| Liberty                         | glufosinate                             | none             | none     | none             | 70 d                     | 70 d  |
| Lorox                           | linuron                                 | none             | 4 m      | 4 m              | 4 m                      | 4 m   |
| Metolachlor/S-metolach          | hlor metolachlor/s-metolachlor          | none             | none     | spring           | none                     | 4.5 m |
| Micro-Tech                      | alachlor                                | none             | none     | none             | ns                       | none  |
| Outlook                         | dimethenamid                            | none             | ns       | ns               | ns                       | 4 m   |
| Poast Plus                      | sethoxydim                              | none             | none     | none             | 30 d                     | none  |
| Prefix                          | s-metolachlor/fomesafen                 | 10 m             | 1 m      | 10 m             | none                     | 4.5 m |
| Prowl H <sub>2</sub> O/Pendimax | pendimethalin                           | none             | none     | ns               | ns                       | 4 m   |
| Python <sup>3</sup>             | flumetsulam                             | none             | 18 m     | 6 m              | 4 m                      | 4 m   |
| Reflex/Flexstar                 | fomesafen                               | 10 m             | none     | 10 m             | none                     | 4 m   |
| Scepter                         | imazaquin                               | 9.5 m⁴           | 18 m     | spring           | 18 m                     | 4 m   |
| Select Max                      | clethodim                               | 30 d             | none     | 30 d             | none                     | 30 d  |
| Sencor                          | metribuzin                              | 4 m              | 8 m      | 8 m              | 18 m                     | 4 m   |
| Sequence                        | glyphosate\s-metolachlor                | none             | none     | spring           | ns                       | 4.5 m |
| Sharpen⁵                        | saflufenacil                            | none             | 3 m      | 15 d             | 5 m                      | none  |
| Solicam⁵                        | norflurazon                             | 16 m             | 12 m     | 16 m             | 24 m                     | 16 m  |
| Spartan                         | sulfentrazone                           | 10 m             | 18 m     | 10 m             | 12 m                     | 4 m   |
| Treflan                         | trifluralin                             | 12 m             | none     | 12 m             | 5 m                      | 12 m  |
| Valor                           | flumioxazin                             | 30 d             | 30 d     | 30 d             | none                     | 30 d  |
| Valor XLT – pH>7                | flumioxazin/chlorimuron                 | 18 m             | 30 m     | 18 m             | 30 m                     | 4 m   |
| Valor XLT – pH≤7                | flumioxazin/chlorimuron                 | 10 m             | 18 m     | 10 m             | 18 m                     | 4 m   |
| Warrant                         | acetochlor                              | spring           | spring   | ns               | ns                       | 4 m   |
| Weedar 64                       | 2,4-D amine                             | none             | 3 m      | none             | 1 m                      | none  |
|                                 | ,                                       |                  |          |                  |                          |       |

<sup>1</sup> Abbreviations: d = days after application; spring = spring following application; fall = fall following application; m = months after application; ns = next season; PRE = preemergence application; and POE = postemergence applications.

<sup>2</sup> This rotation may be recropped to field corn after 9 months if the Canopy rate does not exceed 6 ounces per acre.

<sup>3</sup> The label requires the interval shown plus a successful field bioassay.

<sup>4</sup> Field corn may be planted in the year following a single application unless extreme drought conditions develop (when less than 10 inches of rainfall or irrigation is received within 6 months after the date of application).

<sup>5</sup> Rotational restrictions are rate dependent. Consult the label for more information.

<sup>6</sup> This treatment is only for field-grown Beauregard varieties and only when herbicides are applied at recommended labeled rates without incorporation into soil.

|                                 | 2012 CORN HERBICID           | DE ROTATI        | ON REST           | RICTION          | S                        |       |
|---------------------------------|------------------------------|------------------|-------------------|------------------|--------------------------|-------|
| Trade name                      | Active ingredients           |                  |                   | Rotation interva |                          |       |
|                                 |                              | Cotton           | Rice              | Soybean          | Sweetpotato <sup>9</sup> | Wheat |
| Accent                          | nicosulfuron                 | 10 m             | 10–18 m³          | 15 d             | 10 m <sup>3</sup>        | 4 m   |
| Atrazine <sup>2</sup>           | atrazine                     | ns               | 18 m              | ns <sup>4</sup>  | 24 m <sup>3</sup>        | 12 m  |
| Basagran                        | bentazon                     | none             | none              | none             | none                     | none  |
| Beacon                          | primisulfuron                | 8 m              | 8 m               | 8 m              | 18 m                     | 3 m   |
| Bicep II Magnum <sup>2</sup>    | atrazine/s-metolachlor       | ns               | 15 m              | ns <sup>4</sup>  | 24 m                     | 15 m  |
| Buctril                         | bromoxynil                   | 180 d            | 180 d             | 180 d            | 30 d                     | 30 d  |
| Bullet/Lariat <sup>2</sup>      | alachlor/atrazine            | 24 m             | 24 m              | ns <sup>4</sup>  | 24 m                     | 24 m  |
| Clarity⁵                        | dicamba                      | none             | none              | none             | ns                       | none  |
| Diuron                          | diuron                       |                  |                   |                  |                          |       |
| PRE, banded                     |                              | none             | 4 m               | 4 m              | 4 m                      | 4 m   |
| PRE, broadcast                  |                              | none             | 6 m               | 6 m              | 12 m                     | 6 m   |
| POE                             |                              | none             | 12 m              | 12 m             | 12 m                     | 12 m  |
| Dual II Magnum                  | s-metolachlor                | none             | spring            | none             | ns                       | 4.5 m |
| Equip                           | foramsulfuron/iodosulfuron   | 9 m <sup>7</sup> | 18 m              | 9 m              | 18 m                     | 2 m   |
| Evik                            | ametryn                      | ns               | ns                | ns               | ns                       | fall  |
| Exceed                          | prosulfuron/primisulfuron    | 10 m             | 10 m              | 10 m             | 18 m                     | 3 m   |
| FulTime                         | acetochlor/atrazine          | 24 m             | 24 m              | spring           | 24 m <sup>3</sup>        | 15 m  |
| Glyphosate                      | glyphosate                   | none             | none              | none             | none                     | none  |
| Gramoxone SL                    | paraquat                     | none             | none              | none             | none                     | none  |
| Guardsman Max <sup>2</sup>      | dimethenamid/atrazine        | ns               | 24 m              | ns <sup>4</sup>  | 24 m³                    | 12 m  |
| Harmony Extra                   | thifensulfuron/tribenuron    | 60 d             | 60 d              | 60 d             | 45 d                     | none  |
| Harness                         | acetochlor                   | 24 m             | 24 m              | ns               | ns                       | ns    |
| Harness Xtra <sup>2</sup>       | acetochlor/atrazine          | 24 m             | 24 m              | ns <sup>4</sup>  | 24 m <sup>3</sup>        | ns    |
| Hornet                          | flumetsulam/clopyralid       | 18 m             | 10.5 m            | 10.5 m           | 26 m                     | 4 m   |
| Lasso                           | alachlor                     | none             | none              | none             | none                     | none  |
| Lightning <sup>8</sup>          | imazethapyr/imazapyr         | 18 m⁵            | 40 m <sup>8</sup> | 9 m              | 40 m                     | 4 m   |
| Lorox                           | linuron                      | 4 m              | 4 m               | 4 m              | 4 m                      | 4 m   |
| Marksman <sup>2</sup>           | dicamba/atrazine             | ns               | ns                | ns <sup>4</sup>  | 24 m³                    | 10 m  |
| Option                          | foramsulfuron                | 60 d             | 60 d              | 14 d             | 60 d                     | 60 d  |
| Outlook                         | dimethenamid                 | ns               | ns                | none             | ns                       | 4 m   |
| Permit                          | halosulfuron                 | 24 m             | 24 m              | 10 m             | 24 m                     | 3 m   |
| Prowl H <sub>2</sub> O/Pendimax | pendimethalin                | none             | none              | none             | ns                       | 4 m   |
| Pursuit <sup>8</sup>            | imazethapyr                  | 18 m             | 40 m <sup>8</sup> | none             | 40 m                     | 4 m   |
| Scorpion III <sup>8</sup>       | flumetsulam/clopyralid/2,4-D | 18 m             | 6 m               | 10.5 m           | 26 m                     | 4 m   |
| Surpass                         | acetochlor                   | 24 m             | 24 m              | spring           | ns                       | 4 m   |
| 2,4–D                           | 2,4–D amine                  | 3 m              | none              | none             | ns                       | none  |

<sup>1</sup> Abbreviations: d = days after application; spring = spring following application; fall = fall following application; m = months after application; ns = next season; PRE = preemergence application; and POE = postemergence applications.

<sup>2</sup> If applied after June 10, do not rotate to any crop other than corn or grain sorghum the year following application or else injury may occur.

<sup>3</sup> Unless the pH is greater than 6.5, the interval is 18 months.

<sup>4</sup> Injury may occur to soybeans planted in soils with a calcareous surface layer.

<sup>5</sup> No rotation interval exists if the treated crop was harvested normally.

<sup>6</sup> Cotton may be replanted 9.5 months after application if the soil texture is sandy loam or loamy sand and 16 inches or more irrigation or rainfall occurs after application and before October.

<sup>7</sup> Planting of cotton must wait 18 months when soil pH is greater than 7.5 and when less than 15 inches of annual precipitation has occurred after an application of Equip corn herbicide.

<sup>8</sup> The label requires the interval shown plus a successful field bioassay.

<sup>9</sup> This treatment is only for field-grown Beauregard varieties and only when herbicides are applied at recommended labeled rates without incorporation into soil.

| 2                               | 012 COTTON HERBIC         | IDE ROTA          | TION RE           | STRICTIO          | NS                       |                   |
|---------------------------------|---------------------------|-------------------|-------------------|-------------------|--------------------------|-------------------|
| Trade name                      | Active ingredients        |                   |                   | Rotation interva  |                          |                   |
|                                 |                           | Corn              | Rice              | Soybean           | Sweetpotato <sup>8</sup> | Wheat             |
| Assure II                       | quizalofop                | 120 d             | 120 d             | none              | 120 d                    | 120 d             |
| Cobra                           | lactofen                  | none              | none              | none              | none                     | none              |
| Command                         | clomazone                 | 9 m               | 9 m               | none              | none                     | 12 m <sup>2</sup> |
| Diuron                          | diuron                    |                   |                   |                   |                          |                   |
| band PRE or POE                 |                           | 4 m               | 4 m               | 4 m               | 4 m                      | 4 m               |
| band PRE + POE                  |                           | spring            | 12 m              | spring            | 12 m                     | 12 m              |
| broadcast PRE                   |                           | spring            | 12 m              | spring            | 12 m                     | 12 m              |
| broadcast PRE + band PC         | DE                        | spring            | 12 m              | spring            | 12 m                     | 12 m              |
| broadcast POE                   |                           | ns                | 12 m              | 12 m              | 12 m                     | 12 m              |
| Dual Magnum                     | s-metolachlor             | none              | ns                | none              | none                     | 4.5 m             |
| Envoke <sup>3</sup>             | trifloxysulfuron          | 7 m               | 7 m               | 7 m               | 18 m                     | 3 m               |
| Firstshot SG                    | thifensulfuron/tribenuron | 14 m              | none              | 7 m               | 45 d                     | none              |
| Flumeturon                      | flumeturon                | 8 m               | 9 m               | 9 m               | 12 m                     | 3 m               |
| Fusilade DX                     | fluazifop                 | 60 d              | 60 d              | none              | none                     | 60 d              |
| Glyphosate                      | glyphosate                | none              | none              | none              | none                     | none              |
| Delta Goal                      | oxyfluorfen               | 10 m              | 10 m              | 60 d              | 60 d                     | 10 m              |
| Gramoxone SL                    | paraquat                  | none              | none              | none              | none                     | none              |
| Liberty                         | glufosinate               | none              | none              | none              | 70 d                     | 70                |
| Lorox/Linex                     | linuron                   | none              | 4 m               | none              | 4 m                      | 4 m               |
| MSMA                            | msma                      | none              | none              | none              | na <sup>9</sup>          | none              |
| Poast Plus                      | sethoxydim                | none              | none              | none              | none                     | none              |
| Prefix                          | s-metolachlor/fomesafen   | 10 m              | 10 m              | none              | none                     | 4.5 m             |
| Prowl H <sub>2</sub> O/Pendimax | pendimethalin             | none              | none              | none              | ns                       | 4 m               |
| Prometryn                       | prometryne                | ns                | ns                | ns                | ns                       | ns <sup>4</sup>   |
| Select Max                      | clethodim                 | 6 d               | 30 d              | none              | none                     | 30 d              |
| Sharpen <sup>7</sup>            | salufenacil               | none              | 9 m <sup>7</sup>  | 6 m <sup>7</sup>  | 5 m <sup>7</sup>         | none              |
| Solicam DF <sup>7</sup>         | norflurazon               | 24 m <sup>7</sup> | 24 m <sup>7</sup> | 45 d <sup>7</sup> | 24 m <sup>7</sup>        | 24 m <sup>7</sup> |
| Staple LX <sup>3</sup>          | pyrithiobac               | 10 m⁵             | 9 m               | 10 m              | 12 m                     | 4 m               |
| Treflan                         | trifluralin               | 12 m              | 12 m              | none              | 5 m                      | 12 m <sup>2</sup> |
| Valor                           | flumioxazin               | 30 d6             | 30 d              | none              | none                     | 30 d₀             |
| Warrant                         | acetochlor                | ns                | ns                | none              | ns                       | 4 m               |
|                                 |                           |                   |                   |                   |                          |                   |

<sup>1</sup> Abbreviations: d = days after application; spring = spring following application; fall = fall following application; m = months after application; ns = next season; PRE = preemergence application; and POE = postemergence applications.

<sup>2</sup> Wheat may be planted as a cover crop at any time but cannot be harvested for food or feed if planted less than 9 months after treatment.

<sup>3</sup> The label requires the interval shown plus a successful field bioassay.

<sup>4</sup> Wheat or small-grain crops may be planted as a cover crop the fall following Prometryn application, but these crops may not be harvested for feed or food.

<sup>5</sup> Corn may be planted 10 months after a Staple LX application was made in cotton providing that the total amount of Staple LX from all applications did not exceed 3.8 fluid ounces per acre. No additional soil mixing is required beyond that normally performed for a production system.

- <sup>6</sup> This applies to applications of 2 ounces per acre or less; additionally, 1 inch of rainfall or irrigation must occur between application and planting.
- <sup>7</sup> Rotation restrictions are rate dependent. Consult the label for more information.
- <sup>8</sup> This treatment is only for field-grown Beauregard varieties and only when herbicides are applied at recommended labeled rates without incorporation into soil.

<sup>9</sup> No information on label.



Mention of a trademark or proprietary product does not constitute a guarantee or warranty of the product by the Mississippi Agricultural and Forestry Experiment Station and does not imply its approval to the exclusion of other products that also may be suitable.

Discrimination based upon race, color, religion, sex, national origin, age, disability, or veteran's status is a violation of federal and state law and MSU policy and will not be tolerated. Discrimination based upon sexual orientation or group affiliation is a violation of MSU policy and will not be tolerated.

