

Herbicide Rotation Restrictions

Gared Shaffer | SDSU Extension Weeds Field Specialist

Herbicides can persist and affect future crops. Many factors effect herbicide carry over; amount of moisture, soil PH, previous crop planted, soil texture, soil organic matter level, no-till, tillage, etc. When planning on rotating to another crop always check the product label first to look for rotation restrictions. This is a quick reference guide to common herbicides and their rotation restrictions for selected crops. Refer to label to see if field bioassays should be performed before planting rotation crops, especially for rotation intervals longer than 18 months.

Corn

Corn Herbicides	Site of Action	Corn	Soybeans	Winter Wheat	Spring Wheat	Oats	Alfalfa	Sunflower	Sorghum ¹	Proso Millet
Accuron Flexi	15,27	NR	10 ^a	4	4	18	10 ^a	18	10 ^a	18
Acuron	5,15,27	NR	10 ^b	4	4	18	18	18	10 ^a	18
Anthem Maxx	14,15	NR	NR	4 ^c	4 ^c	11 ^d	10	4	11 ^d	18
Armezon Pro	15,27	NR	9	4	4	4	9	9	9	18
Atrazine (0.38 lb ai)	5	NR	12	12	12	12	12	12	0	12
Atrazine (0.38-0.5 lb ai)	5	NR	12	24	24	24	24	24	0	12
Atrazine (0.5-1.0 lb ai)	5	NR	12	24	24	24	24	24	0	12
Balance Flexx	27	NR	6	4	4	18 ^e	10 ^e	6	6	18 ^e
Bicep Lite II Mag	5, 15	NR	12 ^f	18	24	18	24	24	12	24
Breakfree NXT	15	NR	12	12	12	12	9	12	NR	12
Buctril 4EC	6	NR	1	NR	NR	NR	NCS ^g	1	NR	1
Cadet	14	NR	NR	NCS	NCS	NCS	NCS	NCS	NCS	NCS
Callisto	27	NR	10	4	4	NCS	10	10	NR	NCS
Callisto Xtra	5,27	NR	NCS	NCS	NCS	18	NCS	NCS	NR	18
Cinch	15	NR	NR	4.5	4.5	4.5	4	NR	NR	NCS
Clarity	4	NR	NR	NR	NR	NR	3 ^h	3 ^h	NR	NR
Corvus	2,27	NR	9	4	4	17 ⁱ	17 ⁱ	17 ⁱ	9 ^j	17 ⁱ
Diflexx	4	NR ^t	1 ^l	2 ^k	2 ^k	2 ^k	4 ^k	2 ^k	2 ^k	4 ^k
Dual II Magnum	15	NR	NR	4.5	4.5	4.5	4	NR	NR	NCS
Enlist Duo	4,9	NR ^m	1 ^m	1	1	1	1	1	1	1
Halex GT	9,15,27	NR	10	4.5	4.5	4.5	10	10	NR	18
Harness	15	NR	NCS	4	4	NCS	9	NCS	NR	NCS
Harness Xtra	5,15	NR	NCS	24 ⁿ	24	24	24	24	NCS	24
Impact	27	NR	9	3	3	3	9	9	9	18

Corn Herbicides	Site of Action	Corn	Soybeans	Winter Wheat	Spring Wheat	Oats	Alfalfa	Sunflower	Sorghum ¹	Proso Millet
Instigate	2,27	NR	10	4	9	4 ^o	10	10	10	18
Keystone NXT	5,15	NR	NCS	24 ⁿ	24	24	24	24	NCS	24
Laudis	27	NR	8	4	4	4	10	18	10	18
Liberty	10	NR	NR	2.5	2.5	2.5	6	6	6	6
Lumax EZ	5,15,27	NR	NCS ^p	4.5 ^a	4.5 ^a	18	18	18	NR	18
Metribuzin 75DF	5	NR	4	8	8	18	4	18	18	18
Outlook	15	NR	NR	4	4	4	11	11	NR	11
Prowl H20	3	NR ^{cc}	NR	4 ^q	4 ^q	12 ^r	6 ^s	12 ^r	18	18
Resicore	4,15,27	NR	10.5 ^u	4	4	10.5	10.5	10.5	10.5	10.5
Sharpen	14	NR	1 ^v to 6 ^v	NR ^w	NR ^w	NR ^w	4 ^v to 9 ^v	4 ^v to 9 ^v	NR ^w	NR ^w
Solstice	14, 27	NR	10	4	4	NR	10	10	NR	18
Status	4, 19	NR ^{dd}	4 ^x	4 ^x	4 ^x	4 ^x	4 ^x	4	4 ^x	4
Stinger	10	NR	10.5	NR	NR	NR	10.5	10.5	10.5	18
Surestart II	2,4,15	NR	NCS	4	4	NCS	NCS	18	12	26
Valor SX	14	.25 to 9 ^{ee}	NR ^y	1 to 9 ^z	1 to 9 ^z	8 to 18 ^{aa}	8 to 18 ^{aa}	1 to 9 ^z	1 to 9 ^z	8 to 18 ^{bb}
Verdict	14, 15	NR	NR	4	NCS	NCS	NCS	9	NR	NCS
WideMatch	10	NR	12	NR	NR	NR	12	12	12	18
Yukon	2,4	NR ^{ff}	9	2	2	2	9	18	2	2
Zidua	2,14,15	NR	NR ^{gg}	1 ^{hh}	1 ^{hh}	11 ⁱⁱ	10	4	6 ^{jj}	11 ^{kk}

Corn Herbicide Reference Guide:

Reference	Definition
1	Use seed treated with chloroacetamide products
NCS	Next Cropping Season, May rotate to specific crop not growing season
NL	Not labeled, herbicide label does not mention crop
NR	No Restriction for rotating specific crop, unless specified
a	If applied before June 1, if applied after June 1 or dry summer then rotation interval is 18 months
b	15 months if more than 2 lb atrazine applied or dry summer
c	If <4.875 oz/ac applied, 6 months if > 5.7 oz/ac applied
d	If < 4.875 oz/ac applied, if > 5.7 oz/ac applied then 18 months
e	If receive 15 inches of precipitation/year
f	If applied 2 lb atrazine or more, then 18 month interval
g	May be applied on young seedling only
h	At 24 oz/ac rate
i	If received 30 inches of precipitation in 17 month period after application
j	If applied between 2.25 to 3.3 fl oz/ac, if applied above 3.3 fl oz/ac then 17 month interval
k	If applied 24 fl oz/ac or less, check label for applications above 24 fl oz/ac
l	If applied 12 oz/ac, if applied >13 fl oz/ac then 2 months
m	No restriction if Enlist® trait soybeans are planted or apply before non-Enlist® corn emerges
n	18 month interval if the low rate of atrazine applied
o	9 month interval for spring planted oats
p	Unless over 2 lb atrazine/ac applied
q	If receive >12 inches precipitation, 12 month interval for spring seeded and 14 month for fall seeded <12 inches precipitation
r	If receive >12 inches of precipitation, 18 spring seeded and 20 fall seeded with < 12 inches of precipitation
s	If receive >12 inchs of precipitation
t	Make sure seed does not contact herbicide, 24 to 64 fl oz 4 month interval
u	18 month interval if applied 2 lb atrazine or more
v	Check label before rotating, Up to 3 oz/ac .5 months, 4 oz/ac 4 months, >6 oz/ac 9 months
w	Unless applied over 5 oz/ac then longer rotation required, refer to product label
x	1 month rotation if receive 1 inch of precipitation after application before next crop
y	Below 4 oz/ac, 4 oz/ac requires 4m and 6 oz/ac or greater 9 month interval
z	2 oz/ac 1 month, 3 oz/ac 2 months, 4 oz/ac 4 months, 4 to 9 months for 6 to 12 oz/ac
aa	2 oz/ac 8 months, 3 oz/ac 10 months, 4 oz/ac 12 months, >4oz/ac 18 months
bb	2 oz/ac 8 months, 3 oz/ac 12 months, 4 oz/ac 12 months, 6 oz/ac 18 months
cc	>4 pt/ac next cropping season
dd	1 month if crop loss/replant with 1 inch of precipitation after application
ee	2 oz/ac 7 days, 3 oz/ac 14 days, 4 oz/ac 4 months, >6 oz/ac 9 months
ff	No restriction for IR/IMR corn but 1 month for IT corn
gg	4 oz/ac 4 months
hh	3 oz/ac 4 months, 4 oz/ac 6 months
ii	18 oz 18 months
jj	3 oz/ac 10 months, 4 oz/ac 12 months
kk	4 oz/ac 18 months

Soybean

Herbicides	Site of Action	Soybeans	Field Corn	Winter Wheat	Spring Wheat	Oats	Alfalfa	Sunflower	Sorghum ¹	Proso Millet
Afforia	2,14	NR ^a	0.5	1 ^b	1 ^b	8 ^c	8 ^c	1.5 ^d	4 ^e	4 ^e
Anthem Maxx	14,15	NR	NR	4 ^f	4 ^f	11 ^g	10	4	11 ^g	18
Assure II	1	NR	3	3	3	3	3	NR	3	3
Authority First	2,14	NR	10	4	4	12	12	30	12	30
Authority MTZ	5,14	NR	4 ^h	4	4	18	12	12	18 ⁱ	18
Avalanche Ultra	14	NR	3.5	1.5	1.5	1.5	3.5	3.5	3.5	3.5
Basis blend	2	10 ^j	NR	3	9	3	10	10	10	18
Boundary 6.5 EC	5,15	NR	4	4.5	8	12	4.5	12	12	12
Broadaxe XC	14,15	NR	10	4.5	4.5	12	12 ^k	NR	10	12
Cinch	15	NR	NR	4.5	4.5	4.5	4	NR	NR	12
Classic	2	NR	10	4	4	4	10	18	12	18
Metribuzin 75DF	5	NR	NR	4 ^l	4 ^l	18	4	18	18	18
Duel Magnum	15	NR	NR	NCS	NCS	4.5	4	NR	NR	NCS
Enlite	2,14	NR	9	3	3	10	10	9	15	30
Extreme	2	NR	8.5 ^m	4	4	18	NR	18	18	40
Fierce	14,15	NR	.25 ⁿ	1 ^o	1 ^o	11 ^p	10	4	18	18
Flexstar GT 3.5	9,14	NR	10	4	4	18	18	18	18	18
Harmony Extra SG	2	0.25	0.5	NR	NR	1.5	1.5	1.5	1.5	1.5
Liberty 280 SL	10	NR	NR	2.5	2.5	2.5	6	6	6	6
Marvel	14	NR	10	4	4	18	18	18	18	18
Optill	2,14	NR	8.5 ^q	4 ^r	4 ^r	18	4	18	18	40
Outlook	15	NR	NR	4	NR	NR	NR	NR	NR	NR
Valor SX	14	NR ^s	NR ^t	1 to 9 ^u	1 to 9 ^u	8 to 18 ^v	8 to 18 ^v	1 to 9 ^u	1 to 9 ^u	8 to 18 ^w
Prefix	14,15	NR	10	4.5	4.5	4.5	18	12	18	18
Prowl H2O	3	NR	NR ^x	4 ^y	4 ^y	12 ^z	6 ^{aa}	12 ^z	18	18
Select Max	1	NR	NR	1	1	1	NR	NR	1	1
Surveil	2,14	NR	9	3	3	9	10	30	9	30
Verdict	14,15	NR	NR	4	NCS	NCS	NCS	9	NR	NCS
Warrant	15	NR	NR	4	4	NCS	NCS	NCS	NR	NCS
Zidua	2,14,15	NR ^{bb}	NR	1 ^{cc}	1 ^{cc}	11 ^{dd}	10	4	6 ^{jj}	11 ^{ff}

Soybean Herbicide Reference Guide:

Reference	Definition
1	Use seed treated with chloroacetamide products
NCS	Next Cropping Season, May rotate to specific crop not growing season
NL	Not labeled, herbicide label does not mention crop
NR	No Restriction for rotating specific crop, unless specified
a	With Bolt® technology, >2.5 oz/ac 7 days on non-Bolt® beans
b	Applied 2.5 oz/ac or more 2 month interval required
c	Applied 2.5 oz/ac or more 10 month interval required
d	Applied 2.5 oz/ac or more 2 month interval required
e	Applied 2.5 oz/ac or more 6 month interval required
f	Applied 5.7 oz/ac or more 6 month interval required
g	Applied 5.7 oz/ac or more 18 month interval required
h	Applied 14 oz/ac or more 10 month interval required
i	Can be planted at 12 months but may have crop damage
j	10 months for conventional beans/RR® beans, No restriction for Bolt® beans, 1 month for STS® beans
k	Apply no more than 1.9 lb s-metolachlor
l	Following lentils, soybeans, peas 8 months
m	Clearfield corn no restriction
n	Applied 3 oz/ac or more 1 month interval required
o	Applied 3 oz/ac or more 2 month interval required
p	Applied 3 oz/ac or more 12 month interval required
q	Clearfield® corn has no restriction
r	Clearfield® wheat requires 3 months
s	2 oz/ac 7 days, 3 oz/ac 14 days, 4 oz/ac 4 months, >6 oz/ac 9 months
t	Check label before rotating, Up to 3 oz/ac .5 months, 4 oz/ac 4 months, >6 oz/ac 9 months
u	2 oz/ac 1 month, 3 oz/ac 2 months, 4 oz/ac 4 months, 4 to 9 months for 6 to 12 oz/ac
v	2 oz/ac 8 months, 3 oz/ac 10 months, 4 oz/ac 12 months, >4oz/ac 18 months
w	2 oz/ac 8 months, 3 oz/ac 12 months, 4 oz/ac 12 months, 6 oz/ac 18 months
x	>4 pt/ac next cropping season
y	If receive >12 inches of precipitation, 12 month interval for spring seeded and 14 month for fall seeded <12 inches of precipitation
z	If receive >12 inches of precipitation, 18 spring seeded and 20 fall seeded with < 12 inches of precipitation
aa	If receive >12 inches of precipitation
bb	4 oz/ac 4 months
cc	3 oz/ac 4months, 4 oz/ac 6 months
dd	18 oz 18 months
ee	3 oz/ac 10 months, 4 oz/ac 12 months
ff	4 oz/ac 18 months

Wheat, Millet and Oats

Herbicides	Site of Action	Winter Wheat	Spring Wheat	Soybeans	Field Corn	Oats	Alfalfa	Sunflower	Sorghum ¹	Proso Millet
Aim EC	14	1	1	1	1	1	12	1	1	1
Axial Star	1,4	NR	NR	4	4	4	4	4	4	4
Callisto	27	4	4	10	NR	NR	10	10	NR	NCS
Carnivore	4,6	3	3	4	4	3	4	4	4	4
Huskie	6, 27	0.25	0.25	4	4	1	NL ^a	9	NR	4
Huskie Complete	2,6,27	3	3	9	9	9	NL ^b	9	9	NL ^c
Maverick	2	NR	NR	22 ^d	22 ^e	NL ^c	24	22 ^f	NL ^c	3 ^g
Raze	2,4	NR	NR	9 ^h	11	NL ^c	NL ^c	9	NL ^c	NL ^c
Starane Flex	4,2	NR	NR	9	3	NR	9	9	3	12
Starane NXT	4,6	NR	NR	4	4	NR	4	4	4	4
Stinger	4	NR	NR	10.5 ⁱ	NR	NR	10.5	10.5 ⁱ	10.5	18
Triumph 22k	4	NR	NR	36 ^j	36 ^j	NR	36 ^j	36 ^j	36 ^j	36 ^j
Wolverine	1,6,27	1	1	4	9	1	NCS ^j	9	4	4
Yukon	4, 2	2	2	9	1	2	9	18	2	2

Wheat, Millet and Oats Herbicide Reference Guide:

Reference	Definition
1	Use seed treated with chloroacetamide products
NCS	Next Cropping Season, May rotate to specific crop not growing season
NL	Not labeled, herbicide label does not mention crop
NR	No Restriction for rotating specific crop, unless specified
a	Not labeled for no-till alfalfa, for tillage 4 month interval restriction
b	Not labeled for no-till alfalfa, for tillage 9 month interval restriction
c	Not labeled, perform bioassay before planting rotation crop
d	If receive 24 inches of precipitation/year, 3 month restriction for STS [®] soybeans with 18 inches of precipitation with 7.5 ph soil
e	If receive 24 inches of precipitation <7.5 ph, IR corn 3 month with precipitation amount of 18 inches and <7.5 ph soil
f	With 35 inches of precipitation/year with <6.5 ph soil
g	With 18 inches of precipitation and <7.5 ph soil
h	6 months with STS [®] soybeans
i	18 months if <2% om and less than 15 inches of rain
j	Preform bioassay before planting crop

Grain Sorghum

Herbicides	Site of Action	Sorghum ¹	Soybeans	Field Corn	Winter Wheat	Spring Wheat	Oats	Alfalfa	Sunflower	Proso Millet
Lumax Ez	5,15,27	NR	NCS ^a	NR	4.5 ^b	4.5 ^b	18	18	18	18
Outlook	15	NR	NR	NR	4	NR	NR	NR	NR	NR
Sharpen	14	NR ^c	1 ^d to 6 ^d	NR	NR ^c	NR ^c	NR ^c	4 ^d to 9 ^d	4 ^d to 9 ^d	NR ^c
Verdict	14,15	NR	NR	NR	4	NCS	NCS	NCS	9	NCS
Atrazine (0.38 lb ai)	5	NR	12	NR	12	12	12	12	12	12
Atrazine (0.38-0.5 lb ai)	5	NR	12	NR	24	24	24	24	24	12
Atrazine (0.5-1.0 lb ai)	5	NR	12	NR	24	24	24	24	24	12
Zemax	15, 27	NR	NCS	NR	4.5	4.5	4.5	18	18	18
Buctril 4 EC	6	NR	1	1	NR	NR	NR	NR ^e	1	1
Clarity	4	NR	NR	NR	NR	NR	NR	3 ^f	3 ^f	NR
Huskie	6, 27	NR	0.25	0.25	4	4	1	NL ^g	9	4
Starane NXT	4, 6	4	NR	NR	4	4	NR	4	4	4
Starane Ultra	4	NR	NL	NL	NR	NR	NR	NL	NL	NL
Yukon	2,4	2	9	NR ^h	2	2	2	9	18	2
Duel II Magnum	15	NR	NR	NR	4.5	4.5	4.5	4	NR	NCS

Grain Sorghum Herbicide Reference Guide:

Reference	Definition
1	Use seed treated with chloroacetamide products
NCS	Next Cropping Season, May rotate to specific crop not growing season
NL	Not labeled, herbicide label does not mention crop
NR	No Restriction for rotating specific crop, unless specified
a	Unless applied over 2 lb atrazine/year
b	If applied before June 1
c	Unless applied 5 fl oz/ac or more, then check label for restrictions for crop rotation
d	Check Label
e	Only for seedling, Check label
f	At 24 oz/ac rate
g	If tillage is performed then 4 month rotation restriction
h	No restriction for IR/IMR corn but 1 month restriction for IT corn

SDSU Extension is an equal opportunity provider and employer in accordance with the nondiscrimination policies of South Dakota State University, the South Dakota Board of Regents and the United States Department of Agriculture.