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Corn Herbicide Rotation Restrictions to Wheat in Oklahoma

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Weed management stands as a cornerstone of successful crop production and is crucial for sustaining agricultural productivity. Herbicides serve as key tools in this regard, aiding producers in controlling weed populations and safeguarding crop health. However, transitioning between crops within a rotation cycle requires careful consideration of herbicide residual effects to prevent potential crop injury and ensure the continued success of the rotation system.

Corn and wheat hold significant importance in Oklahoma crop production as staple crops, each demanding specific herbicide management strategies. As producers transition from corn to wheat, they encounter the challenge of navigating rotational restrictions linked with herbicide applications. These restrictions play a pivotal role in mitigating the risk of herbicide carryover and upholding the life and productivity of subsequent wheat crops.

This publication aims to dig into the importance of herbicide rotational restrictions when transitioning from corn to wheat in Oklahoma. By compiling common herbicides utilized in corn production and their residual impacts on wheat crops, producers can make informed decisions to protect their crops from potential herbicide injury and optimize yields.

Rotational restrictions bear critical significance for various reasons. They not only shield cropping rotations, such as wheat, from the adverse effects of herbicide residues, but they also help in deterring the development of herbicide resistant weeds, preserving the efficacy of herbicides for future use.

The tables below provide a concise overview of frequently used herbicides in Oklahoma corn production, along with their corresponding rotational restrictions for wheat. This allows for simplified access to critical information regarding herbicides for corn. For specific inquiries or detailed information regarding individual chemical compositions, it is advised to refer to the respective product label.

Table 1. Pre-Plant (Burndown).

Herbicide	Component Herbicides	Mode of Action	Wheat Rotational Restrictions	Notes
2, 4-D	2, 4-D	Growth Regulator	1 Month	
Roundup Power Max	Roundup Power Max	Amino Acid Synthesis Inhibitor	0 Months	
Gramoxone Max	Paraquat	PS I Inhibitor	0 Months	Rotational crops may be planted immediately after the last application

Table 2. Pre-Emergence.

Herbicide	Component Herbicides	Mode of Action	Wheat Rotational Restrictions	Notes
Aatrex 4L	Atrazine	PS II Inhibitor	10-18 Months	If planted the following year, risk remains possible for crop injury
Axiom DF	Flufenacet, Metribuzin	Shoot Growth Inhibitor, Photosynthesis Inhibitor (Photosystem II)	4 Months	Not for use in popcorn or sweetcorn
Balance Flexx	Isoxaflutole	Pigment Synthesis Inhibitor	4 Months	No minimum precipitation requirements
Bicep II Magnum, Cinch ATZ	Metolachlor, Atrazine	Photosynthesis Inhibitor (Photosystem II), Shoot Growth Inhibitor	24 Months	
Callisto	Mesotrione	Pigment Synthesis Inhibitor	4 Months	
Dual II Magnum, Cinch	Metolachlor	Shoot Growth Inhibitor	4.5 Months	
Field Master	Acetochlor, Atrazine, Glyphosate	Shoot Growth Inhibitor, Photosynthesis Inhibitor (Photosystem II), Aromatic Amino Acid Synthesis Inhibitor		If planted the following year, risk remains possible for crop injury
Guardsman Max	Dimethenamid-P, Atrazine	Shoot Growth Inhibitor, Photosynthesis Inhibitor (Photosystem II)		May be planted after two complete growing seasons.
Harness/Surpass/TopNotch/Warrant	Acetochlor	Shoot Growth Inhibitor	4 Months	
Harness Xtra/Fultime	Acetochlor, Atrazine	Shoot Growth Inhibitor, Photosynthesis Inhibitor (Photosystem II)	15 Months	Do not graze or harvest rotational cover crop for food or animal feed for 18 months following the last application of Harness Xtra
Hornet WDG	Flumetsulam, Clopyralid	ALS Inhibitor, Growth Regulator	4 Months	
Lumax	Atrazine, S-Metolachlor, Mesotrione	Photosynthesis Inhibitor (Photosystem II), Shoot Growth Inhibitor	4.5 Months	
Outlook	Dimethenamid-P	Shoot Growth Inhibitor	4-6 Months	4 Months at <16 fl oz/acre 6 Months at 16-21 fl oz/acre
Princep	Simazine	Photosynthesis Inhibitor (Photosystem II)	24 months	See label for specific crop rotation restrictions
Prowl H2O	Pendimethalin	Root Growth Inhibitor	12-14 Months	Dependent on application rate, rainfall and application timing (spring vs. fall)
Pursuit	Imazethapyr	ALS Inhibitor	4 Months	
Python	Flumetsulam	ALS Inhibitor	4 Months	

Table 3. Post-Emergence.

Herbicide	Component Herbicides	Mode of Action	Wheat Rotational Restrictions	Notes
2,4-D	2,4-D	Growth Regulator	1 Month	
Accent	Nicosulfuron	ALS Inhibitor	4 Months	
Aim	Carfentrazone-Ethyl	PPO Inhibitor	0 Months	
Banvel, Clarity, Distinct, Status	Dicamba, diglycolamine salt	Growth Regulator		See label for specific crop rotation restrictions
Basagran	Bentazon	Photosynthesis Inhibitor (Photosystem II)		See label for specific crop rotation restrictions
Basis	Rimsulfuron, Thifensulfuron Methyl	ALS Inhibitor	3-4 Months	3 Months if applied at 0.33 0.5 fl oz - 4 Months if applied at 0.5 - 1+ fl oz
Basis Blend	Rimsulfuron, Thifensulfuron Methyl	ALS Inhibitor	3 Months	
Beacon	Primisulfuron-Methyl	ALS Inhibitor	3 Months	
Buctril	Bromoxynil	Photosynthesis Inhibitor (Photosystem II)	1 Month	
Cadet	Fluthiacet-Methyl	PPO Inhibitor	0 Months	
Callisto	Mesotrione	Pigment Synthesis Inhibitor	4 Months	
Celebrity Plus	Nicosulfuron, Diflufenzopyr, Dicamba	ALS Inhibitor, Auxin Transport Inhibitor, Growth Regulator	4-8 Months	4 Months for Winter Wheat and 8 Months for Spring Wheat
Expert	Atrazine, S-Metolachlor, Glyphosate	Photosynthesis Inhibitor (Photosystem II), Shoot Growth Inhibitor, Aromatic Amino Acid Synthesis Inhibitor	24 Months	
Guardsman Max	Dimethenamid-P, Atrazine	Shoot Growth Inhibitor, Photosynthesis Inhibitor (Photosystem II)	24 Months	May be planted after two complete growing seasons
Landmaster BW	Glyphosate, 2,4-D	Aromatic Amino Acid Synthesis Inhibitor, Growth Regulator	0 Months	
Liberty	Glufosinate	Glutamine Synthesis Inhibitor	2.5 Months	
Lumax	Atrazine, S-Metolachlor, Mesotrione	Photosynthesis Inhibitor (Photosystem II), Shoot Growth Inhibitor	4.5 Months	
Marksman	Atrazine, Dicamba	Photosynthesis Inhibitor (Photosystem II), Growth Regulator	10 Months	If planted the following year, there is a possibility for crop injury
Northstar	Primisulfuron, Dicamba	ALS Inhibitor, Growth Regulator	3 Months	
Permit	Halosulfuron	ALS Inhibitor	2 Months	
Resource	Flumiclorac	PPO Inhibitor	4 Months	
Roundup Power Max	Glyphosate	Aromatic Amino Acid Inhibitor	0 Months	
Spirit	Prosulfuron, Primisulfuron	ALS Inhibitor	3 Months	Based on soil pH below 7.8 If soil pH is greater than 7.8 see label
Steadfast	Nicosulfuron, Rimsulfuron	ALS Inhibitor	4 Months	
Stinger	Clopyralid	Growth Regulator	0 Months	



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