



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

May 16, 2016

Craig Kleppe, Ph.D.
Production Registration Manager
BASF Corporation
26 Davis Drive, PO Box 13528
Research Triangle Park, NC 27709

Subject: PRIA Label and CSF Amendment – Converting product from co-pack configuration to own formulation
Product Name: Zidua Pro Powered By Kixor Herbicide
EPA Registration Number: 7969-365
Application Date: 03/15/16
Decision Number: 515110

Dear Dr. Kleppe:

The amended label and CSF referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, are acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Please note that the record for this product currently contains the following CSF:

- Basic CSF dated 03/28/2016

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false

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or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Lisa Pahel by phone at (703) 347-0459, or via email at pahel.lisa@epa.gov.

Sincerely,

A handwritten signature in cursive script that reads "Heather Garvie".

Heather Garvie, Product Manager 24
Fungicide and Herbicide
Registration Division (7505P)
Office of Pesticide Programs

Enclosure: Product Chemistry review dated 04/25/16, DP#432848; Acute Toxicity review dated 05/10/16, DP#432849



We create chemistry

Group **2** | **14** | **15** | Herbicide

A C C E P T E D

05/16/2016

Under the Federal Insecticide, Fungicide
and Rodenticide Act as amended, for the
pesticide registered under
EPA Reg. No. 7969-365



Zidua[®] PRO

Powered by Kixor[®] Herbicide

Premium Residual Option herbicide for use in soybean

Active Ingredients:

saflufenacil: N'-[2-chloro-4-fluoro-5-(3-methyl-2,6-dioxo-4-(trifluoromethyl)-3,6-dihydro-1(2H)-pyrimidinyl)benzoyl]-N-isopropyl-N-methylsulfamide. 4.81%

imazethapyr: (±)-2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-ethyl-3-pyridinecarboxylic acid 13.45%

pyroxasulfone: 3-[[[5-(difluoromethoxy)-1-methyl-3-(trifluoromethyl)-1H-pyrazol-4-yl]methyl]sulfonyl]-4,5-dihydro-5,5-dimethylisoxazole 23.06%

Other Ingredients: 58.68%

Total: 100.00%

Contains 2.28 lbs of pyroxasulfone, 1.33 lbs imazethapyr, and 0.48 lbs saflufenacil per gallon formulated as a water-based suspension concentrate

EPA Reg. No. 7969-365

EPA Est. No.

KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See inside for complete **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

Net Contents:

BASF Corporation
26 Davis Drive, Research Triangle Park, NC 27709

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • DO NOT induce vomiting unless told to do so by a poison control center or doctor. • DO NOT give anything to an unconscious person. • Have person sip water if able to swallow.
If on skin	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes; then continue rinsing. • Call a poison control center for treatment advice.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth to mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information at 1-800-832-HELP (4357).	

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION. Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks
- Protective eyewear (face shield, goggles, or safety glasses)

For aerial application, mixers and loaders must also wear a PF5 respirator.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions exist for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Remove and wash contaminated clothing before reuse. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them.

Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for **applicators and other handlers** and have such PPE immediately for use in an emergency, such as a spill or equipment breakdown.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Environmental Hazards

For terrestrial uses, **DO NOT** apply directly to water, areas where surface water is present, or intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

DO NOT discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. **DO NOT** discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

Groundwater Advisory. This product has properties and characteristics associated with chemicals detected in groundwater. These chemicals may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow.

Surface Water Advisory. DO NOT apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. **DO NOT** contaminate water when disposing of equipment washwater or rinsate. This product may impact surface water due to runoff of rainwater. This is especially true for poorly draining soils and soils with shallow groundwater. This product is classified as having high potential for reaching surface water via runoff for several weeks after application. A level, well-maintained buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of these chemicals and pyroxasulfone's degradation product, [5-(difluoromethoxy)-1-methyl-3-(trifluoromethyl)-1H-pyrazol-4-yl]methanesulfonic acid (M1), from runoff water and sediment. Runoff of this product will be reduced by avoiding application when rainfall is forecast to occur within 48 hours.

Proper Handling Instructions. This product may not be mixed or loaded within 50 feet of wells (including abandoned wells and drainage wells), sinkholes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas.

Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad must be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or washwater, and rainwater that may fall on the pad.

Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above specific minimum containment capacity **DOES NOT** apply to vehicles when delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

This product must be used in a manner which will prevent back-siphoning in wells, spills, or improper disposal of excess pesticide spray mixture.

Point-source Contamination. To prevent point-source contamination, **DO NOT** mix or load this or any other pesticide product within 50 feet of wells (including abandoned wells and drainage wells), sinkholes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or dike mixing/loading areas as described below.

Mixing, loading, rinsing, or washing operations performed within 50 feet of a well are allowed only when conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be on or move across the pad. The pad must be self-contained to prevent surface water flow over or from the pad. The pad capacity must be maintained at 110% that of the largest pesticide container or application equipment used on the pad and have sufficient capacity to contain all product spills, equipment or container leaks, equipment washwater, and rainwater that may fall on the pad. The containment capacity does not apply to vehicles delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

Care must be taken when using this product to prevent:

- Back-siphoning into wells
- Spills
- Improper disposal of excess pesticide, spray mixes, or rinsates

Check valves or anti-siphoning devices must be used on all mixing equipment.

Physical or Chemical Hazards

DO NOT mix or allow contact with oxidizing agents. Hazardous chemical reaction may occur.

Endangered Species Protection Requirements

This product may have effects on federally listed threatened or endangered plant species or their critical habitat. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin, and to obtain that Bulletin, consult <http://www.epa.gov/espp/>, or call 1-800-447-3813 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will generally be available from the above sources 6 months prior to their effective dates.

Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling. This labeling must be in the possession of the user at time of herbicide application.

Read the entire label. Use strictly in accordance with precautionary statements and directions and with applicable state and federal regulations.

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Observe all precautions and limitations in this label and the labels of products used in combination with **Zidua® PRO herbicide**. The use of **Zidua PRO** not consistent with this label can result in injury to crops, animals or persons, poor weed control, and/or illegal residues. Keep containers closed to avoid spills and contamination.

Unless otherwise directed in supplemental labeling, all applicable directions, restrictions, precautions and **Conditions of Sale and Warranty** are to be followed.

BASF Corporation does not recommend or authorize the use of this product in manufacturing, processing or preparing custom blends with other products for application in crops.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **12 hours**.

EXCEPTION: If the product is soil injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride ≥ 14 mils, or viton ≥ 14 mils
- Shoes plus socks
- Protective eyewear

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage

DO NOT use or store near heat or open flame. Store in original container in a well-ventilated area separately from fertilizer, feed, or foodstuffs and away from other pesticides. Avoid cross-contamination with other pesticides. Groundwater contamination may be reduced by diking and flooring of permanent liquid bulk storage sites with an impermeable material.

Pesticide Disposal

Wastes resulting from this product must be disposed of on-site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Handling

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Triple rinse containers too large to shake (capacity > 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

(continued)

STORAGE AND DISPOSAL *(continued)*

Container Handling *(continued)*

Pressure rinse as follows: Empty the remaining contents of all containers into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold containers upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the containers and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable Container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

Triple rinse as follows: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

When this container is empty, replace the cap and seal all openings that have been opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with a pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and closure devices. Check for leaks after refilling and before transport. **DO NOT** transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or to a designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

Product Information

Zidua® PRO herbicide provides both contact burndown and residual preemergence control of annual grass weeds and annual broadleaf weeds (including biotypes resistant to ACCase inhibitors, ALS inhibitors, triazine herbicides, and glyphosate) (refer to **Table 1** for lists of weeds controlled) in soybean. Refer to **Crop-specific Information** section for instructions on herbicide tank mixes.

Make burndown application of **Zidua PRO** when weeds are small and actively growing. An adjuvant is required with **Zidua PRO** for optimum burndown activity (refer to **Additives** section for details). Burndown activity may be slowed or reduced under cloudy and/or foggy or cooler weather conditions or when weeds are growing under drought or other stress conditions. When targeting dense weed populations and/or larger broadleaf weeds, use higher spray volumes. Angling nozzles forward (to 45 degrees) may improve penetration of denser weed canopies.

Periods of dry weather following application of **Zidua PRO** may reduce herbicidal effectiveness. Residual preemergence applications of **Zidua PRO** must be activated by at least 1/2 inch of rainfall or sprinkler irrigation prior to weed seedling emergence. When **Zidua PRO** is not activated, a labeled postemergence herbicide or cultivation may be needed to control weed escapes.

In Case of Emergency

In case of large-scale spill of this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

Steps to take if material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

Table 1. Weeds Controlled by Zidua® PRO herbicide

Common Name	Scientific Name	Level of Control		Maximum Height or Diameter (inches)
		Residual Application	Burndown Application	
C = Control S = Suppression				
Broadleaf Weeds				
Alligatorweed	<i>Alternanthera philoxeroides</i>	—	C	4
Amaranth, Palmer ¹	<i>Amaranthus palmeri</i>	C	C	6
Amaranth, Powell	<i>Amaranthus powellii</i>	C	C	6
Anoda, spurred	<i>Anoda cristata</i>	C	C	2
Artichoke, Jerusalem	<i>Helianthus tuberosus</i>	—	C	8
Bedstraw, catchweed	<i>Galium aparine</i>	—	C	3
Beets, wild	<i>Beta vulgaris</i>	S	C	5
Beggarticks, hairy	<i>Bidens pilosa</i>	—	C	6
Beggarweed, Florida	<i>Desmodium tortuosum</i>	—	C	6
Bindweed, field	<i>Convolvulus arvensis</i>	—	S ²	6
Buckwheat, wild	<i>Polygonum convolvulus</i>	C	C	3
Buffalobur	<i>Solanum rostratum</i>	S	S	3
Canola, volunteer (rapeseed)	<i>Brassica</i> spp.	C	C	6
Carpetweed	<i>Mollugo verticillata</i>	C	C	6
Chickweed, common	<i>Stellaria media</i>	S	C	3
Chickweed, mouse-ear	<i>Cerastium vulgatum</i>	—	C	3
Cocklebur, common	<i>Xanthium strumarium</i>	S	C	8
Cowcockle	<i>Vaccaria pyramidata</i>	—	C	4
Cress, hoary	<i>Cardaria draba</i>	—	S	2
Dandelion	<i>Taraxacum officinale</i>	—	S ²	6
Eveningprimrose, cutleaf	<i>Oenothera laciniata</i>	—	C	4
Falseflax, smallseed	<i>Camelina microcarpa</i>	—	C	4
Filaree, redstem	<i>Erodium cicutarium</i>	—	S	3
Filaree, whitestem	<i>Erodium moschatum</i>	—	S	3
Fleabane, hairy	<i>Conyza bonariensis</i>	S	C	6
Fleabane, rough	<i>Erigeron asper</i>	S	C	3
Flixweed	<i>Descurainia sophia</i>	—	C	6
Galinsoga	<i>Galinsoga parviflora</i>	C	—	—
Groundcherry, cutleaf	<i>Physalis angulata</i>	—	C	6
Groundsel, common	<i>Senecio vulgaris</i>	S	C	4
Henbit	<i>Lamium amplexicaule</i>	S	S	3
Horseweed (marestail)	<i>Conyza canadensis</i>	S	C	6
Jimsonweed	<i>Datura stramonium</i>	S	C	3
Knotweed, prostrate	<i>Polygonum aviculare</i>	—	C	3

(continued)

Table 1. Weeds Controlled by Zidua® PRO herbicide (continued)

Common Name	Scientific Name	Level of Control		Maximum Height or Diameter (inches)
		Residual Application	Burndown Application	Burndown Application
Broadleaf Weeds (continued)				
Kochia ¹	<i>Kochia scoparia</i>	C	C	1 to 3 Suppression of button/puffball stage at < 1-inch tall
Ladysthumb	<i>Polygonum persicaria</i>	C	C	6
Lambsquarters, common	<i>Chenopodium album</i>	C	C	6
Lambsquarters, narrowleaf	<i>Chenopodium pratericola</i>	S	C	6
Lettuce, miner's	<i>Claytonia perfoliata</i>	—	C	3
Lettuce, prickly	<i>Lactuca serriola</i>	—	C	6
Mallow, common	<i>Malva neglecta</i>	—	C	6
Mallow, little (cheeseweed)	<i>Malva parviflora</i>	—	C	6
Mallow, Venice	<i>Hibiscus trionum</i>	S	C	6
Marestail (horseweed)	<i>Conyza canadensis</i>	S	C	6
Marshelder	<i>Iva xanthifolia</i>	C	C	4
Milkweed, common	<i>Asclepias syriaca</i>	—	C	3
Morningglory, entireleaf	<i>Ipomoea hederacea</i> var. <i>integriuscula</i>	S	C	6
Morningglory, ivyleaf	<i>Ipomoea hederacea</i>	S	C	6
Morningglory, palmleaf	<i>Ipomoea wrightii</i>	S	C	6
Morningglory, pitted	<i>Ipomoea lacunosa</i>	S	C	6
Morningglory, smallflower	<i>Jacquemontia tamnifolia</i>	C	C	3
Morningglory, tall	<i>Ipomoea purpurea</i>	S	C	6
Mustard, black	<i>Brassica nigra</i>	C	C	6
Mustard, tumble	<i>Sisymbrium altissimum</i>	—	C	6
Mustard, wild	<i>Sinapis arvensis</i>	C	C	6
Nettle, burning	<i>Urtica urens</i>	—	C	4
Nightshade, black	<i>Solanum nigrum</i>	C	C	6
Nightshade, cutleaf	<i>Solanum triflorum</i>	S	C	6
Nightshade, Eastern black	<i>Solanum ptycanthum</i>	C	C	6
Nightshade, hairy	<i>Solanum saccharoides</i>	C	C	6
Pennycress, field	<i>Thlaspi arvense</i>	—	C	6
Pepperweed, field	<i>Lepidium campestre</i>	—	C	3
Pepperweed, Virginia	<i>Lepidium virginicum</i>	—	C	3
Pigweed, prostrate	<i>Amaranthus blitoides</i>	C	C	6
Pigweed, redroot	<i>Amaranthus retroflexus</i>	C	C	6
Pigweed, smooth	<i>Amaranthus hybridus</i>	C	C	6
Pigweed, spiny	<i>Amaranthus spinosus</i>	C	C	6
Poinsettia, wild	<i>Euphorbia heterophylla</i>	C	—	—
Puncturevine	<i>Tribulus terrestris</i>	C	C	6
Purslane, common	<i>Portulaca oleracea</i>	C	C	3
Pusley, Florida	<i>Richardia scabra</i>	C	S	3

(continued)

Table 1. Weeds Controlled by Zidua® PRO herbicide (continued)

Common Name	Scientific Name	Level of Control		Maximum Height or Diameter (inches)
		Residual Application	Burndown Application	
C = Control S = Suppression				
Broadleaf Weeds (continued)				
Radish, wild	<i>Raphanus raphanistrum</i>	S	S	4
Ragweed, common ¹	<i>Ambrosia artemisiifolia</i>	S	C	6
Ragweed, giant ¹	<i>Ambrosia trifida</i>	S	C	6
Redmaids	<i>Calandrinia ciliata</i>	—	C	3
Rocket, London	<i>Sisymbrium irio</i>	—	C	4
Rocket, yellow	<i>Barbarea vulgaris</i>	—	C	3
Sesbania, hemp	<i>Sesbania exaltata</i>	—	C	4
Shepherd's-purse	<i>Capsella bursa-pastoris</i>	C	C	6
Sida, prickly	<i>Sida spinosa</i>	C	C	6
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	C	C	6
Smartweed, swamp (seedling)	<i>Polygonum coccineum</i>	—	C	3
Sowthistle, annual	<i>Sonchus oleraceus</i>	—	C	6
Sowthistle, spiny	<i>Sonchus asper</i>	—	C	6
Spurge, petty	<i>Euphorbia peplus</i>	—	C	3
Spurge, prostrate	<i>Euphorbia supina</i>	—	S	3
Spurge, spotted	<i>Euphorbia maculata</i>	C	S	3
Spurry, corn	<i>Spergula arvensis</i>	—	C	3
Starbur, bristly	<i>Acanthospermum hispidum</i>	—	C	2
Sunflower, common	<i>Helianthus annuus</i>	S	C	6
Swinecress	<i>Coronopus didymus</i>	—	C	3
Tansymustard, green	<i>Descurainia incana</i>	—	C	3
Tansymustard, pinnate	<i>Descurainia pinnata</i>	—	C	6
Thistle, Canada	<i>Cirsium arvense</i>	—	S ²	6
Thistle, Russian	<i>Salsola kali</i>	C	C	3
Velvetleaf	<i>Abutilon theophrasti</i>	S	C	6
Watercress, creeping	<i>Coronopus squamatus</i>	—	C	2
Watercress	<i>Nasturtium officinale</i>	—	C	3
Waterhemp ¹	<i>Amaranthus tuberculatus</i>	C	C	6
Willowweed	<i>Epilobium adenocaulon</i>	—	C	3

Table 1. Weeds Controlled by Zidua® PRO herbicide (continued)

Common Name	Scientific Name	Level of Control		Maximum Height or Diameter (inches)
		Residual Application	Burndown Application	
C = Control S = Suppression				
Grass Weeds				
Barley, volunteer	<i>Hordeum vulgare</i>	S	S	2
Barnyardgrass	<i>Echinochloa crus-galli</i>	C	S	3
Canarygrass	<i>Phalaris canariensis</i>	C	—	—
Canarygrass, littleseed	<i>Phalaris minor</i>	S	S	2
Cheat	<i>Bromus secalinus</i>	S	—	—
Crabgrass, large	<i>Digitaria sanguinalis</i>	C	S	3
Crabgrass, smooth	<i>Digitaria ischaemum</i>	C	S	3
Crowsfootgrass	<i>Dactyloctenium aegyptium</i>	C	—	—
Cupgrass, Southeastern	<i>Eriochloa acuminata</i>	C	—	—
Cupgrass, woolly	<i>Eriochloa villosa</i>	S	C	3
Foxtail, giant	<i>Setaria faberi</i>	C	C	6
Foxtail, green	<i>Setaria viridis</i>	C	C	3
Foxtail, yellow	<i>Setaria pumila</i>	C	C	3
Goosegrass	<i>Eleusine indica</i>	C	—	—
Johnsongrass (rhizome)	<i>Sorghum vulgare</i>	—	S	6
Johnsongrass (seedling)	<i>Sorghum vulgare</i>	C	C	8
Millet, wild proso	<i>Panicum miliaceum</i>	S	S	3
Oats, volunteer	<i>Avena sativa</i>	S	S	2
Oats, wild	<i>Avena fatua</i>	S	S	3
Panicum, fall	<i>Panicum dichotomiflorum</i>	C	—	—
Panicum, Texas	<i>Panicum texanum</i>	S	—	—
Rice, red	<i>Oryza rufipogon</i>	C	C	3
Ryegrass, Italian	<i>Lolium perenne</i> spp. <i>multiflorum</i>	C	—	—
Ryegrass, rigid	<i>Lolium rigidum</i>	C	—	—
Sandbur	<i>Cenchrus</i> spp.	S	—	—
Shattercane	<i>Sorghum bicolor</i>	S	C	8
Signalgrass, broadleaf	<i>Brachiaria platyphylla</i>	C	C	8
Wheat, volunteer	<i>Triticum</i> spp.	S	S	2
Sorghum, alnum	<i>Sorghum alnum</i>	S	C	3
Sedge				
Nutsedge, yellow	<i>Cyperus esculentus</i>	S ²	S ²	3

¹ Populations of noted weeds exist that are known to be resistant to **Group 2/Group B, Group 14/Group E,** and/or **Group 9/Group G** (e.g. glyphosate) herbicides. **Zidua PRO** may not provide full-season control of these herbicide-resistant biotypes. See the **Resistance Management** section for practices to manage and minimize the impact of resistant weeds (e.g. tank mix or alternate with other herbicide modes of action, crop rotation, and mechanical control).

² Control of seedling stage and suppression of perennial growth stage

Mode of Action

Zidua® PRO herbicide contains three herbicide active ingredients. Saflufenacil is a potent inhibitor of protoporphyrinogen-oxidase, belonging to herbicide mode-of-action **Group 14 (WSSA)/Group E (HRAC)**. Imazethapyr is a potent inhibitor of acetohydroxyacid synthase, belonging to herbicide mode-of-action **Group 2 (WSSA)/Group B (HRAC)**. Pyroxasulfone is a potent inhibitor of very long chain fatty acid (VLCFA) synthesis, belonging to the mode-of-action **Group 15 (WSSA)/Group K3 (HRAC)**. The **Group 14/Group E** and **Group 2/Group B** herbicides of **Zidua PRO** are rapidly absorbed by roots and foliage. Plant death is the result of membrane damage and inhibition of the production of branched chain amino acids. Under active growing conditions, susceptible emerged weeds usually develop chlorotic and necrotic injury symptoms within hours and die within a few days. Susceptible emerging weed seedlings will usually die as they reach the soil surface or shortly after emergence. The **Group 15/Group K3** herbicide of **Zidua PRO** is absorbed by roots and shoots of weeds following germination. Plant death is the result of very long chain fatty acid synthesis inhibition; susceptible weeds typically do not emerge.

Resistance Management

While weed resistance to protoporphyrinogen-oxidase-inhibiting herbicide is relatively infrequent, populations of resistant biotypes to protoporphyrinogen-oxidase or acetohydroxyacid-synthase-inhibiting herbicides are known to exist. Weed resistance to VLCFA synthesis-inhibiting herbicides is rare. Resistance management practices include:

1. Following labeled application rate and weed growth stage instructions
2. Avoiding repeated applications of herbicides with the same mode of action
3. Utilizing tank mixes and sequential applications with other effective herbicides possessing different modes of action
4. Using crop rotation so crop competition, tillage or herbicides with alternative modes of action can be used to control weed escapes

Crop Tolerance

Soybeans are tolerant to **Zidua PRO** when applied according to label directions as a preplant to preemergence treatment and under normal environmental conditions. Crop injury may occur under stressful growing conditions (e.g. seedling disease, extreme hot or cold weather, excessive moisture, high soil pH, high soil salt concentration, or drought).

Severe crop injury will result if **Zidua PRO** is applied postemergence (over the top) to soybeans.

Application Instructions

Apply **Zidua PRO** prior to crop emergence only.

Application Methods and Equipment

Zidua PRO may be applied by ground or air. **DO NOT** apply through any type of irrigation system.

Thorough spray coverage is required for optimum weed control and can be improved with proper adjuvant, nozzle, and spray volume selection. Use and configure application equipment to provide an adequate spray volume, an accurate and uniform distribution of spray droplets over the treated area, and to avoid spray drift to nontarget areas. Equipment should be adjusted to maintain continuous agitation during spraying with good mechanical or bypass agitation. Avoid overlaps that will increase rates above the use rates specified in this label.

Zidua PRO may only be applied using water as the spray carrier.

Aerial Application Requirements

Water Volume. Use 3 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

The following measures must be followed to reduce the potential of spray drift to nontarget areas from aerial applications:

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the fixed wingspan or 90% of rotor blade diameter.
2. Use low-drift nozzles such as straight-stream nozzles (D-8 or larger). **DO NOT** use nozzles producing a mist droplet spray.
3. Nozzles must always point backward parallel with the airstream and never be pointed downward more than 45 degrees.
4. Without compromising aircraft safety, applications should be made at a height of 10 feet or less above the crop canopy or tallest plants.
5. **DO NOT** apply during periods of temperature inversions or stable atmospheric conditions.
6. Avoid potential adverse effects to nontarget areas by maintaining a **30-foot buffer** between the point of direct application and the **closest downwind edge** of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas, and shrub lands).

Ground Application Requirements

Water Volume. Use 5 or more gallons of water per treated acre for weed control applications. Thorough spray coverage is required for control of emerged broadleaf weeds. High populations and/or variations in size can prevent adequate spray coverage. Controlling fall-germinated weeds in the spring (e.g. horseweed/marestail) will also require thorough spray coverage. Use higher spray volumes (e.g. 15 to

20 gallons of water per acre) in these situations to increase spray coverage and optimize burndown activity.

The following measures must be followed to reduce the potential of spray drift to nontarget areas from ground applications:

1. Apply this product using nozzles which deliver **medium-to-coarse spray droplets** as defined by ASAE standard S-572 and as shown in nozzle manufacturer's catalogs. Flat-fan nozzles are recommended for burndown applications while flood-jet type nozzles are recommended for residual soil surface applications. Nozzles that deliver coarse spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain coverage of target (i.e. weeds or soil surface). **DO NOT** use nozzles that produce fine (e.g. cone) spray droplets.
2. Apply this product only when the potential for drift to adjacent nontarget areas is minimal (e.g. when the wind is **10 MPH or less and is blowing away** from sensitive areas). **DO NOT** apply during periods of temperature inversions or stable atmospheric conditions.
3. Avoid potential adverse effects to nontarget areas by maintaining a **13-foot buffer** between the application area and the **closest downwind edge** of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas, and shrub lands).

Cleaning Spray Equipment

Clean application equipment thoroughly by using a strong detergent or commercial sprayer cleaner according to the manufacturer's directions, followed by triple rinsing the equipment before and after applying this product.

Spray Drift Management

It is the responsibility of the applicator to avoid spray drift at the application site, especially onto nontarget areas. The interaction of many equipment-related and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The applicator must be familiar with and take into account the information covered in the following spray drift reduction advisory information.

Controlling Droplet Size. The most effective way to reduce drift potential is to apply the largest droplets that provide sufficient coverage and control.

Volume. Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Pressure. DO NOT exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

Number of Nozzles. Use the minimum number of nozzles that provide uniform coverage.

Nozzle Type. Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets.

Swath Adjustment. When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the application equipment (e.g. aircraft, ground) upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller droplets, etc.).

Wind. Drift potential is lowest between wind speeds of 3 to 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. If applying at wind speeds less than 3 mph, the applicator must determine if:

1. Conditions of temperature inversion exist, or
2. Stable atmospheric conditions exist at or below nozzle height.

DO NOT make applications into areas of temperature inversions or stable atmospheric conditions.

NOTE: Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect spray drift.

Wind Erosion. Avoid treating powdery, dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

Additives

For optimum burndown activity of emerged weeds with **Zidua® PRO herbicide**, an adjuvant system must be used that includes the following:

Adjuvant	Rate
methylated seed oil ¹ (MSO)	1 gal/100 gals ² (1% v/v)
PLUS	PLUS
ammonium sulfate (AMS)	8.5 to 17 lbs/100 gals (1% to 2% w/v)
or	or
urea ammonium nitrate (UAN)	1.25 to 2.5 gals/100 gals (1.25% to 2.5% v/v)

¹ MSO-based adjuvant **MUST** contain at least 60% methylated seed oil. Poor performance may occur with adjuvants containing less than 60% methylated seed oil.

² **DO NOT** use less than 1 pint/A of MSO with low-volume (< 12.5 gallons per acre) aerial or ground applications.

BASF highly recommends the use of AMS fertilizer when mixing **Zidua PRO** with glyphosate-based herbicides.

DO NOT use nonionic surfactant (NIS) as a substitute for MSO or poor performance on broadleaf weeds will occur.

When an adjuvant is to be used with this product, BASF recommends the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant.

Tank Mixing Information

Zidua® PRO herbicide may be tank mixed with one or more registered herbicide products according to the specific tank mixing instructions in this label and respective product labels. Refer to **Crop-specific Information** section for details. It is the pesticide user's responsibility to ensure that all products in the mixtures are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Tank mixtures with contact herbicides (e.g. carfentrazone, paraquat) may reduce the burndown activity of **Zidua PRO**.

Compatibility Test for Mix Components

Before mixing components, always perform a compatibility jar test.

1. For 20 gallons per acre spray volume, use 3.3 cups (800 mL) of water. For other spray volumes, adjust rates accordingly. Only use water from the intended source at the source temperature.
2. Add components in the sequence indicated in the mixing order using 2 teaspoons for each pound or 1 teaspoon for each pint of label rate per acre.
3. Always cap the jar and invert 10 cycles between component additions.
4. When the components have all been added to the jar, let the solution stand for 15 minutes.
5. Evaluate the solution for uniformity and stability. The spray solution should not have free oil on the surface, or fine particles that precipitate to the bottom, or thick (clabbered) texture. If the spray solution is not compatible, repeat the compatibility test with the addition of a suitable compatibility agent. If the solution is then compatible, use the compatibility agent as directed on its label. If the solution is still incompatible, **DO NOT** mix the ingredients in the same tank.

Mixing Order

Shake Zidua PRO container well before use.

Maintain agitation throughout mixing and application until spraying is completed.

1. **Water** - Fill tank 1/2 to 3/4 full with clean water and start agitation.
2. **Inductor** - If an inductor is used, rinse it thoroughly after each component has been added.
3. **Products in PVA bags** - Place any product contained in water-soluble PVA bags into the mixing tank. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
4. **Water-soluble additives** (including dry and liquid fertilizers such as ammonium sulfate or urea ammonium nitrate)

5. **Water-dispersible products** (such as dry flowables, wettable powders, suspension concentrates, or suspo-emulsions) - Add **Zidua PRO** at this point in the mixing process.
6. **Water-soluble products** (such as glyphosate)
7. **Emulsifiable concentrates** (including methylated seed oil adjuvants)
8. **Remaining quantity of water**

If the spray mixture is allowed to settle for any period of time, thorough agitation is essential to resuspend the mixture before spraying is resumed. Continue agitation while spraying.

Use Restrictions

- **DO NOT** apply **Zidua PRO** after crop emergence or severe crop injury will occur.
- **DO NOT** contaminate irrigation ditches or water used for domestic purposes.
- **DO NOT** apply **Zidua PRO** through any type of irrigation system (e.g. chemigation).
- **Zidua PRO is not for sale, distribution, or use in Nassau and Suffolk counties in New York State, or in California.**

Use Precautions

- **Maximum seasonal use rate** - Refer to the **Crop-specific Information** section for maximum cropping seasonal application use rates. A cropping season is defined as the period following harvest of the preceding crop through the harvest of the planned or current crop.
- **Rainfastness** - **Zidua PRO** is rainfast 1 hour after application. Burndown activity may be reduced if rain or irrigation occurs within 1 hour of application.
- Full-rate application of products containing chlorimuron ethyl, chloransulam-methyl, flumetsulam, or imazaquin in the same year as **Zidua PRO** may increase the risk of injury to sensitive follow crops. Consult the respective labels of these products for recommended uses of these products in combinations.
- When organophosphate or carbamate insecticides are tank mixed with **Zidua PRO**, temporary injury may result to the treated crops.
- Only rotational crops harvested at maturity may be used for feed or food.

Rotational Crop Restrictions, Crop Rotation, and Emergency Replanting Intervals

Use **Table 2** and its exceptions in the paragraphs following the table to determine the proper interval between **Zidua PRO** application and rotational crop planting. This interval can be used to determine the acceptable planting interval for rotational crops as well as replanting after crop failure (because of environmental factors such as drought,

frost or hail, etc.). Be sure to determine the rotational crop interval for tank mix products and utilize the most restrictive interval of all products applied.

Table 2. Rotational Crop Planting and Emergency Replanting Intervals after an Application of Zidua® PRO herbicide

Crop	Rotational Crop Interval (months after application)
Clearfield® corn	0
Soybeans	0 to 1 ^a
Clearfield® wheat Peanuts Wheat	4
Field peas (dry) Lentil	6
Field corn Field corn grown for seed	8.5
Clearfield® sunflower	9.5
Alfalfa	10
Edible peas, succulent edible beans, and other edible dry beans Small (cereal) grains (barley, buckwheat, millet, rye)	11
Clearfield® canola Rice	12
Clover Cotton Lettuce Oats Popcorn Safflower Sorghum Sunflower Sweet corn Tobacco	18
Flax Potatoes	26
Other crops	40 ^b

^a The planting interval for this crop and rates are further defined in the respective **Crop-specific Information** section of this label. Use the longer interval within listed ranges for indicated crops grown on coarse-textured soils with organic matter less than or equal to 2.0%.

^b Following 40 months after a **Zidua PRO** application and before planting any crop not listed elsewhere in the **Rotational Crop Restrictions, Crop Rotation, and Emergency Replanting Intervals**, a successful field bioassay must be completed. The field bioassay consists of a test strip of the intended rotational crop planted across the previously treated field and grown to maturity. The test strip should include low areas and knolls and include variations in soil such as type and pH. If no crop injury is evident in the test strip, the intended rotational crop may be planted the following year. Sugar beet

production can be reduced when grown in soil conditions with a pH less than 6.5. If the field is limed to adjust pH prior to planting rotational crops not listed in **Rotational Crop Restrictions, Crop Rotation, and Emergency Replanting Intervals**, apply the lime at least 12 months prior to planting the rotational crop.

Use of **Zidua PRO** in accordance with label directions is expected to result in normal growth of rotational crops in most situations. However, various environmental and agronomic factors make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible.

Exceptions to Crop Rotation Restrictions

Corn Inbred Lines

Corn inbred seed lines may be planted the year following an application of **Zidua PRO**. Growers are directed to contact the seed company for information and recommendations regarding the planting of corn grown for seed in fields treated with **Zidua PRO** the previous year. Because growing conditions, environmental conditions, and grower practices are beyond the control of BASF, all risks and consequences associated with planting seed corn inbreds into fields treated previously with **Zidua PRO** shall be assumed by the user.

Sweet Corn and Popcorn Varieties

(Illinois, Indiana, Iowa, Minnesota, Ohio, Tennessee, and Wisconsin only)

Sweet corn and popcorn varieties may be planted the year following an application of **Zidua PRO**. Some sweet corn and popcorn varieties may be injured when planted at less than 18 months following an application of **Zidua PRO**. Before planting sweet corn for processing, contact the processor company for information and recommendations regarding the tolerance of sweet corn varieties planned for fields treated with **Zidua PRO** the previous year. **DO NOT** plant fresh market sweet corn varieties prior to 18 months after **Zidua PRO** use. Before planting popcorn, contact the popcorn company for information and recommendations regarding the tolerance of popcorn varieties planned for fields treated with **Zidua PRO** the previous year. Because growing conditions, environmental conditions, and grower practices are beyond the control of BASF, all risks and consequences associated with planting sweet corn or popcorn varieties into fields treated previously with **Zidua PRO** shall be assumed by the user. Stunting and maturity-delay or other adverse effects may result when sweet corn or popcorn are planted following **Zidua PRO** use.

Certain Vegetable Crops

(Alabama, Delaware, Florida, Georgia, Indiana, Kentucky, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, and Virginia only)

The following crops may be planted 18 months following the last application of **Zidua PRO**: Bahiagrass, cabbage, cantaloupe, cucumber, Irish potato, onion, sweet pepper transplants, sweet potato transplants, tomato transplants and watermelon.

Field Corn and Field Corn Grown for Seed (Arizona, Hawaii, Idaho, Montana, Nevada, Oregon, Utah, Washington, and Wyoming)

Plant 9.5 months after **Zidua® PRO herbicide** application.

Crop-specific Information

This section provides use directions for **Zidua PRO**. Be sure to read about product information, mixing, application, weeds controlled and adjuvant instructions in preceding sections of the label. Read and follow tank mix product labels for restrictions, precautions, instructions and rotational crop restrictions.

Depending on specific application directions, **Zidua PRO** may be applied for burndown control of emerged weeds and/or residual control of germinating weeds (refer to **Table 1** for list of weeds controlled) before planting (preplant/preseed) or after planting but before crop emergence. Depending on the time between **Zidua PRO** application and planting, a followup in-crop herbicide application may be needed for complete weed control throughout the growing season.

Thorough spray coverage is required for control of emerged broadleaf weeds. High populations and/or variations in size can prevent adequate spray coverage. Controlling fall-germinated weeds in the spring (e.g. horseweed/marestail) will also require thorough spray coverage. Use higher spray volumes (e.g. 15 to 20 gallons of water per acre) in these situations to increase spray coverage and optimize burndown activity.

Fallow

Zidua PRO may be used as a burndown treatment to control listed weeds at any time of the year during the fallow period following crop harvest and before the following crop is planted (see paragraph below pertaining to rotational planting intervals).

Application Rate and Timing

Apply **Zidua PRO** as a broadcast burndown spray at 6.0 fl ozs/A plus recommended adjuvants (refer to **Additives** section for details). For best product performance, apply **Zidua PRO** when broadleaf weeds are small and actively growing (refer to **Table 1** for list of weeds controlled). Thorough coverage of existing weeds is essential and higher spray volumes may be needed for best performance.

Specific rotational crop planting intervals must be observed between an application of **Zidua PRO** and planting of the following crops (see **Table 2** for rotational crop planting intervals).

Tank Mixes

Broad-spectrum burndown control of grass weeds and/or additional broadleaf weeds requires a tank mix with another herbicide. **Zidua PRO** may be tank mixed or applied sequentially with one or more of, but not limited to, the following herbicide products:

- **Clarity® herbicide**
- **Distinct® herbicide**
- glyphosate (e.g. **Roundup® herbicide**)

Soybean

Zidua PRO may be applied in the fall and/or in the spring as a preplant or preemergence burndown application in conventional, reduced-till, or no-till soybean for weed control (refer to **Table 1** for list of weeds controlled). An adjuvant system (refer to **Additives** section for details) is required for optimum burndown activity.

Application Rate

See **Table 3** for application rates of **Zidua PRO** in soybean when applied alone, in tank mix, or sequentially.

Table 3. Application Rate (in fl ozs/A) **of Zidua PRO in soybean.**

Application	Tillage System		
	Conventional	Reduced-till	No-till
Burndown and residual weed control	4.5 to 6.0 ^a	4.5 to 6.0 ^a	6.0

^aApply 6 fl ozs/A on fields with high weed pressure, resistant weed populations, or emerged weeds at the time of application. If less than 6 fl ozs/A is applied under these conditions, weed control may be diminished.

Application Timing

Fall Application

Apply **Zidua PRO** for burndown and/or residual weed control after the prior crop is harvested. Applications must be made prior to first killing frost. Fall applications can be made to all soil types.

Spring Application

Apply **Zidua PRO** early preplant through preemergence for burndown and/or residual weed control prior to crop emergence. A sequential application of **Sharpen® herbicide** at 1.0 and 2.0 fl ozs/A may be made with a minimum of 30 and 60 days between applications, respectively.

Soybean Planting Interval

Depending on soil texture and organic matter, an interval between **Zidua PRO** application and soybean planting may be required (see **Table 4**). These intervals must be observed prior to planting soybeans or crop injury may occur.

Table 4. Minimum Preplant Intervals Required Between Zidua® PRO herbicide Application and Soybean Planting

Minimum Preplant Interval by Soil Texture and Organic Matter Content (days)		
Soil Texture	Organic Matter	
	≤ 2.0%	> 2.0%
Coarse (Sand, loamy sand, and sandy loam)	30	None
Medium (Silt, silt loam, loam, and sandy clay loam)	None	None
Fine (Sandy clay, silty clay, silty clay loam, clay loam, and clay)	None	None

Crop-specific Restrictions

- **DO NOT** apply more than 6.0 ozs/A of **Zidua PRO** in a single application or cumulatively per cropping season (per year).
- **DO NOT** apply more than a maximum cumulative amount of 0.089 lb ai/A of saflufenacil per cropping season (per year) in soybean from all product sources.
- **DO NOT** apply more than a maximum cumulative amount of 0.112 lb ai/A of pyroxasulfone on coarse soils per cropping season (per year) in soybean from all product sources.
- **DO NOT** apply more than a maximum cumulative amount of 0.186 lb ai/A of pyroxasulfone on all soils other than coarse per cropping season (per year) in soybean from all product sources.
- **DO NOT** apply **Zidua PRO** to soybean in North Dakota and Minnesota north of Highway #210.
- **DO NOT** apply when soybeans have reached the cracking stage or after emergence because severe crop injury will result.
- **DO NOT** apply **Zidua PRO** on coarse soils with ≤ 2% organic matter within 30 days of planting.
- **DO NOT** apply **Zidua PRO** with other products containing **Group 14/Group E** herbicides (such as sulfentrazone or flumioxazin) as a tank mix or sequential application within 30 days of planting because crop injury may result.
- When applying **Zidua PRO** in a sequential spring application with other products containing **Group 14/Group E** herbicides, separate applications by at least 44 days.
- **DO NOT** graze or feed treated soybean forage, hay or straw to livestock.
- There must be a **Preharvest Interval** of at least 85 days between an application of **Zidua PRO** and soybean grain harvest.

Use Precautions

- Ensure that the seed row is sufficiently covered with soil to avoid washing and concentration of the herbicide in the seed zone.
- Always use the most restrictive preplant interval of all inclusive herbicides when applying **Zidua PRO** as part of a tank mix.
- The use of **Zidua PRO** may result in temporary growth suppression in soybean if extreme conditions of high rainfall and extended periods of water-saturated soil occur during soybean germination or early seedling development.
- **Group 14/Group E** herbicides labeled for postemergence applications in soybean may be used 14 days after soybean emergence.

Tank Mixes

Broad-spectrum burndown or enhanced residual control of additional grasses or broadleaf weeds requires a tank mix. **Zidua PRO** may be tank mixed or applied sequentially with one or more of, but not limited to, the following herbicide products:

- **Clarity® herbicide**
- **Outlook® herbicide**
- **Prowl® H₂O herbicide**
- **Sharpen® herbicide**
- **Zidua® herbicide**
- glyphosate (e.g. **Roundup® herbicide**)

Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

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TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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