ATTENTION:

This specimen label is provided for general information only.

- This pesticide product may not yet be available or approved for sale or use in your area.
- It is your responsibility to follow all Federal, state and local laws and regulations regarding the use of pesticides.
- Before using any pesticide, be sure the intended use is approved in your state or locality.
- Your state or locality may require additional precautions and instructions for use of this product that are not included here.
- Monsanto does not guarantee the completeness or accuracy of this specimen label. The information found in this label may differ from the information found on the product label. You must have the EPA approved labeling with you at the time of use and must read and follow all label directions.
- You should not base any use of a similar product on the precautions, instructions for use or other information you find here.
- Always follow the precautions and instructions for use on the label of the pesticide you are using.

113004M1-4

GROUP 14 HERBICIDE

ROUNDUP READY PLUS®
CROP MANAGEMENT SOLUTIONS

Rowel™ HERBICIDE

FOR CONTROL AND/OR SUPPRESSION OF CERTAIN WEEDS IN COTTON, FIELD CORN, PEANUT, SOYBEAN, AND FALLOW LAND.

Active Ingredient	By Wt.
Flumioxazin*	51%
Other Ingredients	49%
Total	100%

*2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione

Rowel™ Herbicide is a water dispersible granule containing 51% active ingredient.

KEEP OUT OF REACH OF CHILDREN

CAUTION!

EPA Reg. No. 59639-99-524

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION

Harmful if inhaled or absorbed through the skin. Causes moderate eye irritation. Avoid breathing dust and spray mist. Avoid contact with skin, eyes or clothing.

FIRST AID	
If inhaled:	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.
If on skin or clothing:	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
If in eyes:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
If swallowed:	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

HOT LINE 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 **(314)-694-4000** for emergency medical treatment information.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Some of the materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, shoes and socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to non-target plants and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift or runoff may be hazardous to non-target plants and aquatic organisms in neighboring areas. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters.

This pesticide is toxic to plants and should be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions this product may have a potential to run-off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, such as no till, limited till and contour plowing; these methods also reduce pesticide run-off. Use of vegetation filter strips along rivers, creeks, streams, wetlands or on the downhill side of fields where run-off could occur will minimize water run-off and is recommended.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

READ 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.

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 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.

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 waterproof material, shoes plus socks.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forest, nurseries or greenhouses.

Keep all unprotected persons out of operating areas, or vicinity where there may be drift.

Do not enter or allow others to enter treated areas until sprays have dried.

DISCLAIMER, RISKS OF USING THIS PRODUCT, LIMITED WARRANTY AND LIMITATION OF LIABILITY

IMPORTANT: Read the entire Label including this Disclaimer, Risks of Using this Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT; rather, return the unopened product within 15 days of purchase for a refund of the purchase price.

RISKS OF USING THIS PRODUCT

The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to, injury to plants and crops to which this product is applied, lack of control of the target pests or weeds, resistance of the target pest or weeds to this product, injury caused by drift, and injury to rotational crops caused by carryover in the soil. Such risks of crop injury, non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as weather, soil conditions, disease, moisture conditions, irrigation practices, condition of the crop at the time of application, presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of Monsanto. The Buyer should be aware that these inherent unintended risks may reduce the harvested yield of the crop in all or a portion of the treated acreage, or otherwise affect the crop such that additional care, treatment and expense are required to take the crop to harvest. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE FULLEST EXTENT ALLOWED BY LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER.

Monsanto shall not be responsible for losses or damages (including, but not limited to, loss of yield, increased expenses of farming the crop or such incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

LIMITED WARRANTY

Monsanto warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label **and subject to the Risks of Using This Product as described above. To the extent consistent with applicable law AND AS SET FORTH ABOVE, MONSANTO MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED.** No agent or representative of Monsanto or Seller is authorized to make or create any other express or implied warranty.

(continued)

LIMITATION OF LIABILITY

To the fullest extent allowed by law, Monsanto or Seller is not liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to, loss of yield on all or any portion of the treated acreage, increased care, treatment or other expenses required to take the crop to harvest, increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. TO THE FULLEST EXTENT ALLOWED BY LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF MONSANTO OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF MONSANTO OR SELLER, THE REPLACEMENT OF THE PRODUCT.

PROMPT NOTICE OF CLAIM

To the extent consistent with applicable law allowing such requirements Monsanto must be provided notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of planting, or twenty-one days from the date of application, whichever is latter, so that an immediate inspection of the affected property and growing crops can be made.

To the extent consistent with applicable law if Buyer does not notify Monsanto of any claims, in such period, it shall be barred from obtaining any remedy.

NO AMENDMENTS

Monsanto and Seller offer this product, and Buyer accepts it, subject to the foregoing **Disclaimer, Risks of Using This Product, Limited Warranty** and **Limitation of Liability,** which may not be modified by any oral or written agreement.

TANK MIXES

NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor, to the extent allowed by applicable law.

Read and follow the entire label of each product to be used in the tank mix with this product.

RESISTANCE MANAGEMENT RECOMMENDATIONS

Rowel Herbicide is a Group 14 herbicide. Any weed population may contain or develop plants naturally resistant to *Rowel* Herbicide and other Group 14 herbicides. Weed species with acquired resistance to Group 14 herbicides may eventually dominate the weed population if Group 14 herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by *Rowel* Herbicide or other Group 14 herbicides.

To delay herbicide resistance consider:

- Avoiding the consecutive use of *Rowel* Herbicide or other target site of action Group 14 herbicides that might have a similar target site of action, on the same weed species.
- Using tank mixtures or premixes with herbicides from different target site of action Groups as long as the involved products are all registered for the same use, have different sites of action and are both effective at the tank mix or prepack rate on the weed(s) of concern.
- Basing herbicide use on a comprehensive Integrated Pest Management (IPM) program.
- Monitoring treated weed populations for loss of field efficacy.
- Contacting your local extension specialist, certified crop advisors and/or manufacturer for herbicide resistance management and/or integrated weed management recommendations for specific crops and resistant weed biotypes.

For further information or to report suspected resistance, you may contact Monsanto Company at 314-694-4000.

GENERAL INFORMATION

Rowel Herbicide uses:

- *Rowel* Herbicide provides residual control of susceptible weeds in cotton, field corn, peanut, and soybean.
- *Rowel* Herbicide provides additional burndown activity when used as part of burndown programs.
- *Rowel* Herbicide can be applied as part of a fall burndown program for control of susceptible winter annuals.
- *Rowel* Herbicide can be applied with a hooded or shielded sprayer, as well as part of a layby application, in cotton for postemergence weed control as well as residual control of susceptible weeds.
- **Read tank mix product label for rates and weeds controlled. Always read and follow label directions for all tank mix products before using. The most restrictive labeling of any tank mix product must be followed. *Rowel* Herbicide, when applied according to label use directions, will control the weeds claimed in crop specific use directions. This label makes no claims concerning control of other weed species.**

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.

The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making decisions. Where states have more stringent regulations, they should be observed.

GENERAL RESTRICTIONS AND LIMITATIONS

- Do not apply this product when weather conditions favor spray drift from treated areas.
- Do not apply during low-level inversion conditions, including fog.
- Except for field corn, do not graze treated fields or feed treated forage or hay to livestock.
- When applying by air, observe drift management restrictions and precautions listed under **"AERIAL APPLICATION".**
- Do not apply to frozen or snow covered soil.
- Mechanical incorporation into the soil will reduce residual weed control.
- Post directed and layby applications of *Rowel* Herbicide should be applied only to healthy growing crops.
- Do not apply to farm alleys or roads where traffic may result in treated dust settling onto crops or other desirable vegetation.
- Do not apply within 300 yards of non-dormant pears.
- Do not apply to powdery soils or soils that are susceptible to wind displacement unless irrigation can be applied immediately after application.

Spray equipment used to apply *Rowel* Herbicide should not be used to apply other materials to any crop foliage, unless the proper cleanout procedures are followed. See "SPRAYER CLEANUP" for more information.

ENVIRONMENTAL CONDITIONS AND BIOLOGICAL PERFORMANCE

Preemergence Application (Conventional Tillage)

Important: Crop injury may occur from applications made to poorly drained soils and/or applications made under cool, wet conditions. Risk of crop injury can be minimized by using on well drained soils, planting at least 1.5 inches deep, using high quality seed and completely covering seeds with soil prior to preemergence applications. Treated soil that is splashed onto newly emerged crops may result in temporary crop injury.

Moisture is necessary to activate *Rowel* Herbicide in soil for residual weed control. Dry weather following applications of *Rowel* Herbicide may reduce effectiveness. However, when adequate moisture is received after dry conditions, *Rowel* Herbicide will control susceptible germinating weeds. *Rowel* Herbicide may not control weeds that germinate after application but before an activating rainfall/irrigation or weeds that germinate through cracks resulting from dry soil.

When adequate moisture is not received after a *Rowel* Herbicide application, weed control may be improved by irrigation with at least 1/4 inch of water. If emerged weeds are controlled by cultivation, residual weed control will be reduced.

Burndown Application

For best results, *Rowel* Herbicide should be applied as part of a burndown program to actively growing weeds. Applying *Rowel* Herbicide under conditions that do not promote active weed growth will reduce herbicide effectiveness. Do not apply *Rowel* Herbicide when weeds are under stress due to drought, excessive water, extremes in temperature, disease or low humidity. Weeds under stress tend to become less susceptible to herbicidal action. *Rowel* Herbicide is most effective when applied under warm sunny conditions.

Reduced residual weed control may occur when burndown applications are made to fields where heavy crop and/or weed residue exist.

Postemergence Application

Rowel Herbicide should only be applied to healthy crops labeled for postemergence use. Do not apply *Rowel* Herbicide to crops that have been weakened by disease, drought, flooding, excessive fertilization, soil salts, previously applied pesticides, nematodes, insects or winter injury.

Rainfastness

Rowel Herbicide is rainfast one hour after application. Applications should not be made if rain is expected within one hour of application or postemergence efficacy may be reduced.

Soil Characteristics

Application of *Rowel* Herbicide to soils with high organic matter and/or high clay content may require higher dosages than soils with low organic matter and/or low clay content. Application to cloddy seedbeds can result in reduced weed control.

HERBICIDE RATE

Residual Weed Control (Including Preemergence Applications or Applications as Part of a Fall or Spring Burndown and Fallow Seedbed Program)

Based upon soil characteristics (organic matter content and texture), the most difficult to control weed species being targeted, and the crop being grown, select the proper *Rowel* Herbicide dosage from the rate range tables contained in this label.

CARRIER VOLUME AND SPRAY PRESSURE (Ground Equipment only. See Information for Aerial Equipment under "AERIAL APPLICATION".)

Preemergence Application (Conventional Tillage)

To ensure uniform coverage, use 10 to 30 gals of spray solution per acre for conventional tillage applications. Nozzle selection should meet manufacturer's gallonage and pressure recommendations for preemergence herbicide application.

Burndown Application (Prior to Crop Emergence)

To ensure thorough coverage in burndown applications, use 15 to 60 gals spray solution per acre. Use 20 to 60 gals per acre if dense vegetation or heavy crop residue is present. Nozzle selection should meet manufacturer's gallonage and pressure recommendations for postemergence herbicide application.

Postemergence Application (Emerged Crop)

Check use directions for specific crops in which *Rowel* Herbicide can be applied postemergence.

To ensure thorough coverage in burndown applications, use 15 to 30 gals spray solution per acre. Use 20 to 30 gals per acre if dense vegetation or heavy crop residue is present. Nozzle selection should meet manufacturer's gallonage and pressure recommendations for postemergence herbicide application.

ADDITIVES

Burndown Application (Prior to Crop Emergence)

Postemergence control of weeds from *Rowel* Herbicide requires the addition of an agronomically approved adjuvant to the spray mixture. When an adjuvant is to be used with *Rowel* Herbicide, Monsanto recommends the use of a Chemical Producers and Distributors Association certified adjuvant. Either a crop oil concentrate or methylated seed oil which contains at least 15% emulsifiers and 80% oil or a non-ionic surfactant at 0.25% v/v, may be used when applying *Rowel* Herbicide as part of a burndown program. Some tank mix partners, such as Roundup Power Max®, are formulated with sufficient adjuvants and do not require the addition of a crop oil concentrate, methylated seed oil or non-ionic surfactant when tank mixed with *Rowel* Herbicide. The addition of a crop oil concentrate or methylated seed oil may increase the burndown activity on certain weeds such as cutleaf eveningprimrose and Carolina geranium. Mixing compatibility qualities should be verified by a jar test.

A spray grade nitrogen source (either ammonium sulfate at 2 to 2.5 lbs/A or a 28 to 32% nitrogen solution at 1 to 2 qts/A) may be added to the spray mixture along with either a crop oil concentrate, methylated seed oil or non-ionic surfactant to enhance weed control. The addition of a nitrogen source does not replace the need for a crop oil concentrate, a methylated seed oil or a non-ionic surfactant.

JAR TEST TO DETERMINE COMPATIBILITY OF ADJUVANTS AND *ROWEL* HERBICIDE

When using *Rowel* Herbicide and an adjuvant, such as in stale seed bed, layby, hooded/shielded or reduced tillage situations, a jar test should be performed before mixing commercial quantities of *Rowel* Herbicide, when using *Rowel* Herbicide for the first time, when using new adjuvants or when a new water source is being used.

1. Add 1 pt of the water to a quart jar. The water should be from the same source and temperature as which will be used in the spray tank mixing operation.
2. Add 1 g of *Rowel* Herbicide to the quart jar for every 3 oz of *Rowel* Herbicide per acre being applied (4 g if 12 oz/A is the desired *Rowel* Herbicide rate), gently mix until product goes into suspension.
3. Add 60 ml (4 Tbsps or 2 fl oz) of the crop oil or methylated seed oil to the quart jar or 1 ml of non-ionic surfactant if it is being used in place of oil, gently mix.
4. If nitrogen is being used, add 16 ml (1 Tbsp or 0.5 oz) of the 28 to 32% nitrogen source to the quart jar. If ammonium sulfate is being used, add 19 g AMS to the quart jar in place of the 28 to 32% nitrogen.
5. Place cap on jar, invert 10 times, let stand for 15 minutes, evaluate.
6. An ideal tank mix combination will be uniform and free of suspended particles. If any of the following conditions are observed the choice of adjuvant should be questioned:
   a) Layer of oil or globules on the mixture's surface.
   b) Flocculation: fine particles in suspension or as a layer on the bottom of the jar.
   c) Clabbering: Thickening texture (coagulated) like gelatin.

SPRAYER PREPARATION

Before applying *Rowel* Herbicide, start with clean, well maintained application equipment. The spray tank, as well as all hoses and booms, must be cleaned to ensure no residue from the previous spraying operation remains in the sprayer. Some pesticides, including but not limited to, the sulfonylurea and phenoxy herbicides, (i.e., Classic® and 2,4-D respectively) are active at very small amounts and can cause crop injury when applied to susceptible crops. The spray equipment must be cleaned according to the manufacturer's directions for the last product used before the equipment is used to apply *Rowel* Herbicide. If two or more products were tank mixed prior to *Rowel* Herbicide application, the most restrictive cleanup procedure should be followed.

MIXING INSTRUCTIONS

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
2. If a drift retardant is to be used, add 10 lbs of spray grade ammonium sulfate per 100 gals of spray solution.
3. To ensure a uniform spray mixture, pre-slurry the required amount of *Rowel* Herbicide with water prior to addition to the spray tank. Use a minimum of 1 gal of water per 10 oz of *Rowel* Herbicide.
4. While agitating, slowly add the pre-slurried *Rowel* Herbicide to the spray tank. Agitation should create a rippling or rolling action on the water surface.
5. If tank mixing *Rowel* Herbicide with other labeled herbicides, add water soluble bags first, followed by dry formulations, flowables, emulsifiable concentrates and then solutions. Prepare no more spray mixture than is required for the immediate spray operation.
6. Add any required adjuvants.
7. Fill spray tank to desired level with water. **Agitation should continue until all spray solution has been applied.**
8. Mix only the amount of spray solution that can be applied the day of mixing. *Rowel* Herbicide should be applied within 6 hours of mixing.

SPRAYER CLEANUP

Spray equipment, including mixing vessels and nurse tanks, must be cleaned each day following *Rowel* Herbicide application. After *Rowel* Herbicide is applied, the following steps must be used to clean the spray equipment:

1. Completely drain the spray tank, rinse the sprayer thoroughly, including the inside and outside of the tank and all in-line screens.
2. Fill the spray tank with clean water and flush all hoses, booms, screens and nozzles.
3. Top off tank, add 1 gal of 3% household ammonia (or equivalent) for every 100 gals of water, circulate through sprayer for 5 minutes, and then flush all hoses, booms, screens and nozzles for a minimum of 15 minutes. If diaphragms are being used on the spray boom, loosen diaphragms before flushing the spray system, allowing cleaning solution to spray through the open diaphragm. If spray lines have any end caps, they must be loosened before flushing the system, allowing cleaning solution to spray through the loosened caps. To enhance removal of *Rowel* Herbicide from the spray system, add a tank cleaner such as "Valent Tank Cleaner" from Valent U.S.A. Corporation, in place of ammonia and allow the cleaning solution to remain in the pressurized spray system (spray tank, hoses and boom) overnight before flushing the system for a minimum of 15 minutes.
4. Drain tank completely.
5. Add enough clean water to the spray tank to allow all hoses, booms, screens and nozzles to be flushed for 2 minutes.
6. Remove all nozzles and screens and rinse them in clean water.

Spray equipment, including all tanks, hoses, booms, screens and nozzles, should be thoroughly cleaned before it is used to apply postemergence pesticides. Equipment with *Rowel* Herbicide residue remaining in the system may result in crop injury to the subsequently treated crop.

APPLICATION EQUIPMENT

Application equipment should be clean and in good repair. Nozzles should be uniformly spaced on boom and frequently checked for accuracy.

BROADCAST APPLICATION

Apply *Rowel* Herbicide, and *Rowel* Herbicide tank mixes, with ground equipment using standard commercial sprayers equipped with flat fan or flood nozzles (preemergence applications only) designed to deliver the desired spray pressure and spray volume.

BAND APPLICATION

When banding, use proportionately less water and *Rowel* Herbicide per acre. The rate of *Rowel* Herbicide required per acre, when applied as a banded application, can be calculated with the following formula:

$$\text{Amount Needed per Acre for Banded Application} = \frac{\text{Band Width in Inches}}{\text{Row Width in Inches}} \times \text{Rate per Broadcast Acre}$$

AERIAL APPLICATION

Spray drift away from the site of application may cause damage to non-target vegetation. To minimize drift, apply the largest droplet size consistent with uniform coverage and satisfactory weed control. To obtain satisfactory application and avoid drift, the following directions must be observed:

- Do not apply during low-level inversion conditions (including fog), when winds are gusty or under other conditions that favor drift. Do not spray when wind velocity is less than 2 mph or more than 10 mph.
- Do not apply this product by air within 40 ft of non-target plants including non-target crops.
- Do not apply this product by air within 100 ft of emerged cotton crops.
- Do not apply this product by air within 40 ft of streams, wetlands, marshes, ponds, lakes and reservoirs.
- **Carrier Volume and Spray Pressure:** When used as part of a burndown weed control program, apply *Rowel* Herbicide in 7 to 10 gals of water per acre. Application at less than 7 gals per acre may provide inadequate control. When used for preemergence weed control, apply *Rowel* Herbicide in 5 to 10 gals of water per acre. The higher gallonage applications generally afford more consistent weed control. 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.
- **Nozzle Selection and Orientation:** Formation of very small drops may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible and by avoiding excessive spray pressure. Use nozzles that produce flat or hollow cone spray patterns. Use non-drip type nozzles, such as diaphragm type nozzles, to avoid unwanted discharge of spray solution. The nozzles must be directed toward the rear of the aircraft, at an angle between 0 and 15° downward. Do not place nozzles on the outer 25% of the wings or rotors.
- **Adjuvants and Drift Control Additives:** Refer to tank mix partner's label for adjuvant recommendation. Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

ROTATIONAL RESTRICTIONS

The following rotational crops may be planted after applying *Rowel* Herbicide at the listed rate. Planting earlier than the recommended rotational interval may result in crop injury.

- **Do not plant any crop, except corn (field), cotton, peanut, soybean, sugarcane and sweet potato earlier than 30 days after applying *Rowel* Herbicide.**

***ROWEL* HERBICIDE RATES**	**CROPS**	**ROTATION INTERVALS**
1 oz/A	Cotton (no-till or strip-till only)	14 days[1]
1.5 to 2 oz/A	Cotton (no-till or strip-till only)	21 days[1]
2 oz/A or less	Peanut, Soybean, Sugarcane and Sweet Potato	immediately
	Field Corn (minimum and no-till)	14 days
	Cotton and Field Corn (conventional tillage), Rice, Sorghum, Sunflower, Tobacco and Wheat	30 days[1]
	Barley, Dry and Snap Beans, Flax, Lentils, Peas, Rye, Safflower and Sweet Corn	3 months
	Alfalfa, Canola, Clover, Oats, Sugar Beet and all other crops not listed[2]	4 months if soil is tilled prior to planting 8 months if no tillage is performed

(continued)

ROTATIONAL RESTRICTIONS (continued)

***ROWEL* HERBICIDE RATES**	**CROPS**	**ROTATION INTERVALS**
Up to 3 oz/A	Peanut, Soybean Sugarcane and Sweet Potato	immediately
	Field Corn (minimum and no-till)	14 days
	Field Corn (conventional tillage) and Sorghum	30 days[1]
	Cotton, Rice, Sunflower, Tobacco and Wheat	2 months[1]
	Barley, Dry and Snap Beans, Flax, Lentil, Pea, Rye, Safflower and Sweet Corn	4 months
	Alfalfa, Clover, Oats, Sugar Beet	5 months if soil is tilled prior to planting 10 months if no tillage is performed
	Canola and all other crops not listed[2]	6 months if soil is tilled prior to planting 12 months if no tillage is performed
Up to 4 oz/A	Sugarcane	immediately
	Cotton, Field Corn, Peanut, Rice, Sorghum, Soybean, Sunflower, Tobacco and Wheat	4 months
	Alfalfa, Canola, Sugar Beet and all other crops not listed[2]	6 months if soil is tilled prior to planting 12 months if no tillage is performed
6 to 12 oz/A	Cotton, Field Corn, Peanut, Rice, Sorghum, Soybean, Sunflower, Tobacco and Wheat	9 months
	Alfalfa, Canola, Sugar Beet and all other crops not listed[2] Trees can be transplanted 2 months after an application of *Rowel* Herbicide[3]	12 months if soil is tilled prior to planting 18 months if no tillage is performed

[1] At least one inch of rainfall/irrigation must occur between application and planting or crop injury may occur.

[2] Successful soil bioassay must be performed prior to planting crops.

[3] Transplanted apple, apricot, avocado, bushberries (including blueberry), cherry, fig, grape, grapefruit, lemon, nectarine, nut trees (including pistachio), olive, orange, peach, pear, plum (including dried plum), and tangerine can be planted 2 months after a *Rowel* Herbicide application of 2 to 12 oz/A.

Table 1. Broadleaf Weeds Controlled by Residual Activity of *Rowel* Herbicide

BROADLEAF WEED SPECIES				
SECTION A				
COMMON NAME	**SCIENTIFIC NAME**	**ORGANIC MATTER**	**SOIL TYPE**	***ROWEL* HERBICIDE RATE**
Carpetweed	*Mollugo verticillata*	Up to 5%	All Soil Types	2 oz/A
Chickweeds				
Common	*Stellaria media*			
Mouseear	*Cerastium vulgatum*			
Dandelion	*Taraxacum officinale*			
Eclipta	*Eclipta prostrata*			
Eveningprimrose, Cutleaf	*Oenothera laciniata*			
Florida Pusley	*Richardia scabra*			
Henbit	*Lamium amplexicaule*			
Lambsquarters, Common	*Chenopodium album*			
Little Mallow	*Malva parviflora*			
Marestail/ Horseweed	*Conyza canadensis*			
Nightshades				
Black	*Solanum nigrum*			
Eastern Black	*Solanum ptycanthum*			
Hairy	*Solanum sarrachoides*			
Pigweeds				
Redroot	*Amaranthus retroflexus*			
Smooth	*Amaranthus hybridus*			
Spiny Amaranth	*Amaranthus spinosus*			
Tumble	*Amaranthus albus*			
Prickly Sida (Teaweed)	*Sida spinosa*			
Puncturevine	*Tribulus terrestris*			
Purslane, Common	*Portulaca oleracea*			
Radish, Wild	*Raphanus raphanistrum*			
Redmaids	*Calandrinia ciliata var. menziessii*			
Shepherd's-purse	*Capsella bursa-pastoris*			
Smallflower Morningglory	*Jacquemontia tamnifolia*			
Spotted Spurge	*Euphorbia maculata*	Up to 5%	All Soil Types	2 oz/A
Venice Mallow	*Hibiscus trionum*			

SECTION B				
All weeds listed in Section A plus:				
COMMON NAME	**SCIENTIFIC NAME**	**ORGANIC MATTER**	**SOIL TYPE**	***ROWEL* HERBICIDE RATE[2]**
Coffee Senna	*Cassia occidentalis*	Up to 3%	All Soil Types	2 oz/A Cotton 2.5 oz/A Soybean 3 oz/A Peanut and all other labeled crops
Common Ragweed[1]	*Ambrosia artemisiifolia*			
False Chamomile	*Tripleurospermum maritima*			
Florida Beggarweed	*Desmodium tortuosum*			
Golden Crownbeard	*Verbesina encelioides*			
Hairy Indigo	*Indigofera hirsuta*			
Hemp Sesbania	*Sesbania exaltata*	3 to 5%	Coarse and Medium Soils: (sandy loam, loamy sand, loamy, silt-loam, silt, sandy clay, sandy clay loam)	2 oz/A Cotton 2.5 oz/A Soybean 3 oz/A Peanut and all other labeled crops
Jimsonweed	*Datura stramonium*			
Kochia	*Kochia scoparia*			
Morningglories[3]				
Entireleaf	*Ipomoea hederacea var. integriuscula*			
Ivyleaf	*Ipomoea hederacea*			
Red/Scarlet	*Ipomoea coccinea*			
Tall	*Ipomoea purpurea*			
Mustard, Wild	*Brassica kaber*			
Palmer Amaranth	*Amaranthus palmeri*			
Spurred Anoda	*Anoda cristata*	3 to 5%	Fine Soils: (silty clay, silty clay loam, clay, clay loam)	2 oz/A Cotton 3 oz/A Peanut, Soybean and all other labeled crops
Tropic Croton	*Croton glandulosus*			
Waterhemps[1]				
Common	*Amaranthus rudis*			
Tall	*Amaranthus tuberculatus*			
Wild Poinsettia	*Euphorbia heterophylla*			

[1] A postemergence herbicide, such as Cobra® Herbicide, Phoenix™ Herbicide or glyphosate (Roundup Ready® soybeans only) may be needed following a preemergence application of *Rowel* Herbicide to adequately control common ragweed or waterhemp in soybean fields with heavy pressure.

[2] Due to differences in crop canopy timing between peanuts and soybeans, 3 oz/A of *Rowel* Herbicide should be used in peanuts, regardless of soil type and organic matter content, except in the states of North Carolina, Oklahoma and Virginia where a maximum of 2 oz/A can be applied in peanuts, unless supplemental labeling, provided by Monsanto Company is followed. *Rowel* Herbicide will provide residual control of these weeds at 2 oz/A when applied under a cotton canopy.

[3] Morninglory species are not adequately controlled on fine soils or soils with greater than 3% organic matter.

Table 2. Weeds Suppressed by Residual Activity of *Rowel* Herbicide

BROADLEAF WEED SPECIES		ORGANIC MATTER	OUNCES PER ACRE
COMMON NAME	**SCIENTIFIC NAME**		
Bristly Starbur	*Acanthospermum hispidum*	Up to 5%	2 to 3
Copperleaf, Hophornbeam	*Acalypha ostryifolia*		
Ragweed, Giant	*Ambrosia trifida*		
Russian Thistle	*Salsola iberica*		
Smartweeds			
Ladysthumb	*Polygonum persicaria*		
Pennsylvania	*Polygonum pensylvanicum*		
Smellmelon	*Cucumis melo*		
Velvetleaf	*Abutilon theophrasti*		
Wild Buckwheat	*Polygonum convolvulus*		
Wormwood, Biennial	*Artemisia biennis*		
GRASS WEED SPECIES			
Barnyardgrass	*Echinochloa crus-galli*	Up to 5%	2 to 3
Bluegrass, Annual	*Poa annua*		
Crabgrass, Large	*Digitaria sanguinalis*		
Foxtail, Giant	*Setaria faberi*		
Goosegrass	*Eleusine indica*		
Lovegrass, California	*Eragrostis diffusa*		
Panicums			
Fall	*Panicum dichotomiflorum*		
Texas	*Panicum texanum*		
Ryegrass, Italian	*Lolium multiflorum*		
Signalgrass, Broadleaf	*Brachiaria platyphylla*		
Cheat	*Bromus secalinus*	Up to 5%	1.5 to 3
Downy Brome	*Bromus tectorum*		

DIRECTIONS FOR USE IN FALL AND SPRING PREPLANT BURNDOWN AND FALLOW SEEDBED PROGRAMS IN FIELD CORN, PEANUT AND SOYBEAN (Preemergence to Crop)

GENERAL RESTRICTIONS AND LIMITATIONS

- Do not apply to frozen or snow covered soil.
- Do not perform any tillage operation after application or residual weed control will be reduced.

FALL BURNDOWN AND FALLOW SEEDBED PROGRAMS

Rowel Herbicide, at 2 to 4 oz/A can be used in the fall to provide residual weed control in fields that will be planted the following spring with field corn, peanut or soybean. Weeds controlled by residual activity are listed in Table 1, Sections A and B. If weeds have emerged at the time of application, use *Rowel* Herbicide in combination with a labeled burndown herbicide. Application must be made no earlier than October 15 in Region 2 or November 15 in Region 1 or when soil temperature falls below 50°F at a 2 inch depth to maintain residual weed control into the spring (April 1 in Region 1 and May 1 in Region 2) or up until planting, whichever comes first. *Rowel* Herbicide can be used in a fall burndown or fallow seedbed program outside of Regions 1 and 2, however the length of residual control may be variable.

Abnormally warm or wet winters will reduce the length of weed control observed in the spring.

Fall Application Regions:

Region 1: Alabama, Arkansas, Georgia, Kentucky, Mississippi, Oklahoma, Tennessee and Virginia

Region 2: Delaware, Kansas, Illinois, Indiana, Iowa, Maryland, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Pennsylvania, South Dakota, West Virginia and Wisconsin

Weeds controlled by postemergence or residual activity are listed in Table 3. Preplant burndown treatment tank mixes and rates are:

Herbicide	Rate
Program 1[1]	
Rowel Herbicide **Plus**	2 to 3 oz/A
Glyphosate **Plus**	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of Roundup Original®)
2,4-D LVE (2,4-D for use on preplant soybeans only) **Plus**	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of 2,4-D 4 LVE)
NIS + AMS	0.5% v/v + 17 lbs/100 gals of water

or

Program 2[1]	
Rowel Herbicide **Plus**	2 to 3 oz/A
Glyphosate **Plus**	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of Roundup Original)
COC[2] or NIS + AMS	1pt/A or 0.5% v/v + 17 lbs/100 gals of water

[1] Dicamba (Banvel®), at 0.188 lb ai/A (6 fl oz/A of Banvel 4) can be added to Programs 1, 2 & 3 to assist in the control of emerged broadleaves. Refer to dicamba label for rotational restrictions.

[2] Crop oil concentrate has been found to increase glyphosate burndown of emerged cutleaf eveningprimrose and Carolina geranium.

Herbicide	Rate

or

Program 3[1]	
Rowel Herbicide **Plus**	2 to 3 oz/A
2,4-D LVE (2,4-D for use on preplant soybeans only) **Plus**	0.5 to 1.0 lb ai/A (equivalent to 1 to 2 pt/A of 2,4-D 4 LVE)
COC[2]	1 pt/A

[1] Dicamba (Banvel®), at 0.188 lb ai/A (6 fl oz/A of Banvel 4) can be added to Programs 1, 2 & 3 to assist in the control of emerged broadleaves. Refer to dicamba label for rotational restrictions.

[2] Crop oil concentrate has been found to increase glyphosate burndown of emerged cutleaf eveningprimrose and Carolina geranium.

Table 3. Weeds Controlled by Fall and Spring Preplant Burndown Programs

WEEDS CONTROLLED[1]		POSTEMERGENCE			
		Program 1	Program 2	Program 3	RESIDUAL
COMMON NAME	**SCIENTIFIC NAME**	Weeds 3 inches or less			
Chamomile, False	*Matricaria maritime*	Yes	Yes	No	Yes
Cheatgrass	*Bromus tectorum*	Yes	Yes	No	Yes
Chickweed, Common	*Stellaria media*	Yes	Yes	No	Yes
Chickweed, Mouseear	*Cerastium vulgatum*	Yes	Yes	No	Yes
Cockle, White	*Silene latifolie*	No	Yes	Yes	Yes
Dandelion	*Taraxacum officinale*	Yes	No	Yes[2]	Yes
Deadnettle, Purple	*Lamium purpureum*	Yes	Yes	Yes	Yes
Groundsel, Cressleaf	*Senecio glabellus*	Yes	Yes	-	Yes
Henbit	*Lamium amplexicaule*	Yes	Yes	Yes	Yes
Kochia	*Kochia scoparia*	Yes	Yes	Yes	Yes
Marestail/Horseweed	*Conyza canadensis*	Yes	Yes[3]	Yes	Yes
Mallow, Common	*Malva Neglecta*	Yes	Yes	No	Yes
Prickly Lettuce	Lactuca serriola	Yes	Yes	Yes	Yes
Wormwood, Biennial	*Artemisia biennis*	Yes	Yes	Yes	Yes

(continued)

Table 3. Weeds Controlled by Fall and Spring Preplant Burndown Programs (continued)

WEEDS CONTROLLED[1]		POSTEMERGENCE			RESIDUAL
		Program 1	Program 2	Program 3	
COMMON NAME	SCIENTIFIC NAME	Weeds 3 inches or less			
Canola, Volunteer	*Brassica napus*	Yes	Yes	Yes	Yes
Carolina Geranium	*Geranium carolinianum*	Yes	Yes	Yes	-
Eveningprimrose, Cutleaf[4]	*Oenothera laciniata*	Yes	Yes	Yes	Yes
Flixweed	*Descurainia sophia*	Yes	Yes	Yes	Yes
Mustard, Tansy	*Descurainia pinnata*	Yes	Yes	Yes	Yes
Mustard, Wild	*Brassica kaber*	Yes	Yes	Yes	Yes
Shepherd's-purse	*Capsella bursa - pastoris*	Yes	Yes	Yes	Yes

[1] Refer to glyphosate and/or 2,4-D labels for additional weeds controlled and rotational restrictions.
[2] 1 lb ai/A of 2,4-D LVE (equivalent to 2 pt/A of 2,4-D 4 LVE) should be used for control of emerged dandelion.
[3] Program 2 will not control emerged glyphosate resistant marestail/horseweed.
[4] Program 1 should be used to control cutleaf eveningprimrose that are nearing 12 inches in height or are past the rosette stage. Programs 2 or 3 should be used to control cutleaf evening primrose that are 12 inches or less and in the rosette stage.

SPRING BURNDOWN PROGRAMS

Rowel Herbicide can be used in combination with labeled preplant burndown herbicides to assist in the postemergence burndown of emerged weeds and provide residual weed control prior to crop emergence. Weeds controlled by residual activity are listed in Table 1.

No-till planters that incorporate the soil during planting may result in decreased weed control in the row. Apply *Rowel* Herbicide after planting peanuts and soybeans when these types of planters are used (within 3 days after planting soybeans, within 2 days after planting peanuts and before the crop emerges). *Rowel* Herbicide cannot be applied after planting field corn.

Rowel Herbicide can be used at 1 to 3 oz/A with labeled preplant burndown herbicides to enhance the speed of burndown and increase weed spectrum.

Rowel Herbicide can be used at 1 to 3 oz/A in field corn, peanut and soybean burndown programs. See "DIRECTIONS FOR USE IN FIELD CORN", "DIRECTIONS FOR USE IN PEANUT", "DIRECTIONS FOR USE IN SOYBEAN" for more information.

DIRECTIONS FOR USE IN FALL AND SPRING BURNDOWN PROGRAMS IN COTTON

GENERAL RESTRICTIONS AND LIMITATIONS

- Do not apply to frozen or snow covered soil.
- Do not perform any tillage operation after application or residual weed control will be reduced.
- *Rowel* Herbicide can be used at 1 to 2 oz/A with labeled burndown herbicides to enhance the speed of burndown and increase weed spectrum.
- A minimum of 30 days must pass, and 1 inch of rainfall/irrigation must occur, between *Rowel* Herbicide application and planting of conventionally tilled cotton.
- A minimum of 14 days must pass, and 1 inch of rainfall/irrigation must occur, between *Rowel* Herbicide application and planting of no-till or strip-till cotton when a *Rowel* Herbicide rate of 1 oz/A is used and 21 days when a *Rowel* Herbicide rate of 1.5 to 2 oz/A is used. The field must contain the stubble from the previous crop.
- Observe all rotational intervals prior to planting as listed in the "ROTATIONAL RESTRICTIONS" table.
- Refer to most restrictive label for minimum interval between application and planting.

FALL BURNDOWN PROGRAMS

Rowel Herbicide, at 2 to 4 oz/A, can be used in the fall to provide residual weed control in fields that will be planted the following spring with cotton. Weeds controlled by residual activity are listed in Table 1 and Table 7. If weeds have emerged at the time of application, use *Rowel* Herbicide in combination with a labeled burndown herbicide. Application must be made no earlier than October 15 in Region 2 or November 15 in Region 1 or when soil temperature falls below 50°F at a 2 inch depth to maintain residual weed control into the spring (April 1 in Region 1 and May 1 in Region 2) or up until planting, whichever comes first. *Rowel* Herbicide can be used in a fall burndown or fallow seedbed program outside of Regions 1 and 2.

Abnormally warm or wet winters will reduce the length of weed control observed in the spring.

SPRING BURNDOWN PROGRAMS

Rowel Herbicide, at 1 to 2 oz/A, can be used in combination with labeled preplant burndown herbicides to assist in the postemergence burndown of emerged weeds and provide residual weed control prior to crop emergence in fields that will be planted with cotton. Weeds controlled by residual activity are listed in Table 1.
No-till planters that incorporate the soil during planting may result in decreased weed control in the row.

DIRECTIONS FOR USE IN FALLOW LAND

Rowel Herbicide may be used as a preemergence fallow treatment. Weeds controlled by residual activity are listed in Table 1.

Rowel Herbicide, at 2 to 4 oz/A, can be used in the fall to provide residual weed control in fallow fields. If weeds have emerged at the time of application, use *Rowel* Herbicide in combination with a labeled fallow herbicide. Application must be made no earlier than October 15 in Region 2 or November 15 in Region 1 or when soil temperature falls below 50°F at a 2 inch depth to maintain residual weed control into the spring (April 1 in Region 1 and May 1 in Region 2). Abnormally warm or wet winters will reduce the length of weed control observed in the spring.

Rowel Herbicide, at 1 to 2 oz/A, can be used in spring in combination with labeled burndown herbicides to control emerged weeds and provide residual weed control. Weeds controlled by residual activity are listed in Table 1.

DIRECTIONS FOR USE IN COTTON

GENERAL RESTRICTIONS AND LIMITATIONS

- Do not apply more than 2 oz of *Rowel* Herbicide per acre during a single application.
- Do not apply more than 4 oz of *Rowel* Herbicide per acre during a single growing season.
- Do not make a sequential *Rowel* Herbicide application within 30 days of the first *Rowel* Herbicide application.
- Do not apply within 60 days of harvest.

ENVIRONMENTAL CONDITIONS AND BIOLOGICAL PERFORMANCE

Hooded, Shielded and Layby Application

For best results, *Rowel* Herbicide should be applied to actively growing weeds within the growth stages indicated in this label. Applying *Rowel* Herbicide under conditions that do not promote active weed growth will reduce herbicide effectiveness. Do not apply *Rowel* Herbicide when the crop or weeds are under stress due to drought, excessive water, extremes in temperature, disease or low humidity. Weeds under stress tend to become less susceptible to herbicidal action. *Rowel* Herbicide is most effective when applied under sunny conditions at temperatures above 65°F.

Rowel Herbicide is rainfast one hour after application. Applications should not be made if rain is expected within one hour of application or postemergence efficacy may be reduced. Rainfall within one hour of application will not adversely affect residual activity.

HERBICIDE RATE

Hooded, Shielded and Layby Application

For postemergence weed control, *Rowel* Herbicide should be applied through a hooded or shielded sprayer or at layby, at 2 oz/A, in combinations with MSMA or at 1 to 2 oz/A in combination with glyphosate, to assist in the control of weeds listed in Table 4. Residual weed control can also be obtained through hooded, shielded and layby application of *Rowel* Herbicide. Weeds that are controlled through residual activity of *Rowel* Herbicide are listed in Table 1. Weeds that are suppressed by residual activity of *Rowel* Herbicide are listed in Table 2.

Table 4. Emerged Broadleaf Weeds Controlled by Hooded, Shielded and Layby Application of *Rowel* Herbicide Tank Mixes With Glyphosate or MSMA in Cotton

BROADLEAF WEED SPECIES		WEED HEIGHT (inches)
COMMON NAME	SCIENTIFIC NAME	2 oz/A
Bindweed, Field[1]	*Convolvulus arvensis*	4
Carpetweed	*Mollugo verticillata*	4
Chickweed, Common	*Stellaria media*	4
Cocklebur, Common	*Xanthium strumarium*	4
Florida Beggarweed	*Desmodium tortuosum*	2
Hemp Sesbania	*Sesbania exaltata*	6
Jimsonweed	*Datura stramonium*	4
Lambsquarters, Common	*Chenopodium album*	4
Morningglories		
Entireleaf	*Ipomoea hederacea var. integriuscula*	4
Ivyleaf	*Ipomoea hederacea*	4
Pitted	*Ipomoea lacunose*	4
Red	*Ipomoea coccinea*	4
Tall	*Ipomoea purpurea*	2
Mustard, Wild	*Brassica kaber*	6
Nightshades		
Black	*Solanum nigrum*	4
Eastern Black	*Solanum ptycanthum*	4
Hairy	*Solanum sarrachoides*	4
Pigweeds		
Palmer Amaranth	*Amaranthus palmeri*	4
Redroot	*Amaranthus retroflexus*	4
Smooth	*Amaranthus hybridus*	4
Plaintain, Broadleaf	*Plantago major*	6
Prickly Sida (Teaweed)	*Sida spinosa*	4
Purslanes, Common	*Portulaca oleracea*	2
Ragweeds		
Common	*Ambrosia artemisiifolia*	2
Giant	*Ambrosia trifida*	4
Rice Flatsedge	*Cyperus iria*	2
Sicklepod	*Senna obtusifolia*	4
Smartweeds		
Ladysthumb	*Polygonum persicaria*	4
Pale	*Polygonum lapathifolium*	4
Pennsylvania	*Polygonum pensylvanicum*	4
Spotted Spurge	*Euphorbia maculata*	4
Velvetleaf	*Abutilon theophrasti*	4
Venice Mallow	*Hibiscus trionum*	2
Waterhemps		
Common	*Amaranthus rudis*	2
Tall	*Amaranthus tuberculatus*	2

[1] *Rowel* Herbicide tank mixes will control the above ground portion of field bindweed. Repeated applications will be needed to control regrowth.

CARRIER VOLUME AND SPRAY PRESSURE

Hooded, Shielded and Layby Application

To ensure thorough coverage in hooded, shielded and layby applications, use 15 to 30 gals spray solution per treated acre. Use 20 to 30 gals per treated acre under heavy weed pressure. Nozzle selection should meet manufacturer's gallonage and pressure recommendations for application method being used. Do not use "Flood Jet" nozzles, as they tend to increase the chance of crop injury.

ADDITIVES

Hooded, Shielded and Layby Application

Weed control from hooded, shielded or layby application of *Rowel* Herbicide in cotton requires the addition of an agronomically approved non-ionic surfactant to the spray mixture. Non-ionic surfactant must contain at least 80% active ingredient. Mixing compatibility qualities should be verified by a jar test. **The use of crop oil concentrates, methylated seed oils, organo-silicant surfactants or products containing these ingredients, may result in severe crop injury and should not be used.**

APPLICATION EQUIPMENT

Apply *Rowel* Herbicide tank mixes, with ground equipment using standard commercial sprayers equipped with nozzles designed to deliver the desired spray pressure and spray volume. Application equipment should be clean and in good repair. Nozzles should meet manufacturer's recommendations for spray pattern and placement on spray boom and should be checked frequently for accuracy.

TIMING TO COTTON

Hooded and Shielded Application

Rowel Herbicide tank mixes may be applied with a hooded or shielded sprayer after cotton has reached a minimum of 6 inches in height. All nozzles must be under the hood or behind the shield to ensure no spray solution comes in contact with the cotton. Care must be taken to ensure the spray solution or drift does not come in contact with the cotton or severe crop injury can occur.

Layby Application

Layby application of *Rowel* Herbicide tank mixes may be made once cotton has reached a minimum of 16 inches in height. Cotton that is smaller than 16 inches in height may be injured by *Rowel* Herbicide applications. *Rowel* Herbicide application must be directed to the lower 2 inches of the cotton stem to avoid crop injury.

TIMING TO WEEDS

Rowel Herbicide tank mix applications must be made to weeds within the height range given in Table 4.

TANK MIXES

Rowel Herbicide must be tank mixed with one of the herbicides listed in Table 5 for postemergence control of the weeds listed in Table 4.

Table 5. Tank Mixes with *Rowel* Herbicide for Hooded, Shielded and/or Layby Use in Cotton

TANK MIX PARTNER	TARGET WEEDS	HOODED AND SHIELDED	LAYBY
glyphosate	Perennial Grasses and Broadleaves	X	X[1]
MSMA	Annual Grasses Yellow Nutsedge	X	X

[1] For use only in cotton with the Roundup Ready gene.

DIRECTIONS FOR USE IN FIELD CORN

GENERAL RESTRICTIONS AND LIMITATIONS

- Use only on no-till or minimum tillage fields where last years crop residue has not been incorporated into the soil.
- Corn must be planted between 14 and 30 days after application unless the application is made as part of a Fall burndown program.
- Do not apply more than 3 oz of *Rowel* Herbicide per acre during a single growing season.
- Do not irrigate between emergence and 2-leaf corn.
- Do not use on popcorn, sweet corn or corn grown for seed.

TIMING TO FIELD CORN

Rowel Herbicide, at 2 or 3 oz/A, may only be applied between 14 and 30 days prior to planting field corn, unless the application is made as part of a Fall burndown program.

Burndown Use Directions –

For Preplant Applications in Field Corn

Rowel Herbicide, applied as part of a burndown program, may be used for residual weed control, as well as to assist in postemergence burndown of many weeds where field corn will be planted directly into the residue of the previous year. See Directions For Use in Fall and Spring Preplant Burndown and Fallow Seedbed Programs in Field Corn, Peanut and Soybean for rates and timing of applications. For control of emerged weeds, *Rowel* Herbicide must be applied with an appropriate burndown tank mix partner listed in Table 6. To ensure thorough coverage, use a minimum of 15 gallons of spray solution per acre. Refer to tank mix partner's label for recommended application pressure and recommended adjuvant systems.

INCREASING SPEED OF GLYPHOSATE BURNDOWN ACTIVITY

Rowel Herbicide, at 1 oz/A, may be tank mixed with glyphosate (Roundup®) to increase the speed of burndown activity compared to glyphosate applied alone. Residual weed control will not be provided at rates lower than 2 oz/A; however, suppression of the weeds in Table 2 may occur at *Rowel* Herbicide rates as low as 1 oz/A. Applications of *Rowel* Herbicide at 1 oz/A must be made a minimum of 14 days prior to planting field corn.

TANK MIXES

Rowel Herbicide may be tank mixed with the herbicides listed in Table 6 for pre-plant burndown applications. Refer to tank mix partner's label for adjuvant recommendations.

Table 6. Tank Mix Partners for Burndown and/or Residual Control of Weeds in Field Corn

TANK MIX PARTNERS[1]	
2,4-D LVE	metribuzin
atrazine	paraquat
Basis®	Python®
dicamba	Resolve®
Express®	simazine
glyphosate	Weedmaster®
Hornet®	

[1]Refer to tank mix product labels for specific recommendations.

TANK MIX RESTRICTIONS

Tank mixes with flufenacet (Axiom or Domain), metolachlor or s-metolachlor (Dual Magnum or Dual II Magnum), dimethenamid or dimethenamid-p (Frontier or Outlook), alachlor (Lasso), or acetochlor (Surpass or Harness) may result in injury to field corn when application is followed by prolonged periods of cool wet weather and should not be used with *Rowel* Herbicide, unless supplemental labeling, provided by Monsanto Company, is followed.

Table 7. Weeds Controlled by Residual Activity of *Rowel* Herbicide

COMMON NAME	SCIENTIFIC NAME	ORGANIC MATTER	SOIL TYPE	*ROWEL* HERBICIDE RATE
BROADLEAF WEED SPECIES				
Bristly Starbur	*Acanthospermum hispidum*	Up to 5%	All Soil Types	4 oz/A
Carpetweed	*Mollugo verticillata*			
Chickweeds				
Common	*Stellaria media*			
Mouseear	*Cerastium vulgatum*			
Coffee Senna	*Cassia occidentalis*			
Copperleaf, Hophornbeam	*Acalypha ostryifolia*			
Dandelion	*Taraxacum officinale*			
Eclipta	*Eclipta prostrata*			
Evening Primrose, Cutleaf	*Oenothera laciniata*			
False Chamomile	*Tripleurospermum maritima*			
Flixweed	*Descurainia spophia*			
Florida Beggarweed	*Desmodium tortuosum*			
Florida Pusley	*Richardia scabra*			
Golden Crownbeard	*Verbesina encelioides*			
Groundsel, Common	*Senecio vulgaris*			
Hairy Indigo	*Indigofera hirsute*			
Hemp Sesbania	*Sesbania exaltata*			
Henbit	*Lamium amplexicaule*			
Jimsonweed	*Datura stramonium*			
Kochia	*Kochia scoparia*			
Lambsquarters, Common	*Chenopodium album*			
Little Mallow	*Malva parviflora*			
Marestail/Horseweed	*Conyza canadensis*			
Morningglories				
Entireleaf	*Ipomoea hederacea var. integriuscula*			
Ivyleaf	*Ipomoea hederacea*			
Red/Scarlet	*Ipomoea coccinea*			
Smallflower	*Jacquemontia tamnifolia*			
Tall	*Ipomoea purpurea*			
Mustard				
Tansy	*Descurainia pinnata*			
Tumble	*Sisymbrium altissimum*			
Wild	*Brassica kaber*			
Nightshades				
Black	*Solanum nigrum*			
Eastern Black	*Solanum ptycanthum*			
Hairy	*Solanum sarrachoides*			
Pigweeds				
Palmer Amaranth	*Amaranthus palmeri*			
Redroot	*Amaranthus retroflexus*			
Smooth	*Amaranthus hybridus*			
Spiny Amaranth	*Amaranthus spinosus*			
Tumble	*Amaranthus albus*			
Prickly Lettuce				
(China Lettuce)	*Lactuca serriola*			
Prickly Sida (Teaweed)	*Sida spinosa*			
Puncturevine	*Tribulus terrestris*			
Purslane,				
Common	*Portulaca oleracea*			
Horse	*Trianthema portulacastrum*			
Radish, Wild	*Raphanus raphanistrum*			
Ragweed, Common	*Ambrosia artemisiifolia*			
Redmaids	*Calandrinia ciliata var. menziesii*			
Russian Thistle	*Salsola iberica*			
Shepherd's-purse	*Capsella bursa-pastoris*			
Smartweeds				
Ladysthumb	*Polygonum persicaria*			
Pennsylvania	*Polygonum pensylvanicum*			
Smellmelon	*Cucumis melo*			
Spotted Spurge	*Euphorbia maculata*			
Spurred Anoda	*Anoda cristata*			
Tropic Croton	*Croton glandulosus*			
Velvetleaf	*Abutilon theophrasti*			
Venice Mallow	*Hibiscus trionum*			
Waterhemps				
Common	*Amaranthus rudis*			
Tall	*Amaranthus tuberculatus*			
Wild Poinsettia	*Euphorbia heterophylla*			
Wormwood, Biennial	*Artemisia biennis*			
GRASS WEED SPECIES				
Barnyardgrass	*Echinochloa crus-galli*			
Bluegrass, Annual	*Poa annua*			
Crabgrass, Large	*Digitaria sanguinalis*			
Foxtail, Giant	*Setaria faberi*			
Goosegrass	*Eleusine indica*			
Lovegrass, California	*Eragrostis diffusa*			
Panicums				

(continued)

Table 7. Weeds Controlled by Residual Activity of Valor SX Herbicide (continued)

GRASS WEED SPECIES				
COMMON NAME	SCIENTIFIC NAME	ORGANIC MATTER	SOIL TYPE	Rowel HERBICIDE RATE
Fall Texas Ryegrass, Italian Signalgrass, Broadleaf	Panicum dichotomiflorum Panicum texanum Lolium multiflorum Brachiaria platyphylla	Up to 5%	All Soil Types	4 oz/A

DIRECTIONS FOR USE IN PEANUT

GENERAL RESTRICTIONS AND LIMITATIONS

- Do not apply more than 3 oz of *Rowel* Herbicide per acre during a single growing season.
- Do not apply more than 2 oz/A in the states of North Carolina, Oklahoma or Virginia where climatic conditions may result in unacceptable injury to peanuts, unless supplemental labeling, provided by Monsanto Company, is followed.
- Do not irrigate when peanuts are cracking.

Many weather related factors, including high wind, splashing or heavy rains or cool conditions at or near peanut emergence, may result in peanut injury in fields treated with *Rowel* Herbicide. On occasion this has resulted in a delay in maturity or even a slight decrease in yield.

WIND MANAGEMENT

In areas where shallow cultivation is used between rows to reduce wind-borne sand damage to peanuts, weed control from *Rowel* Herbicide may be reduced.

TIMING TO PEANUTS

Rowel Herbicide may be applied to peanuts prior to planting or preemergence (after planting). Preemergence applications of Rowel Herbicide must be made within 2 days after planting and prior to peanut emergence. Application after the peanuts have begun to crack, or are emerged, will result in severe crop injury. Application should not be made when peanuts have begun to crack. Select Rowel Herbicide rate from Table 1 according to anticipated weed spectrum.

TIMING TO WEEDS

Burndown – Preemergence to Peanuts, Postemergence to Weeds

Rowel Herbicide, applied as part of a burndown program, may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds where peanuts will be planted directly into a stale seedbed, cover crop or in previous crop residues. Apply *Rowel* Herbicide before planting, during planting or after planting, but before the crop emerges. For control of emerged weeds, tank mix *Rowel* Herbicide with glyphosate. Refer to glyphosate label for recommended rate and application pressure. To ensure thorough coverage, use a minimum of 15 gals of spray solution per acre. *Rowel* Herbicide tank mixes applied to assist in the control of emerged weeds must be applied with an adjuvant, such as a non-ionic surfactant at 0.25% v/v or a crop oil concentrate or a methylated seed oil at 1 to 2 pt/A. A spray grade nitrogen source (either ammonium sulfate at 2 to 2.5 lbs/A or 28 to 32% nitrogen solution at 1 to 2 qts/A) may be added to increase herbicidal activity.

Preemergence (conventional tillage) applications of *Rowel* Herbicide must be applied prior to weed emergence.

ADDITIONAL RESIDUAL GRASS CONTROL: SEQUENTIAL

Rowel Herbicide may be applied sequentially following a preplant incorporated application of trifluralin (states of New Mexico, Oklahoma and Texas only), Sonalan®, Dual® (metolachlor), pendimethalin or Frontier®.

ADDITIONAL RESIDUAL GRASS CONTROL: TANK MIXED

Rowel Herbicide can be tank mixed with alachlor, metolachlor or Frontier for additional grass and broadleaf weed control. *Rowel* Herbicide can also be tank mixed with pendimethalin or Sonalan in states where they are labeled, provided overhead irrigation guidelines on the pendimethalin and/or Sonalan labels are followed.

DIRECTIONS FOR USE IN SOYBEAN

GENERAL RESTRICTIONS AND LIMITATIONS

- Do not apply more than 3 oz of *Rowel* Herbicide per acre during a single growing season.
- Do not use *Rowel* Herbicide in soybeans in the same field that flufenacet (Axiom®, Domain®), alachlor (Micro-Tech®), metolachlor (Dual products or Boundary®) or dimethenamid (Frontier or Outlook®) will be used, or soybean injury may occur, unless supplemental labeling, provided by Monsanto Company, is followed.
- Do not irrigate when soybeans are cracking.

TIMING TO SOYBEANS

***Rowel* Herbicide may be applied to soybeans prior to planting or preemergence (after planting). Preemergence application of *Rowel* Herbicide must be made within 3 days after planting and prior to soybean emergence. Application after the soybeans have begun to crack, or are emerged, will result in severe crop injury. Application should not be made when soybeans have begun to crack.** Select *Rowel* Herbicide rate from Table 1 according to anticipated weed spectrum.

TIMING TO WEEDS

Burndown – Preemergence to Soybeans, Postemergence to Weeds

Rowel Herbicide, applied as part of a burndown program, may be used for residual weed control, as well as to assist in postemergence burndown of many annual and perennial weeds where soybeans will be planted directly into a stale seedbed, cover crop or in previous crop residues. For control of emerged weeds, choose the most appropriate tank mix partner from Table 8. Apply *Rowel* Herbicide with ground equipment before planting, during planting or within 3 days after planting, **but before the crop emerges.** To ensure thorough coverage, use a minimum of 15 gals of spray solution per acre. Refer to tank mix partner's label for recommended application pressure. All *Rowel* Herbicide tank mixes applied to assist in the control of emerged weeds must be applied with crop oil concentrate or methylated seed oil at 1 to 2 pt/A or a non-ionic surfactant at 0.25% v/v.

INCREASING SPEED OF GLYPHOSATE BURNDOWN ACTIVITY

Rowel Herbicide, at rates as low as 1 oz/A, may be tank mixed with glyphosate (Roundup®) to increase the speed of burndown activity compared to glyphosate applied alone. Residual weed control will not be provided at rates lower than 2 oz/A; however, suppression of the weeds in Table 2, may occur at *Rowel* Herbicide rates as low as 1 oz/A.

TANK MIXES

Rowel Herbicide may be tank mixed with the herbicides listed in Table 8 for increased burndown activity, additional residual broadleaf and/or additional grass control. Refer to tank mix partner's label for adjuvant recommendations.

Table 8. Tank Mix Partners for Control of Emerged Weeds in Reduced Tillage Soybeans

TANK MIX PARTNER	TARGET WEEDS[1]
2,4-D LVE	Marestail Giant Ragweed Dandelion
paraquat	Annual Grasses Henbit
glyphosate	General Burndown
Select Max®	Annual Grasses
Scepter® 70 DG	Cocklebur Common Sunflower
Weedmaster®	Marestail Giant Ragweed Dandelion

[1] Refer to tank mix product labels for specific recommendations for control of emerged weeds present.

ADDITIONAL RESIDUAL BROADLEAF CONTROL

Rowel Herbicide can be tank mixed with metribuzin, Firstrate®, Lorox®, Pursuit Plus®, Python®, Squadron®, Scepter or Steel® for additional broadleaf control.

ADDITIONAL RESIDUAL GRASS CONTROL

Rowel Herbicide can be tank mixed with pendimethalin or Command® for additional grass control. Tank mixes with flufenacet (Axiom or Domain), metolachlor (Dual products or Boundary), dimethenamid (Frontier or Outlook) or alachlor (Micro-Tech or IntRRo®), may result in severe injury to soybeans when application is followed by prolonged periods of cool wet weather and should not be used with *Rowel* Herbicide, unless supplemental labeling, provided by Monsanto Company, is followed.

ROUNDUP READY PROGRAM

Rowel Herbicide may be applied as part of a burndown program or preemergence in conventional tillage programs, at 2 to 3 oz/A to reduce early season weed competition from waterhemp, velvetleaf, nightshade and morninglories as well as other weeds listed in Tables 2 and 3 in Roundup Ready programs. A sequential post emergence application of glyphosate will be required to control weeds not controlled by *Rowel* Herbicide.

STORAGE AND DISPOSAL

PROHIBITIONS

Do not contaminate water, food or feed by storage, disposal or cleaning of equipment.

PESTICIDE STORAGE

Keep pesticide in original container.
Store in a cool, dry, secure place.
Do not put formulation or dilute spray solution into food or drink containers.
Do not contaminate food or foodstuffs.
Do not store or transport near feed or food.
Not for use or storage in or around the home.
For help with any spill, leak, fire or exposure involving this material, call day or night (800) 332-3111.

PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL

Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse 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.

Manufactured for:
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