U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505P)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

NOTICE OF PESTICIDE:
_X_ Registration
___ Reregistration
(under FIFRA, as amended)

EPA Reg. Number:	**Date of Issuance:**
71368-120	12/22/16

Term of Issuance:
Conditional

Name of Pesticide Product:
Panther Pro Herbicide

Name and Address of Registrant (include ZIP Code):

Matthew Granahan
Nufarm, Inc.
4020 Aerial Center Parkway, Suite 101
Morrisville, NC 27560

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Continued on page 2

Signature of Approving Official:

Mindy Ondish for

Reuben Baris, Product Manager 25
Herbicide Branch, Registration Division (7505P)

Date:
12/22/16

EPA Form 8570-6

2. You are required to comply with the data requirements described in the DCIs and EDSP Order identified below:

    a. Metribuzin EDSP-101101-127
    b. Metribuzin GDCI-101101-1304
    c. Flumioxazin GDCI-129034-1236

    You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCIs or EDSP Order listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: http://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1

3. The data requirements for storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) are not satisfied. A one-year study is required to satisfy these data requirements. You have 18 months from the date of registration to provide these data.

4. Make the following label changes before you release the product for shipment:

    - Revise the EPA Registration Number to read, "EPA Reg. No. 71368-120."

5. Submit one copy of the final printed label for the record before you release the product for shipment.

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 FIFRA 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 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.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 4/28/2016
- Alternate CSF 1 dated 4/28/2016
- Alternate CSF 2 dated 4/28/2016
- Alternate CSF 3 dated 10/17/2016
- Alternate CSF 4 dated 10/17/2016

If you have any questions, please contact Emily Schmid by phone at 703-347-0189, or via email at schmid.emily@epa.gov.

Enclosure

GROUPS 5 & 14 & 2 HERBICIDE

PANTHER® PRO

HERBICIDE

FOR CONTROL AND/OR SUPPRESSION OF CERTAIN WEEDS IN BURNDOWN APPLICATIONS, FALLOWLAND, ALFALFA, CHICKPEAS (GARBANZO BEANS), SOYBEANS, AND TO MAINTAIN BARE GROUND ON NON-CROP AREAS OF FARMS

ACTIVE INGREDIENTS:	
Metribuzin[(1)]	31.83%
Flumioxazin[(2)]	7.11%
Ammonium salt of Imazethapyr[(3)]	6.02%
OTHER INGREDIENTS:	55.04%
TOTAL:	100.00%

(1) 1,2,4-Triazin-5(4H)-one, 4-amino-6-(1,1-dimethylethyl)-3-(methylthio)

Panther Pro contains 3.0 pounds metribuzin per gallon.

(2) 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

Panther Pro contains 0.67 pounds flumioxazin per gallon.

(3) Ammonium salt of (+/-)-2-(4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl)-5-ethyl-3-pyridinecarboxylic acid

Panther Pro contains 0.56 pounds imazethapyr per gallon as the free acid.

[For ≤ 5 Gallon Containers:] [Shake Well Before Use]
[For > 5 Gallon Containers:] [Shake Well, Agitate or Recirculate Before Use]

KEEP OUT OF REACH OF CHILDREN

CAUTION / PRECAUCIÓN

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 BACK PANEL FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300
For Medical Emergencies Only, Call (877) 325-1840

ACCEPTED
12/22/2016
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 71368-120

EPA REG. NO. 71368-REN
EPA EST. NO.

MANUFACTURED FOR
NUFARM INC.
11901 S. AUSTIN AVE.
ALSIP, IL 60803

Nufarm

[Designation as "NONREFILLABLE" or "REFILLABLE" for containers >5]

071368-00REN.20161213.DRAFT NUP-15008.Panther Pro

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION / PRECAUCIÓN

Harmful if absorbed through skin or if swallowed. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Applicators and other handlers must wear:

- long-sleeved shirt and long pants,
- chemical-resistant gloves made of barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride (PVC) or Viton, and
- 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.

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.

PHYSICAL-CHEMICAL HAZARDS
Do not mix or allow coming in contact with oxidizing agent. Hazardous Chemical reaction may occur.

USER SAFETY RECOMMENDATIONS

Users Should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- 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.

FIRST AID

IF ON SKIN OR CLOTHING	• 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 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 by a poison control center or doctor. • Do not give anything to a 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 1-877-325-1840 for emergency medical treatment information.

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 maybe 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 or rinsate.

GROUNDWATER ADVISORY

This product contains chemicals which can travel (seep or leach) through soil and can contaminate groundwater which may be used as drinking water. This product contains active ingredients found in groundwater as a result of agricultural use. Users are advised not to apply Metribuzin or Imazethapyr where the water table (groundwater) is close to the surface, and where the soils are very permeable, i.e. well drained soils such as loamy sands. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

This product may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes or 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 shall 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 capacities do 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.

Do not apply this product through any type of irrigation system.

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

DIRECTIONS FOR USE

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

Read the entire label before using this product. Use strictly in accordance with label 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 restrictions, precautions and limitations on this label and on the labels of products used in combination with Panther Pro. Do not use this product other than in accordance with the instructions set forth on this label. The use of Panther Pro not consistent with this label may result in injury to crops. Keep containers closed to avoid spills and contamination.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 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 statement of this label about personal protective equipment (PPE) and restricted-entry interval (REI). The requirements in this box only apply to users of this product that are covered by the WPS.

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 WPS for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural crops on farms, forests, 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 the treated area until sprays have dried.

TANK MIXES

It is the pesticide user's responsibility to ensure that all products 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.

This product may be mixed with glufosinate or glyphosate formulations labeled for burndown programs (preplant or preemergent to crop) in accordance with the most restrictive label restrictions, limitations and precautions. Labeled application rates must not be exceeded. Do not mix this product with any product containing a label prohibition against such mixing.

USE INFORMATION

Uses:

- Panther Pro provides residual control of susceptible weeds.
- Panther Pro provides burndown activity.
- Panther Pro can be applied alone, or as part of a burndown program for control of susceptible winter annuals and other listed weeds.
- Panther Pro can be used on farms for non-selective vegetation control to maintain bare ground non-crop areas that must be kept weed free.

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. When Panther Pro is 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 must be observed.

USE RESTRICTIONS

- Do not apply Panther Pro when weather conditions favor spray drift from treated areas.
- Do not apply during low-level inversion conditions, including fog.
- Do not apply to frozen or snow covered soil.
- 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.
- Do not use on other crops grown for food or forage.
- Do not allow sprays to drift on to adjacent desirable plants.
- Observe all restrictions, precautions and limitations on labeling of all products used in mixtures.

- Do not rotate any crop in contradiction to the instruction in the **Rotational Restrictions** table.
- For all uses: Low-pressure, high volume hand-wand equipment is prohibited.
- Do not apply Panther Pro through any type of irrigation system.
- When applying by air, observe drift management restrictions and precautions listed under **AERIAL APPLICATION**.

GEOGRAPHICALLY SPECIFIC RESTRICTIONS
- **In New York State - Not for Sale or Use on Long Island.**
- **In California - Fertilizer solutions may not be used.**

USE LIMITATIONS
- Mechanical incorporation into the soil will reduce residual weed control.
- Post directed and layby applications of Panther Pro should be applied only to healthy growing crops.

Spray equipment used to apply Panther Pro must not be used to apply other materials to any crop foliage, unless the proper cleanout procedures are followed. See SPRAYER CLEANUP for more information.

RESISTANCE MANAGEMENT

For resistance management, please note Panther Pro contains Metribuzin, a Group 5 herbicide (photosynthetic inhibitor), Flumioxazin, a Group 14 herbicide (PPO inhibitor) and Imazethapyr ammonium salt, a Group 2 herbicide (ALS inhibitor). Any weed population may contain plants naturally resistant to Group 5 and/or Group 14 and/or Group 2 herbicides. The resistant individuals may dominate the weed population if these herbicides are used repeatedly in the same fields. With three modes of action Panther Pro is designed with the intent of providing the user with a resistance-management strategy.

Additional integrated weed management programs include scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.

To delay herbicide resistance consider:
• Avoiding the consecutive use of herbicides with the same modes of action on the same weed species.
• Basing herbicide use on a comprehensive 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.

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

A minimum amount of moisture is required to activate Panther Pro. In areas of low rainfall, pre-emergence applications to dry soil should be-followed with light irrigation of 1/4 acre inch of water. Do not apply heavy irrigation immediately after application. As with many surface-applied herbicides, weed control and crop tolerance may vary with rainfall and/or soil texture.

Burndown Application

For best results, apply Panther Pro as part of a burndown program to actively growing weeds. Applying Panther Pro under conditions that do not promote active weed growth will reduce herbicide effectiveness. Do not apply Panther Pro 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. Panther Pro 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.

Rainfast

Panther Pro is rainfast one hour after application. Postemergence efficacy may be reduced if rain is expected within one hour of application.

Soil Characteristics

Application of Panther Pro 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.

Soil texture: As used on this label, "Coarse soils" are loamy sand or sandy loam soils. "Medium soils" are loam, silt loam, silt, sandy clay, or sandy clay loam. "Fine soils" are silty clay, silty clay loam, clay, or clay loam. Silty clay loam soils are transitional soils and may be classified as medium textured soils in some regions of the U.S.

HERBICIDE RATE

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

Apply Panther Pro at 7-3/4 – 18 fluid ounces per acre, or as specified in the applicable restrictions section. 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 dosage of Panther Pro 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 gallons of a medium or coarse spray solution per acre for conventional tillage applications. Nozzle selection must meet manufacturer's gallonage and pressure specifications for preemergence herbicide application.

Burndown Application (Prior to Crop Emergence)

To ensure thorough coverage in burndown applications, use 15 to 40 gallons spray solution per acre. Use 20 to 40 gallons per acre if dense vegetation or heavy crop residue is present. Nozzle selection must meet manufacturer's gallonage and pressure specifications for postemergence herbicide application. Use nozzles that provide a medium spray solution.

ADDITIVES

Burndown Application (Prior to Crop Emergence)

Postemergence control of weeds from tank mixes of Panther Pro will require the addition of an agronomically approved adjuvant to the spray mixture. 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 Panther Pro as part of a burndown program. Some tank mix partners, such as Roundup Power Max® and Credit® Xtreme 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 Panther Pro. 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 pounds per acre or a 28 to 32% nitrogen solution at 1 to 2 quarts per acre) 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 PANTHER PRO

When using Panther Pro 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 Panther Pro, when using Panther Pro for the first time, when using new adjuvants or when a new water source is being used.

1. Add 1 pint 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 milliliter of Panther Pro to the quart jar for every 3 fluid ounces of Panther Pro per acre being applied (4 milliliters if 12 fluid ounces per acre is the desired rate of Panther Pro), gently mix until product goes into suspension.

3. Add 60 milliliters (4 Tablespoons or 2 fluid ounces) of the crop oil or methylated seed oil to the quart jar or 1 milliliter of non-ionic surfactant if it is being used in place of oil, gently mix.

4. If nitrogen is being used, add 16 milliliters (1 Tablespoon. or 0.5 ounce) 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. 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 application of Panther Pro, 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 Panther Pro. If two or more products were tank mixed prior to application of Panther Pro, the most restrictive cleanup procedure must 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 pounds of spray grade ammonium sulfate per 100 gallons of spray solution.
3. Agitate solution. Agitation should create a rippling or rolling action on the water surface.
4. If tank mixing Panther Pro 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.
5. Add any required adjuvants.
6. Fill spray tank to desired level with water. **Agitation should continue until all spray solution has been applied.**
7. Mix only the amount of spray solution that can be applied the day of mixing. Panther Pro should be applied within 6 hours of mixing.

SPRAYER CLEANUP

Spray equipment, including mixing vessels and nurse tanks, must be cleaned each day following application of Panther Pro. After Panther Pro 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 gallon of 3% household ammonia (or equivalent) for every 100 gallons 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 Panther Pro 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, must be thoroughly cleaned before it is used to apply postemergence pesticides. Equipment with residue of Panther Pro 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. Space nozzles uniformly on boom and frequently checked for accuracy.

BROADCAST APPLICATION

Apply Panther Pro and tank mixes of Panther Pro, with ground equipment using standard commercial sprayers equipped with flat fan or flood nozzles (preemergence applications only) designed to deliver a minimum of 10 to 40 gallons of spray mixture per acre broadcast.

BAND APPLICATION

When banding, use proportionately less water and Panther Pro per acre. The rate of Panther Pro 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 Panther Pro by air within 40 feet of non-target plants including non-target crops.
- Do not apply Panther Pro by air within 100 feet of emerged cotton crops.
- Do not apply Panther Pro by air within 40 feet of streams, wetlands, marshes, ponds, lakes and reservoirs.
- **Carrier Volume and Spray Pressure:** When used as part of a burndown weed control program, apply Panther Pro in 7 to 10 gallons of water per acre. Application at less than 7 gallons per acre may provide inadequate control. When used for preemergence weed control, apply Panther Pro in 5 to 10 gallons of water per acre. The higher gallonage applications generally afford more consistent weed control. Do not exceed the nozzle manufacturer's specified 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.

APPLICATION WITH DRY BULK FERTILIZERS

Dry bulk fertilizer may be impregnated or coated with Panther Pro. Application of dry bulk fertilizer with Panther Pro provides weed control equal to, or slightly below, the same rate of Panther Pro applied in liquid carriers, due to better coverage with application via spray equipment. Follow label instructions for Panther Pro regarding rates, special instructions, cautions and special precautions. Apply 400 to 700 lbs. of the fertilizer/herbicide mixture per acre to obtain adequate soil coverage. Apply the mixture to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury and to obtain uniform weed control.

Ammonium nitrate and/or limestone should not be used as the sole source of fertilizer, as Panther Pro may not adhere to these materials.

Compliance with all Federal and State regulations relating to blending pesticide mixtures with dry bulk fertilizer, registrations, labeling and application are the responsibility of the individual and/or company offering the fertilizer and mixtures of Panther Pro for sale.

Panther Pro must be premixed with water to form a slurry prior to impregnation on dry bulk fertilizer. For best results, use a minimum of 1 pint of water for each 2 fluid ounces of Panther Pro. A minimum of 6 pints of slurry of Panther Pro should be used to impregnate 2000 pounds of the fertilizer for uniform coverage of the fertilizer. Closed drum, belt, ribbon or other commonly used dry bulk blenders may be used. The amount of Panther Pro required can be calculated with the following formula:

$$\text{Fluid Ounces of Panther Pro Per Ton of Fertilizer} = \text{Fluid Ounces of Panther Pro Per Acre} \times 2{,}000 \div \text{Pounds of Fertilizer Per Acre}$$

Thoroughly clean dry fertilizer blending equipment after Panther Pro has been placed in the system to avoid injury to sensitive crops that may be treated with fertilizers blended after the equipment has been used for Panther Pro. Rinse the sides of the blender and the herbicide tank with water. Then impregnate the rinsate onto a load of dry fertilizer intended for an approved crop. Use a maximum rate of 1 gallon of rinsate per ton of fertilizer. Follow with 1 to 2 loads of unimpregnated fertilizer in the blender before switching herbicides.

NOTE: Fertilizer solutions may not be used in California.

ROTATIONAL RESTRICTIONS

The following rotational crops may be planted after applying Panther Pro. For Soybeans the rotation restriction is 0 days. Planting earlier than the specified rotational interval may result in crop injury.

4 Months	Alfalfa (If soil is tilled prior to planting) [Applications equal to or less than 12 fl oz /A Panther Pro] Clearfield Corn hybrids (resistant/tolerant to Imazethapyr) Wheat (Following peas, lentils or soybeans)
8 Months	Alfalfa (If no tillage is performed) [Applications equal to or less than 12 fl oz /A Panther Pro] Lentils Peas Wheat (Except following peas, lentils or soybeans)
8-1/2 Months	Field Corn Field Corn grown for seed
9-1/2 Months	Barley (except in North Dakota)
18 Months	Barley (North Dakota Only) Clearfield Canola[2] Clover Corn Inbred Line[3] Cotton Dry and Snap Beans Lettuce Oats Onion (Alabama, Delaware, Florida, Georgia, Indiana, Kentucky, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, and Virginia only) Peanut Popcorn Rye Safflower Sorghum Sunflower Sweet Corn Tobacco Tomato Transplants (Alabama, Delaware, Florida, Georgia, Indiana, Kentucky, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, and Virginia only) Vegetable Crops (Specified Below)[5]
26 Months	Flax Potato
40 Months	Asparagus Forage Grass Rice Sainfoin Sugarcane Sugar Beet All crops not listed elsewhere in the ROTATIONAL RESTRICTIONS[6]

[1] **- NON-CLEARFIELD WHEAT**		**Moldboard Plowing**	
Rotational Interval based on pH, Moisture and Tillage (North Dakota)		**NO**	**YES**
pH and Rainfall Requirements	**> 10 inches R+I AND pH > 6.2**	4 Months	4 Months
	< 10 inches R+I AND pH < 6.2	15 Months	4 Months

R+I = Rainfall and overhead irrigation from the time of Panther Pro application up until time of wheat planting. Does not include furrow or flood irrigation.

If the rainfall or pH requirements are not fully met, and non-CLEARFIELD wheat is planted prior to the specified rotation interval, injury may be reduced by tillage, such as deep disking (greater than 6 inches deep) after crop harvest but prior to November 1.

[2] **CLEARFIELD® CANOLA** - CLEARFIELD varieties of canola, such as Pioneer® 45A71 and Pioneer® 46A76, may be planted as a rotational crop 18 months after an application of Panther Pro at label rates on registered crops.

[3] **CORN INBRED LINES -** Corn inbred seed lines may be planted 18 months following an application of Panther Pro Several seed companies have tested a wide range of inbreds for sensitivity to Imazethapyr soil residues and have reported good crop safety. However, due to the proprietary nature of seed production, Nufarm has not been given access to the inbred data. Growers are directed to contact the seed company for information and recommendations regarding the planting of corn grown for seed in fields treated with Panther Pro the previous year. Since growing conditions, environmental conditions and grower practices are beyond the control of Nufarm, all risks and con-sequences associated with planting seed corn inbreds into fields treated previously with Panther Pro shall be assumed by the user.

[5] **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 Panther Pro: Bahiagrass, cabbage, cantaloupe, cucumber, Irish potato, onion, sweet potato transplants, sweet pepper transplants, tomato transplants [<1.0 lbs Flumi], and watermelon.

[6] Following forty months after a Panther Pro application and before planting any crop not listed elsewhere in the ROTATIONAL RESTRICTIONS, 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 the ROTATIONAL RESTRICTIONS, apply the lime at least 12 months prior to planting the rotational crop.

Table - Weeds Controlled or Suppressed by Residual Activity of Panther Pro

BROADLEAF WEEDS

COMMON NAME	SCIENTIFIC NAME	ORGANIC MATTER	SOIL TYPE	PANTHER PRO HERBICIDE RATE
Bristly starbur*	*Acanthospermum hispidum*	Up to 5%	All Soil Types	12 fl oz/A
Carpetweed	*Mollugo verticillata*			
Chickweed,				
Common	*Stellaria media*			
Mouseear	*Cerastium vulgatum*			
Copperleaf, hophornbeam*	*Acalypha ostryifolia*			
Dandelion	*Taraxacum officinale*			
Eclipta	*Eclipta prostrata*			
Eveningprimrose, cutleaf	*Oenothera laciniata*			
Field pennycress	*Thlaspi arvense*			
Florida pusley	*Richardia scabra*			
Henbit	*Lamium amplexicaule*			
Lambsquarters, common	*Chenopodium album*			
Mallow,				
Little	*Malva parviflora*			
Venice	*Hibiscus trionum*			
Marestail/Horseweed	*Conyza canadensis*			
Mayweed/False chamomile	*Matricaria maritima*			
Morningglory,				
Smallflower	*Jacquemontia tamnifolia*			
Tall	*Ipomoea purpurea*			
Nightshade,				
Black	*Solanum nigrum*			
Eastern black	*Solanum ptycanthum*			
Hairy	*Solanum sarrachoides*			
Pigweed,				
Redroot	*Amaranthus retroflexus*			
Smooth	*Amaranthus hybridus*			
Spiny amaranth	*Amaranthus spinosus*			
Tumble	*Amaranthus albus*			
Prickly lettuce	*Lactuca serriola*			
Prickly sida (Teaweed)	*Sida spinosa*			
Puncturevine	*Tribulus terrestris*			
Purslane, common	*Portulaca oleracea*			
Radish, wild	*Raphanus raphanistrum*			
Ragweed, common	*Ambrosia artemisiifolia*			
Redmaids	*Calandrinia ciliata* var. *menziessii*			
Russian Thistle*	*Salsola iberica*			
Shepherd's-purse	*Capsella bursa-pastoris*			
Smellmelon[2,]*	*Cucumis melo*			
Sowthisle, prickly	*Sonchus asper*			
Spotted Spurge	*Euphorbia maculata*			
Velvetleaf	*Abutilon theophrasti*			
Waterhemp, common	*Amaranthus rudis*			
Wild Buckwheat*	*Polygonum convolvulus*			
Wormwood, biennial*	*Artemisia biennis*			
Anoda, spurred	*Anoda cristata*	Up to 3%	All Soil Types	15 fl oz/A
Coffee senna	*Cassia occidentalis*			
False chamomile	*Tripleurospermum maritima*			
Florida beggarweed	*Desmodium tortuosum*			
Galinsoga	*Galinsoga quadriradiata*			
Golden crownbeard	*Verbesina encelioides*			
Hairy indigo	*Indigofera hirsuta*			
Marshelder	*Iva annua*			
Ragweed, giant*	*Ambrosia trifida*			

Poinsettia, wild	*Euphorbia heterophylla*			
Prostrate Spurge	*Chamaesyce humistrata*			
Smartweed,				
Ladysthumb	*Polygonum persicaria*			
Pennsylvania	*Polygonum pensylvanicum*			
Hemp sesbania	*Sesbania exaltata*	3 to 5%	Coarse and Medium Soils (sandy loam, loamy sand, loamy, silt-loam, silt, sandy clay, sandy clay loam)	15 fl oz/A
Jimsonweed	*Datura stramonium*			
Kochia	*Kochia scoparia*			
London Rocket	*Sisymbrium irio*			
Morningglory,				
Entireleaf[1]	*Ipomoea hederacea* var.*Integriuscula*			
Ivyleaf[1]	*Ipomoea hederacea*			
Red / scarlet[1]	*Ipomoea coccinea*			
Mustard, Wild	*Brassica kaber*			
GRASS WEEDS				
Barnyardgrass*	*Echinochloa crus-galli*	Up to 5%	All Soil Types	12 fl oz/A
Bluegrass, annual*	*Poa annua*			
Cheat*	*Bromus secalinus*			
Crabgrass, Large *	*Digitaria sanguinalis*			
Downy Brome[2,*]	*Bromus tectorum*			
Foxtail, Giant*	*Setaria faberi*			
Goosegrass*	*Eleusine indica*			
Lovegrass, California*	*Eragrostis diffusa*			
Panicum,				
Fall*	*Panicum dichotomiflorum*			
Texas*	*Panicum texanum*			
Ryegrass, Italian*	*Lolium multiflorum*			
Signalgrass, broadleaf*	*Brachiaria platyphylla*			
Foxtail,		Up to 5%	All Soil Types	15 fl oz/A
Giant	*Setaria faberii*			
Green	*Setaria viridis*			
Yellow	*Setaria glauca*			
Johnsongrass, Seedling	*Sorghum halepense*			

[1] These Morningglory species may not be adequately controlled on fine soils or soils with greater than 3% organic matter.

[2] Not for Use in California.

* Suppression Only

Table - Weeds Controlled or Suppressed by Postemergence Activity of Panther Pro (Postemergent to Weeds)

COMMON NAME	SCIENTIFIC NAME	PANTHER PRO HERBICIDE RATE	
		12 fl oz/A	15 fl oz/A
		WEED SIZE (inches)	
Alligatorweed	*Alternanthera philoxeroides*	-	1 – 3
Anoda, spurred	*Anoda cristata*	-	1 – 2
Artichoke, Jerusalem	*Helianthus tuberosus*	R	6 - 10
Bristly starbur	*Acanthospermum hispidum*	-	1 – 2
Buffalobur	*Solanum rostratum*	-	1 – 3
Carpetweed	*Mollugo verticillata*	-	1 – 3
Cocklebur, common	*Xanthium strumarium*	R - 4	1 – 8
Dandelion	*Taraxacum officinale*	-	1 – 3
Jimsonweed	*Datura stramonium*	-	1 – 3
Kochia (non-ALS resistant)	*Kochia scoparia*	1 - 3	1 – 3
Lambsquarters, common	*Chenopodium album*	-	1 – 3
Marshelder	*Iva xanthifolia*	-	1 – 4
Mayweed	*Anthemis cotula*	-	1 – 3
Morningglory,			
Entireleaf	*Ipomoea hederacea* var. *Integriuscula*	-	1 – 2
Ivyleaf	*Ipomoea hederacea*	-	1 – 2
Pitted	*Ipomoea lacunosa*	-	1 – 2
Smallflower	*Jacquemontia tamnifolia*	R	1 – 3

Tall	*Ipomoea purpurea*	-	1 – 2
Mustard			
Black	*Brassica nigra*	1 – 3	1 – 3
Tumble	*Sisymbrium altissimum*	1 – 3	1 – 3
Wild	*Brassica kaber*	1 – 3	1 – 3
Nightshade,			
Black	*Solanum nigrum*	1 – 3	1 – 3
Eastern black	*Solanum ptycanthum*	1 – 3	1 – 3
Hairy	*Solanum sarrachoides*	1 – 3	1 – 3
Pigweed,			
Prostate	*Amaranthus graecizans*	-	1 – 3
Redroot	*Amaranthus retroflexus*	1 – 4	1 – 8
Smooth	*Amaranthus hybridus*	1 – 4	1 – 8
Spiny	*Amaranthus spinosus*	-	1 – 8
Ragweed,			
Common	*Ambrosia artemisiifolia*	-	1 – 3
Giant	*Ambrosia trifida*	-	1 – 3
Sesbania	*Sesbania* sp.	-	1 – 3
Shepherd's-purse	*Capsella bursa-pastoris*	1 – 3	1 – 3
Sida, prickly	*Sida spinosa*	-	1 – 3
Smartweed,			
Ladysthumb	*Polygonum persicaria*	R	1 – 3
Pennsylvania	*Polygonum pensylvanicum*	R	1 – 3
Swamp (seedling)	*Polygonum amphibium* var. *emersum*	-	1 – 3
Spurge,			
Prostrate	*Chamaesyce humistrata*	-	1 – 3
Spotted	*Euphorbia maculata*	-	1 – 3
Sunflower, common	*Helianthus annuus*	R	1 – 3
Thistle, Canada	*Cirsium arvense*	-	1 – 3
Toadflax, yellow	*Linaria vulgaris*	-	1 – 3
Velvetleaf	*Abutilon theophrasti*	R	1 – 3
GRASS WEEDS AND SEDGES			
COMMON NAME	**SCIENTIFIC NAME**	**PANTHER PRO HERBICIDE RATE @ 15 fl oz/A**	
		WEED SIZE (inches)	
Barnyardgrass	*Echinochloa crus-galli*	1 – 3	
Crabgrass,			
Large	*Digitaria sanguinalis*	1 – 3	
Smooth	*Digitaria ischaemum*	1 – 3	
Cupgrass, woolly	*Eriochloa villosa*	1 – 3	
Foxtail,			
Giant	*Setaria faberii*	1 – 6	
Green	*Setaria viridis*	1 – 3	
Yellow	*Setaria glauca*	1 – 3	
Johnsongrass,			
Rhizome	*Sorghum halepense*	6 - 12	
Seedling	*Sorghum halepense*	1 – 8	
Millet, wild-proso	*Panicum miliaceum*	1 – 3	
Nutsedge,			
Purple	*Cyperus rotundus*	1 – 3	
Yellow	*Cyperus esculentus*	1 – 3	
Red rice	*Oryza sativa*	1 – 3	
Shattercane	*Sorghum bicolor*	1 – 8	
Signalgrass, broadleaf	*Brachiaria platyphylla*	1 – 8	
Sorghum-almum	*Sorghum almum*	1 – 3	

R –Reduced Competition

DIRECTIONS FOR USE IN PREPLANT BURNDOWN AND FALLOWLAND APPLICATIONS

Panther Pro at 12 to 18 fluid ounces per acre can be used alone or in combination with labeled burndown herbicides to control emerged weeds and provide residual weed control.

RESTRICTIONS

- Do not apply to frozen or snow covered soil.
- Do not perform any tillage operation after application or residual weed control will be reduced.
- Observe all rotational intervals prior to planting as listed in the **Rotational Restrictions** table.

RATE EQUIVALENCE

- 18 fluid ounces of Panther Pro is equivalent to 0.079 lb acid of imazethapyr, 0.094 lb flumioxazin, and 0.42 lb of metribuzin.
- 15 fluid ounces of Panther Pro is equivalent to 0.066 lb acid of imazethapyr, 0.079 lb flumioxazin, and 0.35 lb of metribuzin.

BURNDOWN AND FALLOWLAND USE INSTRUCTIONS:

Panther Pro may be used:

- In the fall to provide residual and preemergent weed control in fallow fields,
- In the fall to provide residual weed control in fields that will be planted the following spring with soybean,
- In a fall burndown or fallow seedbed program (however the length of residual control may be variable), and
- In a spring burndown program for the postemergence burndown of emerged weeds.

No-till planters that incorporate the soil during planting may result in decreased weed control in the row.
A minimum of 4 months must pass and 1 inch of rainfall/irrigation must occur, between application of Panther Pro and planting of wheat.
Abnormally warm or wet winters will reduce the length of weed control observed in the spring.
For use prior to Soybeans, see **DIRECTIONS FOR USE IN SOYBEAN** for more information.

Table – Tank Mix Combinations for Preplant Burndown and Fallowland

Credit Xtreme (Glyphosate)	2,4-D	Cheetah (Glufosinate)	Paraquat

DIRECTIONS FOR USE IN ESTABLISHED ALFALFA

RESTRICTIONS

- Do not apply more than 18 fluid ounces (0.079 lb acid equivalent imazethapyr) of Panther Pro per acre during a single application.
- Do not apply more than 18 fluid ounces (0.079 lb acid equivalent imazethapyr) of Panther Pro per acre during a single growing season.
- Do not apply at more than 15 fluid ounces (0.066 lb acid equivalent imazethapyr) of Panther Pro per acre in Minnesota (north of Highway #210) or North Dakota.
- Do not apply at more than 15 fluid ounces (0.066 lb acid equivalent imazethapyr) of Panther Pro per acre to alfalfa during the last year of the stand.
- Do not make a sequential application of Panther Pro within 60 days of the first application of Panther Pro.
- Do not apply to alfalfa with greater than 6 inches of growth. Application will result in burning of treated leaves and stems. Users should understand and accept this risk before using Panther Pro on alfalfa.
- Do not use on alfalfa grown for seed.
- Only apply with an adjuvant or tank mix with products formulated as an emulsifiable concentrate "EC" when targeting control of emerged weeds (crop burn and/or stunting should be expected and accepted if Panther Pro is used with an adjuvant, a tank mix partner formulated as an emulsifiable concentrate (EC) or a tank mix partner formulated with an adjuvant.)
- Application with paraquat can be used to burndown winter annuals prior to winter dormant period.
- Do not use on intended mixed alfalfa-grass stands.

Replanting: If replanting is necessary in a field previously treated with Panther Pro do not plant alfalfa for 4 months following a Panther Pro application. Refer to the ROTATIONAL CROP RESTRICTIONS section on this label for plant-back interval of various crops.

Preharvest Interval (PHI): Do not feed, graze, or harvest alfalfa for 30 days following an application of Panther Pro to alfalfa.

PRECAUTION

- Application to alfalfa with greater than 3 inches of growth may result in unacceptable crop injury.

RATE EQUIVALENCE

- 18 fluid ounces of Panther Pro is equivalent to 0.079 lb acid of imazethapyr, 0.094 lb flumioxazin, and 0.42 lb of metribuzin.
- 15 fluid ounces of Panther Pro is equivalent to 0.066 lb acid of imazethapyr, 0.079 lb flumioxazin, and 0.35 lb of metribuzin.

TIMING TO ALFALFA

Panther Pro may be applied to established alfalfa in the fall, in the spring to dormant or semi-dormant alfalfa (less than 3 inches of regrowth), or between cuttings. Make any application before significant alfalfa growth or regrowth (3 inches) to allow Panther Pro to reach the target weeds- listed in Table - **Weeds Controlled or Suppressed by Postemergence Activity of Panther Pro** and Table **- Weeds Controlled or Suppressed by Residual Activity of Panther Pro**. Established alfalfa is defined as alfalfa planted in the fall or spring which has gone through a first cutting/mowing. For control of winter annual weeds: the best timing for preemergence control is in the fall immediately after the last cutting or sheeping-off has occurred.

For control of summer annual weeds: the best timing for preemergence control is in the spring prior to alfalfa growth and before 3 inches of growth.

TIMING TO WEEDS

Preemergence – Preemergence To Weeds

Apply Panther Pro before alfalfa growth exceeds 3 inches in height for the preemergence control of weeds listed in Table **- Weeds Controlled or Suppressed by Residual Activity of Panther Pro**. Applications should be made as soon as possible after cutting and removing alfalfa to minimize injury to alfalfa growth.

Postemergence Dodder[1] Suppression

Apply Panther Pro at 18 fluid ounces per acre with an adjuvant for postemergence suppression of dodder[1].

[1] Not for use in California.

DIRECTIONS FOR USE FOR CHICKPEA (GARBANZO BEAN)

([California] Idaho, Oregon and Washington Only)

***(Cicer* spp.)**

RESTRICTIONS

- Do not apply more than 11-1/3 fluid ounces (0.050 lb acid equivalent imazethapyr) of Panther Pro per acre during a single growing season.
- Do not apply Panther Pro postemergence to chickpeas.
- Do not make more than one application per year.
- Do not incorporate deeper than 3 inches.
- **Preharvest Interval (PHI):** Allow at least 60 days between application and harvest for chickpea (garbanzo bean).

RATE EQUIVALENCE

- 11-1/3 fluid ounces of Panther Pro is equivalent to 0.050 lb acid of imazethapyr, 0.059 lb flumioxazin, and 0.27 lb of metribuzin.

APPLICATION TIMING

Preemergence Applications. Apply Panther Pro at the broadcast rate of up to 11-1/3 fluid ounces per acre immediately after or up to 2 days after planting. Panther Pro may be applied in a tank mix with a registered grass herbicide or applied preemergence following a preplant incorporated application of a registered grass herbicide.
Application after the chickpea (garbanzo bean) have emerged, will result in severe crop injury.

Many weather related factors, including high wind, splashing or heavy rains or cool conditions at or near crop emergence, may result in dry bean injury in fields treated with Panther Pro. On occasion this has resulted in a delay in maturity. User should assume these risks before using Panther Pro.

In no-till and minimum tillage systems, Panther Pro may be applied in the fall prior to spring planting. Rainfall is required for incorporation and activation. Unpredictable weed control can be expected because factors such as length of time between application and planting as well as uncontrollable weather factors will determine herbicide activity and longevity. Apply Panther Pro in the fall when soil temperature at the 4-inch depth is less than 55° F and before the ground is frozen.

ADDITIONAL RESIDUAL GRASS CONTROL

Panther Pro can be tank mixed with pendimethalin for additional grass control.

WEEDS CONTROLLED

Panther Pro applied at the broadcast rate of 11-1/3 fluid ounces per acre preplant, preemergence, or early postemergence will control:

Chickweed, common
Lambsquarters, common
Dogfennel (Mayweed)
Pennycress,field
Henbit
Mustard, wild
Nightshade, black
Nightshade, Eastern black
Nightshade, hairy
Pigweed, redroot
Shepherdspurse

Postemergence applications of 11-1/3 fluid ounces per acre must be made to weeds less than 2 inches tall for best results.

DIRECTIONS FOR USE IN SOYBEAN

RESTRICTIONS

- Not for use in California.
- Do not apply more than 15 fluid ounces (0.066 lb acid equivalent imazethapyr) of Panther Pro per acre during a single growing season.
- Do not apply more than 12 fluid ounces (0.053 lb acid equivalent imazethapyr) of Panther Pro per acre during a single growing season in Minnesota (north of Highway #210) or North Dakota.
- Do not make more than one application per year.
- **Preharvest Interval (PHI):** Do not harvest soybeans for at least 85 days after Panther Pro application.
- Do not irrigate when soybeans are cracking.
- Do not graze treated fields or feed treated hay to livestock.
- Do not tank mix Panther Pro with clomazone-containing herbicides, such as Command Herbicide.
- Do not apply to sand soils, or to sandy loam or loamy sand soils containing less than 2% organic matter.
- Do not incorporate into soil or apply more than once per season.
- Do not apply Panther Pro postemergence.
- Do not tank mix this product with acetochlor, alachlor, flufenacet, metolachlor or dimethenamid within 14 days of planting soybeans, unless soybeans are planted under no-till or minimum tillage conditions on wheat stubble or no-till field corn stubble.

PRECAUTIONS

Injury to soybeans may occur when Panther Pro is used under the following conditions:

- When soils have a calcareous surface area or a pH of 7.5 or higher.
- Due to the sensitivity of certain soybean varieties, Panther Pro is not recommended for use on Altona, AP 55, AP71, Asgrow 6520, Burlison, Coker 102, Coker 156, Dassel, GL 3202, Govan, Maple Amber, MB 3665, NKS 1884,Paloma 350, Portage, Regal, Semmes, Terra-Vig 505, Terra-Vig 606, Tracy, Vansoy, and Vinton 81. Consult your Nufarm Representative or your seed supplier for information on the tolerance to Panther Pro of newly released soybean varieties, prior to use of Panther Pro.
- When applied in conjunction with soil-applied organic phosphate pesticides.
- Over application or boom overlapping may result in stand loss and soil residues.
- Uneven application or improper incorporation can decrease the level of weed control and/or increase the level of injury.
- When applied to any soil with less than 1/2% organic matter.
- Soil incorporation deeper than recommended.
- When sprayers are not calibrated accurately.
- When heavy rains occur soon after application, especially in poorly drained areas where water may stand for several days.
- When soybeans are planted less than 1-1/2 inches deep, particularly in pre-emergence application.
- Application when soybeans have begun to crack or emerge.

RATE EQUIVALENCE

- 15 fluid ounces of Panther Pro is equivalent to 0.066 lb acid of imazethapyr, 0.079 lb flumioxazin, and 0.35 lb of metribuzin.
- 12 fluid ounces of Panther Pro is equivalent to 0.053 lb acid of imazethapyr, 0.063 lb flumioxazin, and 0.28 lb of metribuzin.

TIMING TO SOYBEANS

Panther Pro may be applied to soybeans prior to planting or preemergence (after planting). Preemergence application of Panther Pro 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 rate of Panther Pro from Table **- Weeds Controlled or Suppressed by Residual Activity of Panther Pro** according to anticipated weed spectrum.

APPLICATION METHOD

Panther Pro may be applied in the fall after previous year's crop, or in the spring as an early preplant, burndown or preemergence application.

Fall Application: Apply Panther Pro for burndown and residual weed control after the prior crop is harvested.

Spring Application: Apply Panther Pro early preplant through preemergence for burndown and residual weed control before the crop emerges.

TIMING TO WEEDS

Burndown - Preemergence to Soybeans, Postemergence to Weeds

Panther Pro, 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 by Panther Pro, see Table - **Weeds Controlled or Suppressed by Postemergence Activity of Panther Pro**. Apply Panther Pro 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 gallons of spray solution per acre. Refer to tank mix partner's label for specified application pressure. All tank mixes of Panther Pro applied to assist in the control of emerged weeds must be applied with crop oil concentrate or methylated seed oil at 1 to 2 pints per acre or a non-ionic surfactant at 0.25% v/v.

ADDITIONAL RESIDUAL GRASS CONTROL

Panther Pro can be tank mixed with pendimethalin 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.

ROUNDUP READY SOYBEAN PROGRAM

Panther Pro may be applied as part of a burndown program or preemergence in conventional tillage programs, at 12 to 15 fluid ounces per acre to reduce early season weed competition from waterhemp, velvetleaf, nightshade and morningglories as well as other weeds listed in Table - **Weeds Controlled or Suppressed by Postemergence Activity of Panther Pro** and Table **- Weeds Controlled or Suppressed by Residual Activity of Panther Pro**. A sequential post emergence application of glyphosate will be required to control weeds not controlled by Panther Pro.

LIBERTY LINK SOYBEAN PROGRAM

Panther Pro may be applied as part of a burndown program or preemergence in conventional tillage programs, at 12 to 15 fluid ounces per acre to reduce early season weed competition from waterhemp, velvetleaf, nightshade and morningglories as well as other weeds listed in Table - **Weeds Controlled or Suppressed by Postemergence Activity of Panther Pro** and Table **- Weeds Controlled or Suppressed by Residual Activity of Panther Pro**. A sequential post emergence application of glufosinate will be required to control weeds not controlled by Panther Pro.

DIRECTIONS FOR USE TO MAINTAIN BARE GROUND ON NON-CROP AREAS OF FARMS

RESTRICTIONS

- 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 to ditch banks.
- Do not apply more than 18 fluid ounces (0.079 lb acid equivalent imazethapyr) of Panther Pro per acre during a single application.
- Do not apply more than 18 fluid ounces (0.079 lb acid equivalent imazethapyr) of Panther Pro per acre during a single growing season.

RATE EQUIVALENCE

- 18 fluid ounces of Panther Pro is equivalent to 0.079 lb acid of imazethapyr, 0.094 lb flumioxazin, and 0.42 lb of metribuzin.
- 15 fluid ounces of Panther Pro is equivalent to 0.066 lb acid of imazethapyr, 0.079 lb flumioxazin, and 0.35 lb of metribuzin.

Panther Pro, when used as directed, can be used on farms for non-selective vegetation control to maintain bare ground on non-crop areas that must be kept weed free. Follow all applicable directions as outlined above under **USE INFORMATION**.

Panther Pro offers residual and postemergence control of susceptible broadleaf and grass weeds as well as an additional mode of action to assist in the control of ALS (acetolactate synthase) resistant weeds. Panther Pro can be tank mixed with the herbicides listed in Table - **Tank Mix Combinations to Maintain Bare Ground Non-Crop Areas** for increased residual or postemergence control. The length of residual control is dependent on the rate applied as well as on rainfall and temperature conditions. Length of residual control will decrease as temperature and precipitation increase. Rates of Panther Pro of 12 to 15 fluid ounces per acre are required to provide residual control of the weeds listed in Table **- Weeds Controlled or Suppressed by Residual Activity of Panther Pro**.

APPLICATIONS PRIOR TO WEED EMERGENCE

Apply 12 to 18 fluid ounces per acre of Panther Pro per broadcast acre as a preemergence application. Make preemergence (to weed emergence) applications of Panther Pro to a weed-free soil surface. Preemergence applications of Panther Pro must be completed prior to weed emergence. Moisture is necessary to activate Panther Pro on soil for residual weed control. Dry weather following application of Panther Pro may reduce effectiveness. However, when adequate moisture is received after dry conditions, Panther Pro will control susceptible germinating weeds.

APPLICATIONS TO EMERGED WEEDS

Apply 12 to 18 fluid ounces of Panther Pro per broadcast acre plus an adjuvant (0.25% v/v non-ionic surfactant or 1 quart per acre crop oil concentrate). The addition of an adjuvant enhances activity of Panther Pro on emerged weeds. Thorough spray coverage is necessary to maximize the postemergence activity of Panther Pro. Emerged weeds are controlled postemergence with Panther Pro, however, translocation of Panther Pro within a weed is limited, and control is affected by spray coverage and by the addition of an adjuvant. The most effective postemergence weed control with Panther Pro occurs when applied in combination with a surfactant to weeds less than 2 inches in height. A tank mix partner should be used in combination with Panther Pro for the postemergence control of weeds larger than 2 inches. Recommended tank mix partners are listed in Table - **Tank Mix Combinations to Maintain Bare Ground Non-Crop Areas**.

IMPORTANT: Completely read and follow the label of any potential tank mix partner with Panther Pro. When using tank mixtures, use conditions must be in accordance with the most restrictive of the label limitations and precautions on either herbicide label.

Table – Tank Mix Combinations to Maintain Bare Ground on Non-Crop Areas

Credit Xtreme (Glyphosate)	2,4-D	Cheetah (Glufosinate)	Paraquat

STORAGE AND DISPOSAL

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 store in temperatures > 100ºF. 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 **CHEMTREC (800) 424-9300.**

PESTICIDE DISPOSAL

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

CONTAINER HANDLING:

[**Note to Reviewer:** The following statement will be included on all Final Printed Labels bearing multiple Container Disposal (Container Handling) statements] "**NOTE:** This product is available in multiple containers. Refer to the Net Contents section of this products labeling for the applicable "No refillable" or "Refillable" designation. Follow the container handling instructions below that apply to your container type / size."

[**Note to Reviewer:** The bracketed section headers will be included when multiple container types / sizes are listed on the label.]

[Nonrefillable Containers 5 gallons or less:] Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) 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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

[Nonrefillable Containers larger than 5 gallons:] Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. If recycling or reconditioning not available, puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse 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. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container 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 container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

[Refillable Containers larger than 5 gallons:] Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR RISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of the directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

Optional Marketing Claims:

Nufarm Grow a better tomorrow.
Grow a better tomorrow.

NOTE TO REVIEWER:

State restrictions will not be found on the container label if the product is not registered in that associated state.

LABEL HISTORY

File Name	Revision Mark	Comments
071368-00XXX.20160204.DRAFT NUP-15008.Panther Pro	RV020416	New Section 3 Label – Draft
071368-00REN.20160428.DRAFT NUP-15008.Panther Pro	RV042816	EPA PC Review
071368-00REN.20160809.DRAFT NUP-15008.Panther Pro	RV080916	Internal Review
071368-00REN.20161108.DRAFT NUP-15008.Panther Pro	RV110816	EPA Review
071368-00REN.20161213.DRAFT NUP-15008.Panther Pro	RV121316	EPA Review