This information is for promotional purposes only. Space considerations may require information to be omitted.
Always refer to the actual package for complete label verbiage. This product may not yet be available or approved for sale or use in your area.

SULFENTRAZONE	GROUP	14	HERBICIDE
S-METOLACHLOR	GROUP	15	HERBICIDE

MetalliS™ BDX

Contains sulfentrazone and *S*-metolachlor, the active ingredients used in Authority® Elite, BroadAxe®, and Spartan® Elite.*

ACTIVE INGREDIENTS:	**(% by weight)**
Sulfentrazone..	7.55%
S-metolachlor...	68.25%
OTHER INGREDIENTS:	24.20%
TOTAL:	100.00%

Contains 7.0 lbs./gal which includes 0.7 pounds sulfentrazone and 6.3 pounds *S*-metolachlor per gallon.

EPA Reg. No.: 91234-48

SPECIMEN

KEEP OUT OF REACH OF CHILDREN

CAUTION

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 below for additional Precautionary Statements.

FIRST AID	
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.
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 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 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.
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 SafetyCall at 1-844-685-9173 for emergency medical treatment information.	

For Chemical Emergency: Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 or +1 703-527-3887 (collect calls accepted)

* **MetalliS™ BDX** is not manufactured, or distributed by FMC Corporation, seller of Authority® Elite, BroadAxe®, and Spartan® Elite.

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PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed. Avoid contact with skin, eyes or clothing. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and shorts,
- Chemical-resistant gloves made of any waterproof material,
- Chemical-resistant footwear plus socks,
- Chemical-resistant apron when cleaning equipment, mixing or loading.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, 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. Mixers and loaders supporting aerial applications are required to use closed systems. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)]. When using the closed system, the mixers' and loaders' PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash thoroughly with soap and water after handling and 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.

ENVIRONMENTAL HAZARDS:

This pesticide is toxic to fish and marine/estuarine 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 and runoff may be hazardous to terrestrial and aquatic plants in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

Mixing/Loading Instructions:

Care must be taken when using this product to prevent back-siphoning into wells, spills or improper disposal of excess pesticide, spray mixtures, or rinsates. Check-valves or anti-siphoning devices must be used on all mixing and/or irrigation equipment.

MetalliS BDX may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sinkholes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pads 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 wash water, 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.

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

Groundwater Advisory:

The active ingredients in this product are known to leach through soil into groundwater under certain conditions as a result of agricultural use. Use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Do not use on coarse soils classified as sand, which have less than 1% organic matter.

Surface Water Advisory:

This product can contaminate surface water through spray drift. Under some conditions, this product may also have a high potential for runoff into surface water (primarily via dissolution in runoff water), for several to many months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-lying tile drainage systems that drain to surface waters.

Physical/Chemical Hazards:

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

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 State or Tribal agency responsible for pesticide regulation.

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AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 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 over short-sleeved shirt and shorts,
- Chemical-resistant gloves made of any waterproof material,
- Chemical-resistant footwear plus socks.

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

RESISTANCE MANAGEMENT

MetalliS BDX is a premixture of sulfentrazone (WSSA Group 14) and *S*-metolachlor (WSSA Group 15) herbicides. Some weeds are known to develop resistance to herbicides that have been used repeatedly. While the development of herbicide resistance is well understood, it is not easily predicted. Therefore, herbicides should be used in conjunction with the resistance management strategies in the area. Consult the local or State agricultural advisors for details.

To minimize the occurrence of resistant biotypes, observe the following general weed management practices:

- Scout application site before and after herbicide applications.
- Start with a clean application site, using either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small.
- Add other herbicides (e.g. a selective and/or a residual herbicide) and cultural practices (e.g. tillage or crop rotation) where appropriate.
- Utilize the specified label rate for the most difficult to control weed in your field. Avoid tank mixtures with other herbicides that reduce this product's efficacy (through antagonism), or tank mixture directions that encourage application rates of this product below the label directions.
- Control weed escapes and prevent weeds from setting seeds.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.
- Report any incidence of repeated non-performance of this product on a particular weed to your Atticus, LLC representative, local retailer, or county extension agent.

PRODUCT INFORMATION

MetalliS BDX is a soil-applied herbicide for the control of listed susceptible broadleaf, grass and sedge weeds. If adequate moisture (1/2" to 1") from rainfall or irrigation is not received within 7 to 10 days after the first **MetalliS BDX** treatment, a shallow incorporation (less than 2"), may be needed to obtain desired weed control.

When activating moisture is not received a planned post-emergence application of a labeled herbicide will be needed for optimum weed control. If an activating rainfall (1/2" to 1") is not received **MetalliS BDX** will provide a reduced level of control of susceptible germinating weeds.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Tank mixtures are permitted only in those states where the tank mix partner is registered.

MetalliS BDX can be mixed with water, liquid fertilizer, or mixtures of water and liquid fertilizer and applied as a preplant or preemergence treatment to labeled crops.

Under normal growing conditions, **MetalliS BDX** exhibits excellent crop safety. Soil applications of **MetalliS BDX** must be made before crop seed germination to prevent injury to the emerging crop seedlings. **MetalliS BDX** applied after crop emergence will cause severe injury to the crop. Poor growing conditions, such as excessive soil moisture, cool temperatures, and soil compaction or the presence of various pathogens may impact seedling vigor. Under these conditions, the active ingredients in **MetalliS BDX** can contribute to crop response. Refer to the specific directions of use for a particular crop/use pattern as set forth below for additional information.

IMPORTANT PRECAUTIONS:

1. Ensure the seed furrow is closed and the seed covered on acres treated with **MetalliS BDX**.
2. Soybean stunting may occur if excessive rainfall occurs after application but before soybeans emerge. Injury is more prevalent under poor drainage or compacted conditions or when soil is saturated for long periods of time. Soybeans outgrow stunting once favorable growing conditions return.
3. Do not apply if there are visible signs of cracking due to soybean emergence, or serious crop injury may result, such as but not limited to stand loss.
4. Seedling disease, nematodes, cold weather, deep planting (more than 2"), excessive moisture, high salt concentration, or drought may weaken soybean seedlings and increase the possibility of crop injury.
5. When tank mixing, follow the most restrictive use rates and precautions of the mixing partners.

Mechanism of Action:

Following the application of **MetalliS BDX** to soil, germinating seeds and seedlings take up **MetalliS BDX** from the soil solution. The amount of **MetalliS BDX** in soil solution available for weed uptake is determined primarily by soil type, soil organic matter and soil pH. Similar to other herbicides, **MetalliS BDX** adsorbs to the clay and organic matter (OM) fractions of soils; effectively limiting the amount of active ingredient immediately available to control weeds.

Influence of Soil Type, Organic Matter, and pH on MetalliS BDX Use Rates and Crop Response:

Coarse textured and high pH > 7.2 soils (see **Table 1**) will exhibit increased weed control and crop response with **MetalliS BDX**. It is important to know the soil type and soil pH levels of the field (or areas within a field) before application to determine the proper rate of **MetalliS BDX** for the crop. Soil organic matter content and soil pH can vary widely and independently of soil type and requires an accurate analysis of representative soil samples or grids of soil samples within a specific field to determine its content.

It is important to note that irrigation with highly alkaline water (high pH) following a **MetalliS BDX** soil application can also significantly increase the amount of **MetalliS BDX** available in the soil solution. Irrigation with water having a pH greater than 7.2 could result in adverse crop response. This response will ultimately depend on initial **MetalliS BDX** application rate, timing, amount and pH of irrigation water and sensitivity of the crop and its growth stage when irrigated. The risk of adverse crop response will lessen with the advance in growth stage among most crops.

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Table 1: Soil Texture Classification Chart

COARSE	MEDIUM	FINE
Sand	Sandy clay loam	Silty clay loam
Loamy sand	Sandy clay	Silty clay
Sandy loam	Loam	Clay loam
	Silt loam	Clay
	Silt	

APPLICATION INFORMATION

Ground and Aerial Application:

Utilize a sprayer equipped with the appropriate nozzles providing optimum spray distribution and coverage at the appropriate operating pressures. Utilize nozzles that produce minimal amounts of fine spray droplets to avoid spray drift. Apply a minimum of 10 gallons of finished spray solution per acre by ground or 5 gallons by air. The sprayer should be properly calibrated to deliver the appropriate volume of herbicide solution. Be aware that overlaps and slower ground speeds while starting, stopping or turning while spraying may result in excessive application and subsequent crop response.

Restrictions:

Aerial application is allowed only when environmental conditions prohibit ground application.

When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.

The maximum release height must be 10 feet from the top of the crop canopy, unless a greater application height is required for pilot safety.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Do not apply under conditions which favor runoff or wind erosion of soil containing this product to non-target areas. To prevent off-site movement due to runoff or wind erosion:

1. Avoid treating powdery dry or light sand soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
2. Do not apply to impervious substrates, such as paved or highly compacted surfaces.
3. Do not use tailwater from the first flood or furrow irrigation of treated fields to treat non-target crops, unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.

Chemigation Application:

Apply **MetalliS BDX** in 0.25 to 1 inch of water. Use the lower water volume on coarse textured soil and higher volume on fine textured soils. Applying > 1" of irrigation water may result in reduced weed control by moving the product below the weed germination zone in the soil. Apply immediately after planting unless specified differently in the individual crop section. **MetalliS BDX** may be applied through sprinkler irrigation systems including center pivot, lateral move, end tow, solid set, or hand move irrigation systems. Crop injury, lack of effectiveness or illegal residues on or in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

MetalliS BDX should be metered into the irrigation system continuously for the duration of the water application. **MetalliS BDX** should be diluted in sufficient volume to insure accurate application over the area to be treated. Use the appropriate amount of water to carry the product to the soil surface. Continuous agitation is required to maintain product suspension in the solution tank. A jar test should be conducted to ensure that phase separation would not occur during dilution and application. Failure to achieve a uniform dilution throughout the time of application may result in undesirable residues or less than desirable weed control. Flush the lines at the completion of the application and then turn the water off promptly.

When using water from public water systems; **DO NOT APPLY METALLIS BDX THROUGH ANY IRRIGATION SYSTEM PHYSICALLY CONNECTED TO A PUBLIC WATER SYSTEM.** Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year. **MetalliS BDX** may be applied through irrigation systems, which may be supplied by a public water system only if water from the water system is discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and to top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. Before beginning chemigation, always make sure that the air gap exists and that there is no blockage of the overflow of the reservoir tank.

It is important to note that irrigation with highly alkaline water (high pH) following a **MetalliS BDX** soil application may significantly increase the amount of sulfentrazone available in soil solution. Irrigation with water having a pH greater than 7.2 could result in adverse crop response.

Restrictions:

1. Do not apply by chemigation if there are visible signs of cracking due to soybean emergence, or serious crop injury may result, such as but not limited to stand loss.
2. Do not apply this product through any other type of irrigation system.
3. Do not connect any irrigation system (including greenhouse systems) used for pesticide application to a public water system.

Application with Dry Fertilizers:

MetalliS BDX may be applied impregnated on dry fertilizers. When applied as directed with adequate soil coverage, **MetalliS BDX** dry bulk fertilizer mixtures will provide satisfactory weed control. Follow all **MetalliS BDX** label directions regarding product use rates per acre, registered crops, incorporation, special instructions and precautions. Apply **MetalliS BDX**/dry fertilizer mixtures with ground equipment only. All individual state regulations relating to dry bulk fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company preparing, storing, transporting, selling or applying the **MetalliS BDX**/dry fertilizer mixture.

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Impregnation Directions:

To impregnate **MetalliS BDX** on dry bulk fertilizer, use a closed rotary-drum mixer or other commonly used dry bulk fertilizer blender equipped with suitable spray equipment.

Prepare a slurry of **MetalliS BDX** in a clean container using clear water. Slowly add the **MetalliS BDX**/water slurry to the impregnation spray tank and finish filling as needed with clear water. Spray nozzles must be placed to provide uniform coverage of **MetalliS BDX** onto the fertilizer during mixing.

Refer to the **SPRAYER EQUIPMENT CLEAN-OUT** section for directions for cleaning impregnation equipment, transport equipment, loading equipment and application equipment.

Apply the **MetalliS BDX** dry bulk fertilizer with an accurately calibrated dry fertilizer spreader. The **MetalliS BDX** dry bulk fertilizer mixture must be spread uniformly on the soil surface. Uneven spreading leaving untreated areas can cause poor weed control or overlapping areas with potential increased **MetalliS BDX** use rates could result in possible crop response.

A minimum of 200 pounds of dry bulk fertilizer impregnated with the listed amount of **MetalliS BDX** must be applied per acre to achieve adequate soil coverage for satisfactory weed control.

Refer to the appropriate crop section of the **MetalliS BDX** label to determine the rate of **MetalliS BDX** to be applied per acre. Use the following table to determine the amount of **MetalliS BDX** to be impregnated on a ton (2000 pounds) of dry bulk fertilizer based on the rate of fertilizer that will be applied per acre.

For those rates not listed in **Table 2**, calculate the amount of **MetalliS BDX** to be impregnated on a ton of dry bulk fertilizer using the following formula:

$$\frac{2000}{\text{Pounds dry fertilizer per acre}} \times \text{**MetalliS BDX** use rate in fluid ounces per acre} = \text{Ounces of **MetalliS BDX** to be applied per ton of fertilizer}$$

Table 2: Rate Chart for Impregnation of Dry Bulk Fertilizers with MetalliS BDX

Dry Fertilizer Rate Per Acre	Fluid Ounces MetalliS BDX Per Ton of Fertilizer		
	MetalliS BDX Use Rate Per Acre		
Lb./A	14 fl. oz./A	26 fl. oz./A	35 fl. oz./A
200	140	260	350
250	112	208	280
300	93	173	233
350	80	148	200
400	70	130	175
450	62	114	154

Restrictions:

1. DO NOT impregnate **MetalliS BDX** onto coated on ammonium nitrate, potassium nitrate, or sodium nitrate either alone or in blends with other fertilizers because these materials will not absorb the herbicide.
2. Do not use **MetalliS BDX** alone or in mixtures on straight limestone, since absorption will not be achieved. Fertilizer blends containing limestone can be impregnated.
3. To avoid crop injury, do not use the herbicide/fertilizer mixture on crops where bedding occurs.

Application with Liquid Fertilizer:

MetalliS BDX may be applied using liquid fertilizer or fertilizer and water mixtures as the carrier. Adequate soil coverage is essential to achieve acceptable levels of weed control. Herbicide mixing, solution stability and/or compatibility problems may occur when liquid fertilizers are used as a carrier. Compatibility tests must be conducted prior to mixing to insure tank mixture compatibility and stability. The use of compatibility agents may be beneficial to achieve and maintain a homogenous solution.

Mixing Instructions for Liquid Fertilizer Applications:

Fill the clean spray tank to one half of the total volume with the fertilizer solution. Start the spray tank agitation system. Pre-slurry **MetalliS BDX** with water prior to adding to the spray tank. Carefully rinse the empty container, adding the rinsate to the spray tank.

Complete filling the spray tank to the desired level. Sufficient and continuous spray tank agitation is required at all times to maintain a homogeneous spray solution. The spray system must be designed such that there is sufficient flow capacity to uniformly apply the spray mixture and maintain adequate tank agitation. Some systems may require separate pumps to simultaneously supply the spray system and the spray tank agitation system. Insure the **MetalliS BDX** slurry is thoroughly mixed before application.

For tank mixtures with other herbicide(s), a compatibility test must be conducted to insure product compatibility before mixing. Read and follow all the directions, precautions and restrictions of the tank mixture products prior to mixing.

Apply the **MetalliS BDX** spray mixture immediately after mixing. It is not recommended to store the sprayer overnight or for any extended period of time with the **MetalliS BDX** spray mixture remaining in the tank.

Thoroughly re-agitate spray mixture if product is left sitting in the tank for extended period of time.

If **MetalliS BDX** is mixed and loaded in nurse tanks, thorough agitation of spray solution is required prior to offloading and application.

Follow all **MetalliS BDX** label directions regarding product use rates per acre, registered crops, application instructions, incorporation directions, special instructions and all precautions.

All individual state regulations relating to liquid fertilizer blending, storage, transportation, registration, labeling, and application are the responsibility of the individual and/or company preparing, selling or applying the **MetalliS BDX** and fertilizer mixture.

SPRAY DRIFT MANAGEMENT

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 and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses, or to applications using dry formulations:

- The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
- Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.
- When states have more stringent regulations, they must be observed.

Information on Droplet Size:

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage for pesticide performance.

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Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly or under unfavorable environmental conditions. (See information on **Wind**, **Temperature and Humidity**, and **Temperature Inversions** in subsequent sections).

- **Aerial Application** - Aerial application is allowed only when environmental conditions prohibit ground application. For aerial applications, the maximum release height must be 10 feet from the top of the crop canopy, unless a greater application height is required for pilot safety. When this product is allowed to be applied by air, applicator must use a minimum finished spray volume of 5 gallons per acre.
- **Volume** - Nozzles with higher rated flow generally produce larger droplets. Ground applicators must use a minimum finished spray volume of 10 gallons per acre. When sulfentrazone is tank mixed with a contact burndown herbicide, ground applicators must use a minimum spray volume of 15 gallons per acre.
- **Pressure** - When higher flow rates are needed, use higher flow rate nozzles rather than increasing spray pressure. Avoid spray pressures > 40 psi unless specified by the manufacturer of drift reducing spray tips and nozzles. Do not exceed the nozzle manufacturer's recommended pressures. Lower pressure produces larger droplets in many types of nozzles.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Type** - Use nozzles to provide uniform coverage that are designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low drift nozzles for both ground and aerial applications. Select nozzles and application pressure that deliver medium to coarse or larger spray droplets as indicated in the nozzle manufacturer's recommendations and in accordance with ASABE (American Society for Agricultural and Biological Engineers) Standard S-572.
  - Select coarse to very coarse droplet size when sulfentrazone is used as a preemergent/preplant application.
  - Select medium to very coarse droplet size when sulfentrazone is used postemergence with a contact burndown herbicide.
  - Do not apply as spray droplets smaller than medium to coarse (defined by the ASABE* standard).
- **Boom Length** - For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height** - Aerial applications should not be made at a height greater than 10 feet above the top of the target plant canopy unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
- **Swath Adjustment** - When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).
- **Wind** - Drift potential is lowest between wind speeds of 3 - 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Applicators may spray only when wind speed is between 3 and 10 mph. **NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they may potentially affect spray drift.
- **Temperature and Humidity** - When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.
- **Temperature Inversions** - Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small-suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the low speed and variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common during conditions of limited cloud cover and little to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.
- **Sensitive Areas** - The pesticide should only be applied when the wind is blowing away from sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops). To assure that spray will not adversely affect adjacent sensitive non-target plants, apply **MetalliS BDX** by aircraft at a minimum upwind distance of 400 ft. from sensitive plants. Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

Off-Target Movement of MetalliS BDX

Drift of dilute spray mixtures containing **MetalliS BDX** must be prevented. Observation of the environmental conditions, correct application equipment design, calibration and application practices will reduce the risk of off-target spray drift. **MetalliS BDX** can cause damage by drift on to sensitive crops and other plants. This symptomology may manifest initially as discreet, localized spots where contacted by **MetalliS BDX** drift mixtures. Depending on sensitivity of the plants, the concentration of the spray solution and droplets size these spots or lesions may or may not coalesce. These effects will usually not have lasting effects on plant growth, but can reduce the value of affected fruit or foliage where grade or quality is associated with appearance. In drift instances with sensitive crops, defoliation of affected foliage could result.

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MAXIMUM ALLOWABLE METALLIS BDX USE PER ACRE PER 12 MONTH CROPPING YEAR PERIOD

The total allowed usage includes all applications made to the field per twelve-month cropping year. This includes all preplant and after plant preemerge treatments.

RESTRICTION: Do not exceed maximum allowed use rate of sulfentrazone or *S*-metolachlor on each crop. **Refer to the crop section of this label for specific product use directions.**

Table 3:

Crop	MetalliS BDX fl. oz./A	Total Lb. a.i./A	Sulfentrazone Lb. a.i./A	*S*-metolachlor Lb. a.i./A
Dry Beans & Peas	38.7	2.12	0.21	1.90
Horseradish	25.0	1.36	0.13	1.23
Soybeans	38.7	2.12	0.21	1.90
Sunflowers	38.7	2.12	0.21	1.90

CROP ROTATIONAL RESTRICTIONS

The following **Table 4** shows the minimum interval in months from the time of the last **MetalliS BDX** application until **MetalliS BDX** treated soil can be replanted to the crops listed. Cover crops for soil health and erosion control can be planted at any time after an application of **MetalliS BDX**, but do not use cover crops for food or feed. Consult your local University extension service for cover crop sensitivity to **MetalliS BDX**. When **MetalliS BDX** is tank mixed with another herbicide, refer to the partner label for re-cropping instructions, following the directions that are most restrictive.

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Some crops have rotational intervals greater than 12 months after a **MetalliS BDX** application due to potential crop injury. A representative bioassay of the field shall be completed with the rotational crop to accurately determine the planned crop's sensitivity to **MetalliS BDX**.

RESTRICTION: Do not rotate to food or feed crops other than those listed in the below table.

Table 4:

Crop	Interval (Months)
Alfalfa*	12
Barley	4 1/2
Cabbage (transplant only)	2
Cereal Grains (Oats, Pearl Millet, Proso Millet, Teosinte, Wild Rice)	12
Buckwheat	12
Corn, Field	10, 4***
Corn, Pop	10†
Corn, Sweet	10†
Cotton	18 or 12**
Cowpea (succulent)	8
Dry Shell Peas and Beans	Anytime
Horseradish	Anytime
Lima Beans - Tennessee Only	Anytime
Peanuts	Anytime
Potatoes	Anytime
Rice	10
Rye	4 1/2
Sorghum	10
Soybeans	Anytime
Succulent peas	8
Sugar Beets	36
Sunflowers	Anytime
Triticale	4 1/2
Tobacco	10
Tomato	Anytime
Wheat	4 1/2

* To avoid injury to rotational alfalfa:

1. Do not apply more than 1.9 lb a.i. *S*-metolachlor per acre in the previous crop,
2. Do not make lay-by or other postemergent applications of products containing *S*-metolachlor in the previous crop.

** Cotton may be planted after 12 months where **MetalliS BDX** was applied at rates 36 oz/acre or less and meets the following conditions:

- Medium and fine soils
- Ph < 7.2
- Rainfall or irrigation must exceed 15" after application of **MetalliS BDX** to rotate to cotton

*** Field corn may be planted after 4 months where **MetalliS BDX** was applied at 28 oz/acre or less.

† Popcorn and sweet corn may be planted after 10 months where **MetalliS BDX** was applied at 28 oz/acre or less.

For all other crops not listed, the rotation interval is a minimum of 12 months with a representative bioassay to determine crop safety before planting.

REPLANTING INSTRUCTIONS

If initial planting of labeled crops fails to produce a stand, only crops labeled for **MetalliS BDX** or the tank mix partner; whichever is most restrictive, may be planted based on the amount of product initially applied. When replanting use minimum soil tillage to preserve the herbicide barrier and achieve maximum weed control.

RESTRICTIONS: Do not retreat field with **MetalliS BDX** or another herbicide containing sulfentrazone and *S*-metolachlor. Do not plant treated fields to any crop at intervals that are inconsistent with the Rotational Crop Guidelines on this label.

BAND TREATMENT APPLICATIONS

For band treatments, apply the broadcast equivalent rate and volume per acre. To determine these:

$$\frac{\text{Band Width Inches}}{\text{Row Width Inches}} \times \text{Broadcast Rate Per Acre} = \text{Band Rate}$$

$$\frac{\text{Band Width Inches}}{\text{Row Width Inches}} \times \text{Broadcast Volume Per Acre} = \text{Band Volume}$$

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MIXING AND LOADING INSTRUCTIONS

MetalliS BDX may be applied alone, or in tank mixtures with other labeled herbicides for the control of additional weed species. Mixtures with some other pesticides have not been tested. Conduct appropriate compatibility tests prior to tank mixing with other pesticides.

Follow all precautions and restrictions on the tank mix partner label. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

It is important that spray equipment is clean and free of existing pesticide residues before preparing **MetalliS BDX** spray mixtures. For all tanks containing spray solution follow the spray tank clean out procedures specified on the label of the product or products previously applied.

For best results fill spray tank with one half of the volume of clean water needed for the field to be treated. Start agitation system. Slowly add the **MetalliS BDX** to the spray tank. Carefully rinse the empty container, adding the rinsate to the spray tank. Complete filling the spray tank to the desired level. Continuous spray tank agitation is required at all times to maintain a uniform spray solution. Make sure **MetalliS BDX** is thoroughly mixed before application.

Use the **MetalliS BDX** spray mixture immediately after mixing. Avoid storing the sprayer overnight or for any extended period of time with the **MetalliS BDX** spray mixture remaining in the tank.

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SPRAYER EQUIPMENT CLEAN-OUT

As soon as possible after spraying **MetalliS BDX** and before using sprayer equipment for any other applications, the sprayer must be thoroughly cleaned to avoid potential crop affects using the following procedure.

Residues left in mixing equipment, spray tanks, hoses, spray booms and nozzles can cause crop effects if they are not properly cleaned. In addition, users must take appropriate steps to ensure proper equipment clean-out for any other products mixed with **MetalliS BDX** as required on the other product labels. More complete cleaning can be achieved if the spray system is cleaned immediately following the application.

1. Drain sprayer tank, hoses, spray boom and spray nozzles. Use a high-pressure detergent wash to remove physical sediment and residues from the inside of the sprayer tank and thoroughly rinse. Then, thoroughly flush sprayer hoses, spray boom and spray nozzles with a clean water rinse. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tips) separately in the ammonia solution of Step 2.
2. Next, prepare a sprayer cleaning solution by adding three gallons of ammonia (containing at least 3% active) per 100 gallons of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush hoses, spray boom and spray nozzles.
3. Convenient and thorough cleaning of the sprayer can be achieved if the ammonia solution or fresh water is left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage.
4. Before using the sprayer, completely drain the sprayer system. Rinse the tank with clean water and flush through the hoses, spray boom, and spray nozzles with clean water. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tip) separately in an ammonia solution.
5. Properly dispose of all cleaning solution and rinsate in accordance with Federal, State, and local regulations and guidelines.

Do not apply sprayer cleaning solutions or rinsate to sensitive crops.

Do not store the sprayer overnight or for any extended period of time with **MetalliS BDX** solution remaining in the tank, spray lines, spray boom plumbing, spray nozzles or strainers. If the sprayer has been stored or idle, purge the spray boom and nozzles with clean water before beginning any application.

Should small quantities of **MetalliS BDX** remain in inadequately cleaned mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing effects to certain crops and other vegetation. Atticus, LLC accepts no liability for any effects due to inadequately cleaned equipment.

Do not drain or flush equipment on or near desirable trees or plants.

Do not contaminate any body of water including irrigation water that may be used on other crops.

SOYBEANS

Table 5:

MetalliS BDX Herbicide Use Rate Fall, Spring Early Preplant, Preemergence, and Preplant Incorporated Applications			
Broadcast Rate	**Fl. Oz. MetalliS BDX Per Acre**		
	Soil Texture		
% Organic Matter	**Coarse**	**Medium**	**Fine**
<1.5	19 - 25	25 - 32	25 - 32
1.5 - 3	25	25 - 32	25 - 32
>3	25	25 - 32	32 - 38.7
▪ Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories. ▪ For soils with pH > 7.2 use the lowest rate for that specific soil texture and organic matter.			

Weeds Controlled:

The following is a general list of weeds for which **MetalliS BDX** has shown control or suppression. The level of control will vary per use rate, cropping system, environmental conditions, moisture levels and soil type. **MetalliS BDX** may not control all of the weeds listed under all crop conditions.

Common Name	Scientific Name
Amaranth, Palmer	*Amaranthus palmeri*
Amaranth, spiny	*Amaranthus spinosus*
Amaranth, spleen	*Amaranthus dubius*
Barnyardgrass	*Echinochloa crus-galli (L.) Beauv.*
Broadleaf signalgrass	*Urochloa platyphylla (Nash) R. D. Webster*
Copperleaf, hophornbeam	*Acalypha ostryifolia Riddell*
Crabgrass spp.	*Digitaria* spp.
Crowfootgrass	*Dactyloctenium aegyptium (L.) Willd.*
Cupgrass, Prairie	*Eriochloa contracta Hitchc.*
Cupgrass, Southwestern	*Eriochloa acuminata (J. Presl) Kunth*
Fall Panicum	*Panicum dichotomiflorum Michx.*
Florida Pusley	*Richardia scabra L.*
Foxtail, bristly	*Setaria verticillata (L.) Beauv.*
Foxtail, Giant	*Setaria faberi Herrm.*
Foxtail, Green	*Setaria viridis (L.) Beauv.*
Foxtail, Robust	*Setaria viridis var. robusta*
Foxtail, Yellow	*Setaria glauca (L.) Beauv.*

(continued)

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Weeds Controlled: *(continued)*

Common Name	Scientific Name
Goosegrass	*Eleusine indica (L.) Gaertn.*
Groundcherry, cutleaf	*Physalis angulata L.*
Hairy galinsoga	*Galinsoga ciliata (Raf.) Blake*
Kochia (ALS and Triazine Resistant)	*Kochia scoparia (L.) Schrad.*
Lambsquarters, common	*Chenopodium album*
Morningglory, entireleaf	*Ipomea hederacea integriuscula*
Morningglory, ivyleaf	*Ipomea hederacea hederacea*
Morningglory, Palmleaf	*Ipomea Wrightii*
Morningglory, pitted	*Ipomoea lacunosa L.*
Morningglory, purple	*Ipomea turbinata*
Morningglory, red	*Ipomea coccinea*
Morningglory, scarlet	*Ipomea hederifolia*
Morningglory, small flower	*Jacquemontia tamnifolia (L.) Griseb.*
Morningglory, tall	*Ipomea purpurea*
Nightshade, black	*Solanum nigrum*
Nightshade, eastern black	*Solanum americanum*
Pigweed, red root	*Amaranthus retroflexus*
Pigweed, smooth	*Amaranthus hybridus*
Pigweed, spiny	*Amaranthus spinosus*
Sida, prickly	*Sida spinosa L.*
Smartweed, Pennsylvania (seedling)	*Polygonum pensylvanicum L.*
Star of Bethlehem	*Ornithogalum umbellatum L.*
Texas panicum	*Panicum texanum L.*
Thistle, Russian	*Salsola tragus L.*
Tropical Spiderwort	*Commelina benghalensis L.*
Waterhemp, common	*Amaranthus rudis*
Waterhemp, tall	*Amaranthus tubercalatus*
Witch grass	*Panicum capillare L.*
SEDGES (suppression only)	
Nutsedge, purple	*Cyperus rotundus*
Nutsedge, yellow	*Cyperus esculentus*
Sedge, annual	*Carex* spp.

Fall Applications:

MetalliS BDX may be applied as a fall treatment to the stubble of harvested crops for preemergence control of labeled weeds the following spring in no-till and conservation tillage production systems. Fall applications of **MetalliS BDX** must be made in weed control programs that include, as needed, spring application of preplant, preemergence or postemergence herbicides for the following crop season. Applications to ridge till production systems must be made after the formation of ridges or bedded. Apply when the sustained soil temperature at a 4-inch depth is less than 55 degrees F and falling.

If weeds are emerged at the time of application, utilize a tank mixture with a suitable burndown herbicide at labeled rates.

For Fall Application:

- Apply after September 30 in ND, SD, MN, WI and north of Route 30 in IA.
- Apply after October 15 north of Route 91 in NE and south of Route 30 in IA.
- Apply after October 31 north of Route 136 in IL.
- Do not make fall applications south of Interstate 70.

Early Preplant, Preplant Incorporated, and Preemergence Applications (Spring Applications):

Use on medium to fine soils with minimum tillage or no-tillage systems in CO, CT, DE, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NY, OH, PA, RI, SD, TN, VA, VT, WI WV and WY.

MetalliS BDX can be applied Early Preplant, Preplant Incorporated or Preemergence up to 3 days after planting but prior to emergence. For preplant incorporated applications, incorporation must be uniform and no deeper than 2 inches. Improper soil incorporation may result in erratic weed control and/or crop injury. **MetalliS BDX** applied near or after crop emergence may cause severe injury to the crop. **MetalliS BDX** can be applied alone or in combination with other soybean herbicides, including those containing sulfentrazone, as long as the sulfentrazone active ingredient rate does not exceed 0.375 lb a.i./A per season. Do not apply more than 2.387 lb a.i./A *S*-metolachlor per season.

MetalliS BDX may be followed by labeled postemergence soybean herbicides for increased control of grass and broadleaf weeds. Always follow the most restrictive label when tank mixing. When using **MetalliS BDX** in no-till or minimum till cropping systems, tank mix with an appropriate burndown herbicide for improved control of existing weeds. Apply on coarse soils no more than 2 weeks prior to planting.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Restrictions

- Do not apply more than 38.7 fl. oz per acre of **MetalliS BDX** per crop year.
- Do not apply more than 0.375 lb a.i. sulfentrazone total per acre per crop year.
- Do not graze or feed treated soybean forage, hay or straw to livestock for 30 days after treatment.
- Do not use on soils classified as sand, which have less than 1% organic matter.
- Do not apply to frozen soils or existing snow cover to prevent **MetalliS BDX** runoff from rain or snowmelt that may occur following application.
- Do not apply after crop seed germination.

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SUNFLOWERS

Table 6:

MetalliS BDX Herbicide Use Rate Preemergence and Preplant Incorporated Applications			
Broadcast Rate	**Fl. Oz. MetalliS BDX Per Acre**		
	Soil Texture		
% Organic Matter	**Coarse**	**Medium**	**Fine**
<1.5	17 - 21	25.7	21 - 30
1.5 - 3	17 - 25.7	32.4	25.7 - 32.4
>3	25.7	25.7 - 32.4	32.4 - 38.7

- Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories.
- For soils with pH > 7.2 use the lowest rate for that specific soil texture and organic matter.

Weeds Controlled:

When applied according to directions in sunflower, **MetalliS BDX** will provide control of:

Amaranth, Palmer	Morningglory, tall
Barnyardgrass	Nightshade, black
Fall Panicum	Nightshade, Eastern black
Foxtail, giant	Pigweed, red root
Foxtail, green	Pigweed, smooth
Foxtail, yellow	Thistle, Russian
Kochia (ALS and Triazine Resistant)	Waterhemp, common
Lambsquarters, common	Waterhemp, tall
Morningglory, ivyleaf	Witch grass

Note: Partial control will occur under dry conditions, under heavy pest pressure or at low use rates under 26 fl oz. Under these conditions plan to use a labeled post-emergence herbicide for improved control.

Preemergence (Spring Applications):

MetalliS BDX can be applied preemergence up to 3 days after planting as a soil surface application if seedlings have not broken the soil surface and if the seed furrow is completely closed and completely covered with soil. Adequate moisture (1/2" to 1") is required for herbicide activation from rainfall or irrigation. If adequate moisture is not received within 7 to 10 days after the **MetalliS BDX** treatment, a shallow incorporation may (less than 2 inches) be needed to obtain desired weed control. When activating moisture is not received a planned postemergence application of a labeled herbicide will be needed for optimum weed control. If an activating rainfall (1/2" to 1.0") is not received **MetalliS BDX** will provide a reduced and inconsistent level of control of susceptible germinating weeds. If dry conditions persist, weed control may be reduced. If applying on coarse soils with less than 1.5% organic matter, wait a minimum of 7 days after application before planting.

If weeds are emerged at the time of **MetalliS BDX** application, use a labeled burndown herbicide such as Aim herbicide, glyphosate or paraquat at the full-labeled rate in combination with **MetalliS BDX** as needed.

Spring Preplant Incorporated (PPI):

When planting into soil treated preplant with **MetalliS BDX** minimize soil disturbance to maintain the herbicide barrier on the soil surface to achieve maximum weed control. **MetalliS BDX** can be applied as a Preplant Incorporated treatment in the spring up to 2 weeks prior to planting in reduced and conventional tillage sunflowers. **MetalliS BDX** should be shallowly incorporated in the soil no deeper than 2 inches. Incorporating **MetalliS BDX** deeper than 2 inches can result in inconsistent weed control. Use the appropriate rate from **Table 6** above for the soil texture, soil organic matter, and soil pH level.

Precautions:

- Plant sunflowers 1.5" deep and completely cover with soil.
- Adverse crop response may occur on coarse textured soils with low organic matter (less than 1.5%) and pH of 7.2 or higher, or on highly eroded soils, hilltops, or in areas of calcareous outcroppings. **MetalliS BDX** use rates should be reduced to 14 fl. oz in those areas or not applied in these areas at all. Inadequate seed furrow closure or shallow planting (less than 1.5 inch) may result in undesirable crop response and this product should not be applied. Poor growing conditions such as excessive moisture, low temperatures, soil compaction and diseases may also cause undesirable crop response.

These Crop Specific Use directions are based upon the interactive effects of **MetalliS BDX** and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under Product Application Instructions, **MetalliS BDX** Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with **MetalliS BDX**. Consult seed companies and university or extension weed management personnel for additional information on specific local varieties or cultivars and any other pertinent information on **MetalliS BDX** under specific local conditions.

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Restrictions

- Do not apply more than 38.7 fl. oz of **MetalliS BDX** per acre per crop year.
- Do not apply herbicides containing sulfentrazone to sunflowers if **MetalliS BDX** has been previously applied within the same twelve-month period.
- Do not apply to frozen soils or existing snow cover to prevent **MetalliS BDX** runoff from rain or snowmelt that may occur following application.
- Do not allow livestock to graze or feed in treated area.
- Do not apply after crop seed germination.
- Do not use on soils classified as sand, which have less than 1% organic matter.

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DRY SHELLED BEANS AND PEAS

Dried cultivars of bean *(Lupinus)*; bean *(Phaseolus)* (includes field bean, black bean, kidney bean, lima bean (dry), navy bean, pink bean, pinto bean, tepary bean), small red bean, great northern bean; bean *(Vigna)* (includes adzuki bean, blackeyed pea, catjang, cowpea, crowder pea moth bean, lentil, mung bean, rice bean, southern pea, urd bean); broad bean (dry); guar; lab lab bean; pea *(Pisum)* (includes field pea and chickpea) and pigeon pea.

Table 7:

MetalliS BDX Herbicide Use Rate Fall or Spring Early Preplant, Preemergence, and Preplant Incorporated Applications			
Broadcast Rate	**Fl. Oz. MetalliS BDX Per Acre**		
	Soil Texture		
% Organic Matter	**Coarse**	**Medium**	**Fine**
<1.5	13 - 17	17 - 26	17 - 26
1.5 - 3	17 - 26	21 - 34	26 - 34
>3	21 - 34	26 - 38.7	30 - 38.7

- Refer to the previous information on soil types under the COARSE, MEDIUM, and FINE categories.
- For soils with pH > 7.2 use the lowest rate for that specific soil texture and organic matter.

Weeds Controlled:

The following is a general list of weeds for which **MetalliS BDX** has shown control or suppression. The level of control will vary per use rate, cropping system, environmental conditions, moisture levels and soil type. **MetalliS BDX** may not control all of the weeds listed under all crop conditions. For crops where lower use rates are needed for crop tolerance refer to their specific weed list.

Amaranth, Palmer	Morningglory, tall
Barnyardgrass	Nightshade, black
Fall Panicum	Nightshade, Eastern black
Foxtail, giant	Pigweed, red root
Foxtail, green	Pigweed, smooth
Foxtail, yellow	Thistle, Russian
Kochia (ALS and Triazine Resistant)	Waterhemp, common
Lambsquarters, common	Waterhemp, tall
Morningglory, ivyleaf	Witch grass

Note: Partial control will occur under dry conditions, under heavy pest pressure or at low use rates under 26 fl. oz. Under these conditions plan to use a labeled post-emergence herbicide for improved control.

Fall Application:

MetalliS BDX may be applied in the fall following crop harvest or in existing fallow fields to control or suppress weeds the following season. **MetalliS BDX** should be applied to the harvested crop stubble or soil surface without incorporation. Moisture in the form of rain or snow will move and activate the product. Do not mechanically incorporate in the fall or spring after application because this activity may destroy the herbicide barrier and weed escapes can occur. Do not apply to frozen soils to prevent **MetalliS BDX** runoff from rain or snow that may occur following application. **MetalliS BDX** may be tank mixed with other labeled herbicides to control emerged weeds. When activating moisture is not received a planned post-emergence application of a labeled herbicide will be needed for optimum weed control. If an activating rainfall (1/2" to 1.0") is not received **MetalliS BDX** will provide a reduced and inconsistent level of control of susceptible germinating weeds. If dry conditions persist, weed control may be reduced. Fall application of **MetalliS BDX** may require a follow up grass herbicide treatment as grass escapes may occur.

MetalliS BDX should be applied when the sustained soil temperature is 55°F and falling at a soil depth of 4 inches. Applications to ridge till production systems must be made after the formation of ridges or bedded.

For Fall Application:

- Apply after September 30 in ND, SD, MN and WI and north of Route 30 in IA.
- Apply after October 15 north of Route 91 in NE and south of Route 30 in IA.
- Apply after October 31 north of Route 136 in IL.

MetalliS BDX can be tank mixed with other labeled herbicides. Observe all restrictions, precautions, instructions, and rotational cropping guidelines of each product's label when tank mixing, including all references to potential carryover and crop injury warnings or restrictions. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Early Preplant and Preemergence (Spring Applications):

MetalliS BDX can be applied early preplant or preemergence up to 3 days after planting if seedlings have not broken the soil surface and if the seed furrow is completely closed and completely covered with soil. Adequate moisture (1/2" to 1") is required for herbicide activation from rainfall. If adequate moisture is not received within 7 to 10 days after the **MetalliS BDX** treatment, a shallow incorporation (less than 2 inches) may be needed to obtain desired weed control. When activating moisture is not received a planned post-emergence application of a labeled herbicide will be needed for optimum weed control. If an activating rainfall (1/2" to 1.0") is not received **MetalliS BDX** will provide a reduced and inconsistent level of control of susceptible germinating weeds. If dry conditions persist, weed control may be reduced. If weeds are emerged at the time of **MetalliS BDX** application, use a burndown herbicide such as AIM herbicide, glyphosate or paraquat at the full-labeled rate in combination with **MetalliS BDX** as needed.

Preplant Incorporated (PPI):

MetalliS BDX can be applied as a Preplant Incorporated treatment in the spring prior to planting in reduced and conventional tillage dry beans and peas. **MetalliS BDX** should be shallowly incorporated in the soil no deeper than 2 inches. Incorporating **MetalliS BDX** deeper than 2 inches can result in inconsistent weed control. Minimize furrow and ridge formation in the tillage operations. Use the appropriate rate from **Table 7** above for the soil texture, soil organic matter, and soil pH level.

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Precautions:

- Under extended periods of dry weather, adequate weed control may not be achieved. Adequate moisture (1/2" to 1") is required for herbicide activation from rainfall. If adequate moisture is not received within 7 to 10 days after the **MetalliS BDX** treatment, a shallow incorporation may be needed to obtain desired weed control. When activating moisture is not received a planned post-emergence application of a labeled herbicide will be needed for optimum weed control. If an activating rainfall (1/2" to 1") is not received **MetalliS BDX** will provide a reduced and inconsistent level of control of susceptible germinating weeds. If dry conditions persist, weed control may be reduced.
- Adverse crop response may occur on coarse textured soils with low organic matter (less than 1.5%) and pH of 7.2 or higher, or on highly eroded soils, hilltops, or in areas of calcareous outcroppings. **MetalliS BDX** use rates should be reduced to 13 fl. oz in those areas or not applied in these areas at all. Inadequate seed furrow closure or shallow planting (less than 1.5 inch) may result in undesirable crop response and this product should not be applied. Poor growing conditions such as excessive moisture, low temperatures, soil compaction and diseases may also cause undesirable crop response.

These Crop Specific Use directions are based upon the interactive effects of **MetalliS BDX** and the primary soil and environmental factors, which affect its activity on various weed species and tolerance among crops. The user is required to observe the instructions and guidance previously presented under Product Application Instructions, **MetalliS BDX** Product Use Rates, Rotational Crop Guidelines, Replanting Instructions, Weed Controlled, Crop Liability Disclaimer and any other section of this label pertinent to the anticipated crop use. It is important to note that not all varieties or cultivars of a given crop species have been evaluated under treatment with **MetalliS BDX**. Consult seed companies and university or extension weed management personnel for additional information on specific local varieties or cultivars and any other pertinent information on **MetalliS BDX** under specific local conditions.

Restrictions:

- Do not apply more than 38.7 fl. oz. of **MetalliS BDX** per acre per crop year.
- Do not apply additional sulfentrazone containing products to dry field beans and peas if **MetalliS BDX** has been previously applied within the same twelve-month period.
- Do not apply after crop emerges, or if the seedling is close to the soil surface.
- Do not incorporate to depths greater than 2 inches.
- Do not apply to frozen soils or to existing snow cover to prevent **MetalliS BDX** runoff from rain or snow melt that may occur following application.
- Do not use on soils classified as sand, which have less than 1% organic matter.
- Do not use for forage within 60 days after an application of **MetalliS BDX**.
- Do not cut for hay within 120 days after an application of **MetalliS BDX**.

HORSERADISH

Apply a single application of **MetalliS BDX** at a broadcast rate of 19 - 25 fluid ounces per acre to the soil surface after planting but before weed or crop emergence. Use listed lower rates on soils relatively coarse-textured and listed higher rates on fine textured soils.

Apply in at least 10 gallons per acre finished spray solution by ground.

Following the application of **MetalliS BDX** herbicide to soil, germinating seeds and seedlings take up **MetalliS BDX** from the soil solution. The amount of **MetalliS BDX** in soil solution available for weed uptake is determined primarily by soil type, soil organic matter and soil pH. Similar to other herbicides, **MetalliS BDX** adsorbs to the clay and organic matter (OM) fractions of soils; effectively limiting the amount of active ingredient immediately available to control weeds. Adequate moisture is required for herbicide activation (1/2" to 1" of rainfall or irrigation). If an activating rainfall (1/2" to 1") is not received **MetalliS BDX** will provide a reduced level of control of susceptible germinating weeds.

Weeds Controlled:

The following is a general list of weeds for which **MetalliS BDX** has shown control or suppression. The level of control will vary per use rate, cropping system, environmental conditions, moisture levels and soil type. **MetalliS BDX** may not control all of the weeds listed under all crop conditions. For crops where lower use rates are needed for crop tolerance refer to their specific weed list.

Barnyardgrass	Nightshade, black
Fall panicum	Nightshade, Eastern black
Foxtail, giant	Palmer amaranth
Foxtail, green	Pennsylvania smartweed
Foxtail, yellow	Pigweed, red root
Morningglory, entireleaf	Pigweed, smooth
Morningglory, ivyleaf	Waterhemp, common
Morningglory, pitted	Waterhemp, tall
Morningglory, smallflower	

Restrictions:

- Do not exceed 25 fluid ounces per acre per cropping season.
- Do not use on soils classified as sand, which have less than 1% organic matter.
- Do not apply directly on the crop after the crop emerges or if the seedling sprouts are close to the soil surface.
- Harvest horseradish at normal timing.

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Manufactured for:
Atticus, LLC
5000 CentreGreen Way, Suite 100
Cary, NC 27513

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed. Do not use or store around the home. Avoid storage below 32°F. Product that has been frozen should be thawed and recirculated prior to its use. Store in a cool, dry place and avoid excess heat.

In Case of Spill: In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call CHEMTREC (Transportation and spills): (800) 424-9300. **To Confine Spill:** To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

PESTICIDE DISPOSAL: Waste resulting from the use of this product must be disposed of at an approved waste disposal facility.

CONTAINER HANDLING: Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows:

Nonrefillable Container ≤ 5 Gallons: 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 if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable Container > 5 Gallons: 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. Then offer for recycling if available, or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

LIMITATION OF WARRANTY AND LIABILITY

IMPORTANT: READ BEFORE USE. Read the entire Directions for Use, Conditions of Warranties and Limitations of Liability before using this product. If these terms and conditions are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following Disclaimer of Warranties and Limitations of Liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness, injury, and other unintended consequences may result because of such factors as manner of use or application (including misuse), the presence of other materials, weather conditions, and other unknown factors, all of which are beyond the control of ATTICUS, LLC. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: To the extent consistent with applicable law, ATTICUS, LLC makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond statements on this label.

LIMITATIONS OF LIABILITY: To the extent consistent with applicable law, neither ATTICUS, LLC the manufacturer, nor the Seller shall be liable for any indirect, special, incidental or consequential damages resulting from the use, handling, application, storage, or disposal of this product. To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use, handling, application, or storage of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid.

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