SOYBEANS - POSTEMERGENCE APPLICATIONS

General Information

Product Information
Python WDG herbicide is a selective product for broadleaf weed control in field corn and soybeans. Apply Python WDG as a preplant surface, preplant, or preemergence treatment in corn and soybeans. Apply Python WDG with water, liquid fertilizer, or impregnated on dry bulk fertilizer. Absorption of Python WDG occurs through both shoot and root uptake. Susceptible weeds exposed to Python WDG stop growing and either die or remain non-competitive with the crop. Python WDG provides residual control of weeds that may emerge after application. Because uptake and translocation of Python WDG involves uptake by both roots and/or shoots, adequate soil moisture is necessary for optimal herbicidal activity.

When applications are made under adverse (dry or cold) conditions, or when less susceptible species are treated, reduced activity may be observed and weeds may be suppressed and not controlled. Weed suppression is a visual reduction in weed competition (reduced population, size, and/or vigor) as compared to an untreated area. Improve the level of control by applying Python WDG under favorable growing conditions (i.e., adequate moisture and warmer temperature) and by using a higher rate in the rate range.

Use Restrictions
Do not mix or load this product 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 and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas.
Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Design the pad and maintain it to contain any product spills or equipment leaks, container or equipment rinse or washwater, and rainwater that may fall on the pad. Do not allow surface water to either flow over or from the pad, which means the pad must be self-contained. Slope the pad to facilitate material removal. An unroofed
pad will have the 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. Maintain containment capacities at all times. These minimum containment capacities do not apply to vehicles delivering pesticide shipments to the mixing/loading site. States may have in effect additional requirements regarding wellhead setbacks and operational containment.

- Do not apply this product in Nassau and Suffolk Counties in New York State.
- Do not aerially apply this product in New York State.
- Chemigation: Do not apply this product through any type of irrigation system.
- Do not apply more than a total of 1.4 oz of Python WDG (0.07 lb active ingredient flumetsulam) per acre per year.
- Do not apply more than a cumulative total of 0.07 lb active ingredient flumetsulam per year if using in sequential or tank mix applications with other products.
- Preharvest Interval: Do not apply within 85 days before field corn and soybean harvest.
- Preharvest Interval: Do not apply within 45 days of field corn forage harvest.
- Do not use flood irrigation to apply or incorporate this product.
- Use this product in a manner that prevents back siphoning in wells, spills or improper disposal of excess pesticide, spray mixtures or rinsates.
- Avoid all direct or indirect contact with non-target plants. Do not apply near desirable vegetation. Allow adequate distance between target area and desirable plants to minimize exposure.
- Do not graze or feed treated soybean forage, hay or straw to livestock.
- Do not apply Python WDG to sweet corn or popcorn.
- Do not apply when air temperature is near freezing or when freezing conditions are expected for several days following application.

Do not apply under conditions that favor runoff or wind erosion of soil containing Python WDG to non-target areas. To prevent off-site movement due to runoff or wind erosion:
- Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, settle the soil surface first by rainfall or irrigation.
- Do not apply to impervious substrates, such as paved or highly compacted surfaces, or frozen or snow covered ground.
- Do not apply to soils when saturated with water.
- 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.

Use Precautions
- Uneven application or uneven incorporation of Python WDG can result in erratic weed control or crop injury.
- Extended cold, wet conditions (soil temperature below 50°F and excessive rainfall with wet soil conditions) following preemergence application of Python WDG to field corn which persist during germination and early crop development may result in crop injury. Injury symptoms, including yellowing of leaves and/or crop stunting, are usually temporary and affected corn plants usually recover without affecting yield.
- Dry weather following preplant surface or preemergence applications of Python WDG may reduce the product’s effectiveness. If sufficient activating rainfall or overhead irrigation does not occur within 7 to 10 days following application, incorporate the herbicide lightly into the soil using a rotary hoe, harrow, or shallow cultivation. Use a preplant incorporated application if furrow irrigation is used or when dry weather is expected following application.

Weed Resistance Management Guidelines
Python WDG contains Flumetsulam, a Group 2 herbicide (ALS inhibitor). Any weed population may contain plants naturally resistant to Group 2 herbicides. Such resistant weed plants may not be effectively managed using Group 2 herbicides but may be effectively managed utilizing another herbicide alone or in mixtures from a different Group and/or by using cultural or mechanical practices. However, any herbicide mode of action classification by itself may not adequately address specific weeds that are resistant to specific herbicides. Consult your Dow AgroSciences representative, state cooperative extension service, professional consultants, or other qualified authorities to determine appropriate actions for treating specific resistant weeds.

Best Management Practices
Proactively implementing diversified weed control strategies to minimize selection for weed populations resistant to one or more herbicides is recommended. A diversified weed management program may include the use of multiple herbicides with different modes of action and overlapping weed spectrum with or without tillage operations and/or other cultural practices. Research has demonstrated that
using full labeled rates and following use directions is important to delay the selection for resistance. Scouting after a herbicide application is important because it can facilitate the early identification of weed shifts and/or weed resistance and thus provide direction on future weed management practices. One of the best ways to contain resistant populations is to implement measures to avoid allowing weeds to reproduce by seed or to proliferate vegetatively. Cleaning equipment between sites and avoiding movement of plant material between sites will greatly aid in retarding the spread of resistant weed seed.

Principles of herbicide resistance management
1. Apply integrated weed management practices. Use multiple herbicide modes-of-action with overlapping weed spectrums in rotation, sequences, or mixtures.
2. Use the full labeled herbicide rate and proper application timing for the hardest to control weed species present in the field.
3. Scout fields after herbicide application to ensure control has been achieved. Avoid allowing weeds to reproduce by seed or to proliferate vegetatively.
4. Monitor site and clean equipment between sites.

For annual cropping situations, also consider the following:
- Start with a clean field and control weeds early by using a burndown treatment or tillage in combination with a preemergence residual herbicide as appropriate.
- Use cultural practices such as cultivation and crop rotation, where appropriate.
- Use good agronomic principles that enhance crop competitiveness.
- Use new commercial seed that is as free of weed seed as possible.

Field Bioassay Instructions: Using typical tillage, seeding practices, and timings for the particular crop, plant several strips of the desired crop variety across the field previously treated with Python WDG. Plant the strips perpendicular to the direction in which Python WDG was applied. Locate the strips so that different field conditions are encountered, including differences in soil texture, pH, and drainage. If the crop does not show visible symptoms of injury, stand reduction, or yield reduction, the field can be seeded with the test crop. If visible injury or stand reduction occurs, do not seed the test crop and repeat the bioassay the next growing season.

Application in Liquid Fertilizer
Always pre-mix or slurry Python WDG with water prior to adding to liquid fertilizer in spray tanks. Make sure Python WDG is completely and uniformly dispersed in water and then add to the spray tank or induction system through a 20 to 35 mesh
screen. Add any rinsate to the spray mixture. When necessary, use a compatibility agent to ensure that Python WDG mixes properly. The use of an appropriate compatibility agent is especially important when tank mixing Python WDG and other dry flowables, wettable powders, flowables, liquids, aqueous suspensions, or solutions with emulsifiable concentrates in liquid fertilizer. If the emulsifiable concentrate formulation rises to the surface of the fertilizer as an oil ("oils out"), the oil may combine with the wettable powder, flowable, or suspension to form oily curds (viscous phase) which are difficult to disperse. A jar test, utilizing relative proportions of the tank mix ingredients, is recommended prior to mixing with a large quantity of liquid fertilizer.

Note: Refer to Clean-Out Procedures for Spray Equipment for directions on cleaning equipment prior to use in crops other than soybeans.

Application with Dry Bulk Fertilizer
Dry bulk fertilizer may be impregnated or coated with Python WDG. Application of dry bulk fertilizer impregnated with Python WDG provides weed control equal to the same rates of Python WDG applied in liquid carriers. Follow label directions for Python WDG regarding rates per acre, crops, special instructions, cautions and special precautions. Apply 200 to 700 lb of the fertilizer/herbicide mixture per acre. Apply the mixture uniformly to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury. Non-uniform application may also result in unsatisfactory weed control. In areas where conventional tillage is practiced, a shallow incorporation of the mixture into the soil may improve weed control.

Most dry fertilizers can be used for impregnation with Python WDG. When coated ammonium nitrate and/or limestone are used alone, do not impregnate with Python WDG. These materials will not absorb the herbicide. Blends containing a mixture of ammonium nitrate and/or limestone as part of the fertilizer mixture can be impregnated.

Compliance with all federal and state regulations relating to blending pesticide mixtures with dry bulk fertilizer, registration, labeling and application are the responsibility of the individual and/or company offering the fertilizer and chemical mixture for sale.

Impregnation: Python WDG must be pre-mixed with water to form a slurry prior to impregnation of dry bulk fertilizer. For best results, use 1 pint of water to properly slurry the material. Make sure Python WDG is completely and uniformly dispersed in
water. Then add sufficient water to adjust the total volume of the mixture to deliver a spray volume of at least 6 pints per ton of fertilizer. Place nozzles used to spray the Python WDG onto the fertilizer to provide uniform spray coverage. Use any closed drum, belt, ribbon or other commonly used dry bulk fertilizer blender.

Note: Thoroughly clean dry fertilizer blending equipment prior to use with other herbicides. It is important to clean the blender, herbicide spray tank, and spraying apparatus thoroughly. Rinse the sides of the blender and the herbicide tank with water. Clean spraying apparatus prior to preparing fertilizer/herbicide mixtures for crops other than corn or soybeans (see Clean-Out Procedures for Spray Equipment). 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 one to two loads of unimpregnated fertilizer in the blender before switching herbicides. The fertilizer application equipment must be empty, clean, and dry before applying any material to crops other than corn or soybeans.

Application Methods
Ground Application
Apply Python WDG in sufficient spray volume to provide uniform coverage using only properly calibrated ground equipment. Apply in a total spray volume of 10 to 40 gallons per acre using low pressure (20 to 40 psi). Maintain sufficient agitation during mixing and spraying to ensure a uniform spray mixture. To ensure thorough coverage when applying to minimum or no-till soybeans or field corn, apply in a total spray volume of 20 gallons or more per acre. Note: Emerged soybeans are not tolerant to rates of Python WDG specified for soil applied treatments. Treatments at soil applied rates made after soybeans have emerged (at-cracking or later) will result in severe crop injury.

Band Application: Calculate the amount of herbicide needed for band treatment by the formula given in the label.

Preplant Soil Incorporated Application: For best results, apply and incorporate Python WDG from 0 to 30 days before planting field corn or soybeans. Preplant incorporated treatments may be applied in water, liquid fertilizer, or dry fertilizer. Uniformly incorporate the herbicide treatment into the top 2 to 3 inches of the final seedbed.
Preplant Surface Application: For best results, apply Python WDG alone or in certain tank mixes up to 30 days before planting. If weeds are present at the time of
treatment, apply Python WDG in a tank mix combination with a non-selective or contact herbicide such as glyphosate. Python WDG may provide suppression of annual grasses if there is sufficient rainfall to move the herbicide into the soil prior to weed germination. Rainfall or overhead sprinkler irrigation is necessary to move Python WDG into the weed germination zone. The amount of moisture required following application depends upon existing soil moisture, soil texture and organic matter content. Sufficient water to moisten the soil to a depth of 2 inches is adequate. If adequate soil moisture is not received within 7 to 10 days after a preplant surface application, shallow cultivate to control established weeds and move the herbicide into the weed germination zone. When adequate soil moisture is received following dry conditions, performance may vary by weed species and the depth of the weed root system in the soil. Do not move treated soil out of the row or move untreated soil to the surface during planting or weed control will be diminished.

**Preemergence Application:**
Apply at the time of planting or after planting field corn or soybeans, but prior to weed emergence. Rainfall or overhead sprinkler irrigation is necessary to move Python WDG into the weed germination zone. The amount of moisture required following application depends upon existing soil moisture, soil texture and organic matter content. Sufficient water to moisten the soil to a depth of 2 inches is adequate. If adequate soil moisture is not received within 7 to 10 days after a preplant surface application, shallow cultivate to control established weeds and move the herbicide into the weed germination zone. When adequate soil moisture is received following dry conditions, performance may vary by weed species and the depth of the weed root system in the soil.

**Early Preplant Burndown**
Apply 0.8 to 1 oz of Python WDG per acre in a tank mix with 2,4-D, glyphosate, glufosinate, or other herbicide product labeled for burndown and/or residual weed control in the fall or early spring prior to planting corn or soybeans. The application can be made with ground or aerial application equipment. Apply to crop stubble or tilled soil including fallow beds. This treatment provides early burndown of existing weeds plus residual weed control. For optimal burndown control, apply when weeds are 4 inches or less in height. For optimal residual control, apply after soil temperature has dropped below 50°F for fall applications. Under most conditions, fields should remain suitably clean prior to planting, thus avoiding the need for
additional burndown weed control. If weeds are present at time of application, tank mix Python WDG with other products labeled for burndown and/or residue weed control. Reduced residual (in-crop) weed control may be expected when conditions prevent planting by average (historical) planting date for the area. Do not apply to frozen soils or snow covered ground.

Select the most appropriate 2,4-D formulation for tank mixtures. Many 2,4-D products are labeled for use in the fall and in the spring prior to no-till soybean planting. These products can be applied preplant or preemergence to corn, but labels vary with regard to application timing and planting intervals. Soybeans may be planted following applications of 2,4-D but, depending upon use rates and formulation used, have planting interval restrictions ranging from 7 to 30 days. Always read and follow the 2,4-D product label directions and restrictions before use.

Soil Textures
Where rates are based upon coarse, medium, or fine textured soils, soil textural classes are generally categorized as follows:
Coarse: sand, loamy sand, sandy loam
Medium: loam, silt, silt loam
Fine: silty clay loam, sandy clay, sandy clay loam, clay loam, silty clay, clay

- Do not use as a preemergence treatment on peat or muck soils as reduced weed control will result.
- Use a lower rate in the rate range where soils have a sand or loamy sand texture throughout the soil profile.
- Do not apply to areas where the soil pH is greater than 7.8 as this may result in unacceptable crop injury.
- Do not apply to soils containing greater than 5% organic matter if the soil pH is below 5.9 as reduced weed control will result.
- Corn Only: Use of Python WDG on soils with less than 1.5% organic matter may result in crop injury. Apply to fields that contain soils with less than 1.5% organic matter only if the risk of crop injury is acceptable.
- Corn Only: If any herbicide with ALS (acetolactate synthase) inhibitor mode of action was applied the previous year, apply Python WDG to corn only if the rotational restrictions to corn for the preceding product have been met.
- Corn or Soybeans: Corn or soybeans growing in calcareous soils or on soils with historically high salt content (soil test results for salinity indicating electrical conductivity greater than 1 mmho/cm) may exhibit chlorosis and/or stunting resulting from reduced availability of iron or other micronutrients essential for
normal crop vigor and growth. The presence of soil active herbicides, such as Python WDG, may cause additional stress under these conditions, resulting in enhanced leaf chlorosis and/or crop stunting. This added stress may retard crop recovery, especially under conditions of limited rainfall. In fields which contain calcareous or high salt content soils and/or have a history of causing iron chlorosis in soybeans, growers should plant soybean varieties with known tolerance to iron deficient soils or plant “IR” or “IMR” designated varieties, commonly referred to as “imidazolinone resistant” corn hybrids. On these type soils, the likelihood of crop injury can also be reduced by using a lower rate in the rate range for the soil type and/or by applying Python WDG 10 to 14 days prior to planting.

Limitations, Restrictions, and Exceptions

Soybean

Do not graze or feed treated soybean forage, hay or straw to livestock.

Burndown Applications in Minimum Tillage or No-Tillage Application When used either alone or in combination in a burndown application, Python WDG with crop oil concentrate, will control or suppress the following weeds: marestail, common chickweed, field pennycress, and mustard species.

Postemergence Applications

Apply 0.125 oz of Python WDG per acre in soybeans as a postemergence application to control teaweed (prickly sida). This application may be made with ground or aerial application equipment. Apply to soybeans from the first to fifth trifoliate leaf stage of growth. Make applications to actively growing teaweed when it has no more than two true leaves (2 inch maximum height). Weeds too large for optimum control will be suppressed, but may recover after two to three weeks. Do not spray at the cotyledon stage. Postemergence applications of Python WDG may result in temporary chlorosis, transient leaf yellowing and/or growth retardation (stunt) of the soybean leaves. These effects will be evident for five to seven days after application to soybeans under stress. Under favorable growing conditions, the crop will quickly recover. Do not apply if rainfall is expected within 6 hours after application. For best results, do not cultivate within 10 days before or after application.

Method
Broadcast/Foliar Air
Broadcast/Foliar Ground
Broadcast/Foliar Air
Broadcast/Foliar Ground

Pre-Harvest Interval

85 days

Rates

field_rates 0

Restricted Entry Interval

12 hours

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

Timings

Postemergence (Weed)
Soybeans from the first to the fifth trifoliate leaf stage of growth.