



TECHNICAL GUIDE  
SUGARCANE

# AmiTron<sup>®</sup>

TERMINATES WEEDS WITH EXTREME PREJUDICE

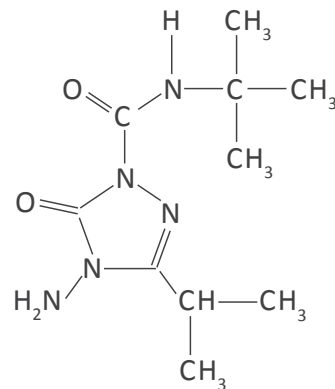
A UV stable broad-spectrum herbicide for sugarcane with both pre- and post-emergent activity against grass, broadleaf weeds and some sedges. It is especially effective against vine weeds.



# AmiTron®

## PRODUCT OVERVIEW

<b>Product:</b>	AmiTron®
<b>Active:</b>	amicarbazone
<b>Chemical group:</b>	Group C1 Triazolinones
<b>Mode of action:</b>	Inhibition of photosynthesis - Photosystem II
<b>Formulation:</b>	Wettable granule (700 g ai/kg)
<b>Registered crops:</b>	Sugarcane (plant and ratoon)



### Chemical Properties

<b>KOC:</b>	23-37
<b>KOW:</b>	15-17 (KOW between 10-30 is optimal for root uptake and translocation)
<b>Solubility:</b>	4600 mg/L at 20°C
<b>Half-life in soil:</b>	Varies with soil biological status but can range up to 150 days
<b>Straw transposition:</b>	High (will pass through straw or trash without excessive binding)
<b>Vapour pressure:</b> (mm Hg-20°C)	0.976 x 10 <sup>-8</sup> - very low (amicarbazone is non-volatile)
<b>Photodegradation:</b>	UV stable / resistant to photodegradation
<b>Hydrolysis:</b> at pH 5-7	Stable
at pH 9	DT50 = 66 days
<b>pH (of active ingredient):</b>	7.06
<b>Soil persistence:</b>	4 months average (depends on biological activity of soil)

## FEATURES & BENEFITS

-  **UV STABLE** – resistant to photodegradation
-  **MOVES THROUGH TRASH BLANKETS** – Excellent straw transposition
-  **EASILY ACTIVATED** – Minimal rainfall required for activation (2-5mm)
-  **RESIDUAL CONTROL** – Extended residual control on applications to soil
-  **WIDE WEED SPECTRUM** – grass & broad leaf weeds (especially vines), some sedges
-  **VERSATILE** – short or long-term residual efficacy depending on rate
-  **POST EMERGENCE ACTIVITY** – from foliar contact on small weeds
-  **COMPATIBLE** – ideal tank mix partner, especially with other UV stable products



# HERBICIDAL EFFECTS, UPTAKE INTO PLANTS, SYMPTOMS

## AMICARBAZONE MODE OF ACTION

### PHOTOSYNTHESIS INHIBITION

AmiTron® (700g amicarbazone) is a broad-spectrum herbicide for sugarcane with both pre-emergent and post-emergent activity against grass, broadleaf weeds (particularly vines) and some sedges.

AmiTron controls susceptible weeds by inhibiting the photosynthesis process, a chain of chemical reactions in the presence of light by which plants convert the energy of light into chemical forms required for plant metabolism. Photosynthesis utilises the light energy to convert CO<sub>2</sub> and water into carbohydrates within the plants.

### HERBICIDE ACTIVITY CLASS C1 - PHOTOSYSTEM II blocker - (triazolinone group)

The herbicidal activity of AmiTron is a blocking effect at a particular set of reactions in the chain of reactions which comprise the process of photosynthesis - reactions at the photosystems II site A. AmiTron binds at this site and stops the flow of electrons during photosynthesis, consequently stopping the production of energy in the forms of ATP (adenosine tri-phosphate) and NADH<sub>2</sub> (nicotinamide adenine dinucleotide phosphate) that is the basis for the production of carbohydrates in the plants.

In addition to blocking the flow of electrons, secondary reactions such as photo-oxidation of chlorophyll results in rapid destruction of plant cell membranes. Blocking electron flow results in production of reactive oxygen species that cause lipid peroxidation. Lipids are important components of membranes, so this effect in turn results in disruption of cell membranes in weeds which then leads to cell death, selectively controlling susceptible plants.

Symptoms can become visible within days of uptake and weed death can be rapid.

## AMICARBAZONE UPTAKE INTO PLANTS

### Uptake via roots

Uptake of AmiTron into plants occurs primarily by the roots when applied to the soil as a pre-emergent or early post-emergent application. This generally provides excellent soil activity on target weed species if the herbicide is present in the root zone before weed growth is substantially advanced.

However, there is negligible uptake via emerging coleoptiles as the shoots emerge through treated soil. It is root uptake that is the basis of all residual herbicidal efficacy of amicarbazone.

The extent and length of soil activity varies depending on environmental conditions, soil texture, soil pH, cation exchange capacity, organic matter, application rate and microbial activity.

### Uptake by foliar application

Significant absorption directly into leaf tissue can occur via foliar spray application of AmiTron, allowing effective post-emergence weed control on many weed species if weed growth is not too advanced.

To enhance post-emergence (contact) effect, the addition of wetter type adjuvants to foliar applications can be effective, particularly if weeds are small.

### Translocation within plants

Once AmiTron is in the plant, translocation from the site of uptake is in the acropetal (upward and outwards) direction through the xylem tissues, moving with the flow of water.

After penetration into the plant cells from sap flow, AmiTron enters the chloroplasts where photosynthesis occurs.

## SYMPTOMS

Symptoms in weeds after application of AmiTron include chlorosis, necrosis and stunting.

The first symptoms appear on older leaves or the lower leaves on the weeds. Symptoms then become apparent higher up the plants in younger tissue as translocation occurs.

Chlorosis (yellowing) between leaf veins and necrosis (scorch) around leaf margins and leaf tips spreads across the leaves and stems eventually killing the plant. Symptoms can appear quickly if weeds are actively growing and plant death can occur within five days. Symptoms on crop plants are similar though much milder.



*Red convolvulus displaying symptoms of chlorosis from AmiTron uptake in Far North Queensland.*



# USE PATTERNS IN SUGARCANE CROPS

## SUGGESTED USE PATTERNS

- Broadcast or banded sprays in early plant cane (to 5 leaf)
- Broadcast or banded sprays in ratoons post-harvest
- Banded sprays (row mound) in furrow irrigated cane
- Directed sprays in plant cane (up to canopy closure)
- Directed sprays in ratoon cane (up to canopy closure)
- Late sprays for vines in advanced cane (after canopy closure)

Recommended use patterns are designed to avoid adverse effects on the crop. Sometimes transient, very slight yellowing, can be evident when sprayed directly over young cane or when used on very light soils. This normally disappears within weeks or as soon as rainfall or irrigation stimulates crop growth. When used as directed, AmiTron is very well tolerated by cane.

With both pre-emergent and post-emergent capability, and activity against a wide spectrum of important weeds, AmiTron is a versatile herbicide for use in sugarcane. It has particularly good pre-emergence efficacy against some of the problem dicot weeds such as vines e.g. Ipomoea species.

AmiTron is stable to photolysis and has excellent ability to pass through straw or mulch layers, providing a fit for some application timings not available to many herbicides in sugarcane. Early application soon after harvest in ratoon cane allows for pre-emergent vine weed control in the cane row.

When tank mixed with other UV stable herbicides to enhance grass weed control, the overall result can be excellent. See label for specific instructions.

AmiTron rates can be selected for various criteria. Generally, higher rates are selected for longer periods of control, and higher rates are necessary on heavier soil types.



Untreated versus AmiTron treatment @ 1 kg/ha, 57 days after broadcast pre-emergent application over trash soon after harvest. Innisfail trial, Queensland, 2018.

## AMITRON RATE SELECTION

### Pre-emergent & early post-emergent control

Rates	Weed control period *	Application
500 g/ha	short term e.g. up to 4–6 weeks	Broadcast early Directed early Directed late (prior to canopy closure) Directed very late (after canopy closure)
800 g/ha	medium term e.g. 6–8 weeks	
1 kg/ha	long term e.g. 8 weeks or longer	

\*guidelines only - residual period varies with soil type

### Post-emergent control

Rates	Weed stage at Application	Weeds controlled #
500 g/ha	Up to 4 leaf	Most label species if at small stages. Add wetter for better post-emergent effect.  Larger label grass weeds may need paraquat or glufosinate to assist knockdown.
800 g/ha	Up to 6 leaf	
1 kg/ha	Up to 6 leaf Up to flowering for some	

#guidelines only - see label for recommendations for each species



## WEEDS CONTROLLED

**Table 1. Weeds Controlled by AmiTron**

WEEDS CONTROLLED	RATES (AmiTron 700 g/kg)	PRE-EMERGENCE	EARLY POST-EMERGENCE (generally < 4 Leaf)
Awnless barnyard grass ( <i>Echinochloa colonum</i> )	0.5 – 1.0 kg/ha	✓	✓
Guinea grass ( <i>Panicum maximum</i> )		✓	✓
Crowsfoot grass ( <i>Eleusine indica</i> )		✓	✓
Bluetop/Billygoat weed ( <i>Ageratum spp.</i> )		✓	✓
Calopo ( <i>Calopogonium mucunoides</i> )		✓	✓
Centro ( <i>Centrosema pubescens</i> )		✓	✓
Bellvine ( <i>Ipomea plebeia</i> )		✓	✓
Cudweed ( <i>Gnaphalium sp.</i> )		✓	✓
Common pigweed ( <i>Portulaca oleracea</i> )		✓	✓
Paddy's lucerne ( <i>Sida rhombifolia</i> )		✓	✓
Green amaranth ( <i>Amaranthus viridis</i> )		✓	
Pink burr ( <i>Urena lobata</i> )		✓	
Green summer grass ( <i>Brachiaria subquadripata</i> )	0.8 – 1.0 kg/ha	✓	✓
Summer grass ( <i>Digitaria ciliaris</i> )		✓	✓
Pink convolvulus ( <i>Ipomoea triloba</i> )		✓	✓
Morning glory ( <i>Ipomea purpurea</i> )		✓	✓
Rattle pod ( <i>Crotalaria spp.</i> )		✓	✓
Thickhead ( <i>Crassocephalum crepidioides</i> )		✓	✓
Common sensitive plant ( <i>Mimosa pudica</i> )		✓	
Fat hen ( <i>Chenopodium album</i> )		✓	
Bittercress ( <i>Coronopus didymus</i> )		✓	
Joint vetch ( <i>Aeschynomene indica</i> )		✓	
Phyllanthus ( <i>Phyllanthus sp.</i> )		✓	
Common sowthistle ( <i>Sonchus oleraceus</i> )		✓	
Potato weed ( <i>Galinsoga parviflora</i> )		✓	
Sesbania pea ( <i>Sesbania cannabina</i> )		✓	
Annual sedges ( <i>Cyperus spp.</i> )		✓	
Blackberry nightshade ( <i>Solanum nigrum</i> )	1.0 kg/ha	✓	✓
Milkweed ( <i>Euphorbia heterophylla</i> )		✓	✓
Red convolvulus ( <i>Ipomoea hederifolia</i> )		✓	
White eclipta ( <i>Eclipta prostrata</i> )		✓	
Wild rose ( <i>Cleome aculeata</i> )		✓	



### TANK MIXES & COMPATIBILITIES

In many situations in sugarcane, adding other herbicides into mixtures with AmiTron is a good strategy. Wider weed spectrum, longer periods of efficacy and reduced risk of crop effects can all be achieved with smart tank mix choices.

With AmiTron there are particular advantages in using products with similar UV stability and with complementary rather than similar activity spectra. For example, isoxaflutole and imazapic are both quite stable to photolysis so can be applied without restrictive short time periods to incorporation, yet both have particular strengths in grass weed control that complement the excellent dicot spectrum of AmiTron.

Each product label should be checked for clearer directions regarding each proposed tank mix.

Some of the products which have been successfully tank mixed with AmiTron and applied on sugarcane crops without adverse effects include: ametryn, diuron, metribuzin, pendimethalin, imazapic, isoxaflutole, 2 4-D amine, diuron+hexazinone, paraquat, glufosinate, S-metolachlor, isoxaflutole+glufosinate, isoxaflutole+paraquat, and imazapic+paraquat.

*Note: imazapic+glufosinate is not a recommended tank mix option for use with AmiTron because of risk of enhanced foliar uptake of imazapic into crop plants. Severe crop stunting and discoloration may occur with this mix.*

### PHYTOTOXICITY / CROP INJURY RISK TO SUGARCANE

#### Symptoms in sugarcane crops

AmiTron phytotoxicity in sugarcane plants can be evident as very mild or negligible colour changes to cane leaves resulting from foliar uptake, or a more severe stunting effect due to excessive root uptake.

1. Very slight yellowing might be seen for short periods of one to three weeks after broadcast (over the top) applications until rainfall or irrigation triggers growth.

In most circumstances, no symptoms at all are evident but direct contact of AmiTron on young cane leaf tissue may allow some foliar uptake. Occasionally this results in very mild transient chlorosis. Note that this effect is exaggerated if a wetting agent is added. For this reason, directed sprays rather than broadcast sprays are recommended as soon as practicable once the crop is advanced past about five leaf stage.

2. Root uptake in crops on very light soils can cause a more serious effect, and the growth of the crop can be severely stunted. The latter symptom is rare, and usually means that a high rate of AmiTron has been applied on a very light soil followed soon after by a heavy precipitation event moving active ingredient down to the crop root zone.

Select lighter rates on lighter textured soils. Do not use at all on very sandy soils (>90% sand).

#### Sugarcane variety

Trials in Australia showed no differences among varieties in susceptibility for phytotoxic effects of AmiTron.

No variety tested so far has presented an enhanced risk.

However, regular releases of new varieties means this situation may change at any time, so careful evaluation is recommended when AmiTron is first applied to recently released varieties.





### Reducing risk of adverse crop effects

1

SELECT APPROPRIATE RATES FOR SOIL TYPES

- Use lower rates to reduce risk on lighter soils.
- DO NOT use on very sandy soils (>90% sand).
- Select rates of tank mix partners appropriate to soil type.

2

CHECK PLANTING DRILL SHAPE & SOIL COVER FOR PLANT CANE  
(Early stages)

- Make sure soil cover over sett is adequate.  
At least 75 mm, more on light soils.
- Ensure a wide open-profile drill to prevent slippage of treated soil to the zone over top of sett.  
Open out drill with a light cultivation if drill shape is too steep in loose soil types.
- In double disc opener planting systems, ensure soil cover over plant slit.

3

REDUCE SPRAY CONTACT ON LEAF IN PLANT & RATOON CANE  
(Advanced stages)

- Use directed sprays when cane is advanced.  
Beware of possible crop leaf interference on spray patterns and use low throw nozzles, leaf lifters, directed nozzle configurations e.g. Irvin legs etc. as appropriate to achieve good coverage of both weeds and soil.
- Nozzles need to give good coverage yet not cause drift.  
Droplets should not be finer than medium category.

4

CHECK SHOOT HEIGHT IN EARLY APPLICATION TIMING IN RATOONS  
(immediately after harvest)

- Preferably apply before or just after shoot emergence with this use pattern.  
Add paraquat if shoots are advanced beyond about 4-5 leaf stage to reduce leaf uptake.
- Consider use of banded sprays directed only over the top of row mounds in furrow irrigated situations so that excessive water flux in the inter-row is not a risk of movement of AmiTron to the crop root zone.



# MANAGING RISK OF ENVIRONMENTAL CONTAMINATION

## ENVIRONMENTAL FATE OF AMITRON

Using herbicides safely to achieve weed control without adverse effects on other crops, fauna and adjacent natural environments, involves thorough knowledge and an objective assessment of risk.

Herbicides used as pre-emergent applications because they provide periods of residual efficacy are generally applied in sprays directed towards the soil surface, sometimes directly to the soil, but also to small, emerged weeds in early post-emergent use patterns. In these scenarios a large proportion of the applied dose reaches the soil surface, and it is this component that poses the greatest risk for unintended environmental contamination.

Understanding the unique characteristics of AmiTron in regard to movement, mode of efficacy, and degradation processes is necessary to determine appropriate use patterns to a) maximise product retention in the weed zone, and b) minimise herbicide movement to unintended off-site pathways.

AmiTron is a relatively soluble herbicide. This has advantages as it is readily taken up by weeds, but it also poses a risk of off-target movement in water if plant uptake or soil sorption does not occur sufficiently after application and before any subsequent heavy precipitation.

Application decisions must consider this risk and timings should be adjusted accordingly. Soil moisture prior to application has a fundamental influence on risk of losses of herbicide in water flows after application.

### Degradation processes and fate of AmiTron

**Photolysis** (photo-decomposition or photo-degradation) is the degradation of chemicals resulting from exposure to light or sunlight. Photolysis occurs on the plant, soil, water, or on any other surface where the herbicide is present and that is reached by sunlight.

***AmiTron is stable in sunlight and photolysis will not be a significant process of degradation in field conditions.***

This means that incorporation into the soil following application can be considerably delayed with AmiTron without compromising efficacy through photolytic breakdown.

**Volatilisation** is when a proportion of the herbicide moves from the liquid phase into a vapour (gas) phase, which then escapes into the atmosphere.

Herbicides prone to volatilisation have two problems:

1. Losses to volatilisation can result in poor weed control if too much active is lost from the weed zone.
2. The herbicide vapour that drifts off in the air might contaminate the surrounding environment and become a potential hazard to sensitive crops, ornamental plants, animal life, humans and natural ecosystems.

***AmiTron has extremely low volatility and does not pose a volatilisation risk when used as directed.***

**Hydrolysis** is a chemical reaction between the herbicide and water where ions of water bond with the herbicide molecule, thereby initiating the breakdown of the herbicide.

Hydrolysis of herbicides can occur wherever water contacts the herbicide. Some products are especially sensitive to changes in pH. For these compounds, hydrolysis is sometimes more rapid at particular pH ranges.

AmiTron is very stable to hydrolysis in solutions with pH ranging from 5 to 7 (a normal range for spray solutions).

***Hydrolysis is unlikely to lead to the breakdown of AmiTron to a degree that might result in efficacy failure.***

**Microbial degradation** is one of the most important routes of herbicide breakdown in actual field situations. It is the major process of degradation for AmiTron and is a perfectly natural process.

Most microorganisms live in the upper portion of the soil profile because they need well aerated soil, warm temperatures, adequate moisture and organic matter to flourish.

Rates of microbial breakdown of herbicides can vary considerably depending on soil biotic status. A very active microbial population can break the herbicide and metabolites down quickly, removing the parent molecule from the environment. In contrast, dry barren soils may have depleted soil biota and degradation may be slower.

***In summary, biological degradation by the actions of microbial populations is the main process of breakdown of AmiTron.***

Anaerobic conditions or other environmental circumstances limiting the viability of microbiota can reduce the normal rates of degradation of the compound.



### Movement of AmiTron – immediately after spraying

With any applied dose, immediately after spraying the product may be in any or all of three zones:

1. On soil or stubble / trash surfaces.  
This probably accounts for much of the applied dose.
2. On plant surfaces.  
Penetration processes begin immediately.
3. Volatilised into gas phase.  
With AmiTron, that portion is effectively zero.

AmiTron penetrating leaf tissue will be activated in chemical reactions within the plant, metabolised and eventually totally degraded. The vapour pressure of the compound is extremely low, so losses to gas phases will be negligible.

**Therefore, the key to minimising product movement and contamination is to manage the herbicide product that lands on the soil or the trash mulch surface.**

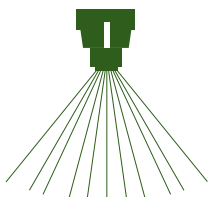
### Movement of AmiTron – fate after landing on soil or trash/stubble surfaces

Movement of AmiTron from the soil or trash layer is likely to involve water. Even from a dry trash or stubble layer exposed to strong light, loss to photolysis or volatilisation is probably minimal – so the product will remain in that position until a precipitation event (rainfall or irrigation) moves the compound down to the soil surface.

At this point, soil saturation levels will determine what proportion of the herbicide continues to move with the flux of water and what proportion begins to bind to soil (adsorption) or be absorbed into plant tissue by root uptake.

These are the three pathways for this material:

1. If soil is over-saturated, AmiTron may continue to move with water movement. This might involve surface flow (runoff) or movement downwards (percolation) or both. Soil type will influence the movement in both pathways.
2. If soil is wet but not over-saturated, AmiTron becomes readily available for absorption by the roots of weed plants. This is often termed “activation” but is simply an uptake process.
3. When soil begins to dry down past saturation level, there is significant binding of AmiTron onto the cation complexes in the soil (adsorption). Both organic matter and clay content influence this gradient. The more this adsorption process occurs the longer the potential for residual efficacy.



### Movement of Amitron – in water

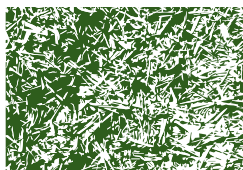
Water can move AmiTron from soil and trash surfaces in surface runoff if there is precipitation beyond what the soil can absorb. In some soils it may also move downwards through the soil profile through the leaching process and be lost from the root zone. This is much more likely on light soils in situations of high water flux (i.e. flood irrigation).

Managing AmiTron applications to minimise herbicide movement requires knowledge of the inherent soil parameters, the soil moisture status, soil surface cover, slope, soil compaction and a risk assessment of subsequent precipitation.

The decision points will be regarding rate, timing and application method, and should always involve checking soil moisture status prior to application.

#### Managing loss of AmiTron in runoff

- Adopt weed control strategies so that risk of extreme rainfall events soon after application of herbicides is minimised, e.g. utilise UV stable products over cane trash immediately or very soon after harvest in early season harvest rounds when risk of extreme rainfall is much reduced.
- Do not spray if soil is saturated.
- Do not spray if heavy rainfall or irrigation is expected or planned within 48 hours.
- Do not irrigate for at least two days after application if possible.
- Incorporate soil management processes so that compaction is prevented (e.g. controlled traffic). Compacted soil increases surface runoff significantly.
- In furrow (flood) irrigation systems, consider very early timings of banded applications centred over rows. This means that the AmiTron might not be exposed to the very heavy water flows with inundation of the flooded inter-rows, but would still provide excellent pre-emergent weed control within the band over the rows.
- In irrigated systems, optimise watering so that runoff from paddocks is negligible.
- Where possible, retain all irrigation tailwater on-farm.
- If volume of the first irrigation after application can be manipulated, a light irrigation is preferable to a heavy irrigation. This would move AmiTron off the surface into the shallow soil layers and allow soil adsorption processes to start to bind the herbicide in the weed root zone.
- Do not spray AmiTron on steep lands without major adaptations to reduce rates of surface runoff. e.g. contoured field configurations, green cane trash retention, minimal or zero cultivation systems, row spacings and machinery setups to avoid soil compaction.





### Managing loss of AmiTron through leaching

Leaching is the movement through soil with water. Some of this movement is necessary to get the herbicide into the layer of soil where weed seeds germinate.

Managing this movement to prevent excess leaching out of the root zone involves understanding soil type (particularly texture), and then adjusting timing and rates of application so risk of excessive water flows soon after application is minimised.

- Avoid applications on very light soils
- Do not spray if soil is saturated
- Avoid risk of heavy precipitation or irrigation soon after application
- Use the lowest feasible rate
- In furrow (flood) irrigation systems, consider banded applications so that the flooded inter-row is not treated with amicarbazone

### Management of headlands, drains and buffers

Managing water flows after runoff exits fields is also important in reducing the contamination of natural waterways with contaminants.

Slowing water flows can allow time for processes such as degradation, reabsorption into soil and uptake in covering vegetation, to reduce the quantity of contaminant significantly.

Slope adjustments and other erosion control practices can also help slow runoff and allow more time for contaminant levels to decline.

Vegetation that is near the site of application can play a significant part in reducing runoff. Conservation tillage systems that leave vegetation or crop residue help slow flows and reduce the movement of runoff. This reduces the potential for herbicides to move from fields into natural systems.

Buffer zones and vegetative filter strips with dense cover greatly reduce the potential for runoff losses of herbicides decreasing the amount of herbicide that can reach aquatic systems.

### Management of off-site movement in spray drift

The AmiTron label has legally binding restraints regarding spray drift. There are also restraints on the label for slope and certain no-spray windows.

Refer to a current label for restraints and recommendations.





## AmiTron and herbicidal effects on marine reef organisms

As a herbicide, AmiTron has potential to affect plant life in the environment, making it important to minimise off-target movement of the compound.

In the sugarcane regions in Queensland, the rivers flow toward the Great Barrier Reef lagoon so this product has the potential to be a hazard to marine flora such as seagrass and also corals.

Recent studies by the Australian Institute of Marine Science have shown that not all herbicides belonging to the PSII activity class pose the same risk.

AmiTron (amicarbazone) - a PSII activity class herbicide - has been shown as much less of a risk to seagrasses and corals than other PSII herbicides such as diuron and hexazinone (up to ten fold less a risk).

## Comparison of herbicide equivalence values:

Tables 2 and 3 show the relative equivalent potencies (REP) for PSII herbicides, derived by dividing the IC50 of the reference herbicide diuron by the respective IC50 for each herbicide-organism combination.

- REP of 1 indicates equal potency as diuron
- REP of >1 indicates a more potent herbicide than diuron
- REP of <1 indicates a less potent herbicide than diuron

These findings show that amicarbazone may be less of a risk than diuron.

However the fundamental objective should still be to reduce risk of any contamination off-target by utilising sensible practices.

The sugar industry is implementing Best Management Practices (BMP) for use of herbicides and other pesticides. BMP are designed to maintain opportunity to use the best tools for weed management without risk to the environment.

Arysta is an advocate of BMP adoption and encourages all industry participants to adhere to it's principles.

Best Management Practice Guidelines should be reviewed for current advice prior to using AmiTron in any crop.

Table 2: Relative equivalent potencies for PSII herbicides - Coral

Coral	Diuron	Atrazine	Hexazinone	Amicarbazone
<i>A. Millepora</i>	1.00	0.062	0.21	0.051

Table 3: Relative equivalent potencies for PSII herbicides - Seagrass

Seagrass	Diuron	Atrazine	Hexazinone	Tebuthiuron	Amicarbazone
<i>H. uninervis</i>	1.00	0.14	0.37	0.094	0.071
<i>H. ovalis</i>	1.00				0.094
Mean for all species	1.00	0.10	0.29	0.094	0.072

**[amitron.com.au](http://amitron.com.au)**

**Always refer to the label for complete details**

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