





# FERTILIZER PLACEMENT ADVANTAGE

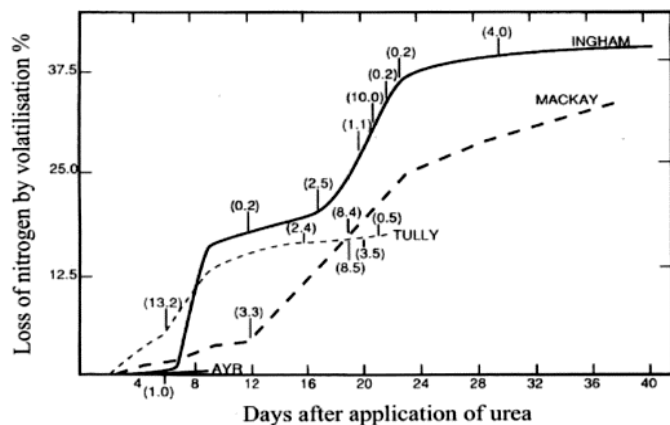
The primary objective of using coulters is to give you complete control over your fertilizer and Confidor Guard placement. Stool splitting, the preferred method, inserts nutrients in the peak of the stool and furthest from water accumulation. But, you and your nutrients can be left exposed when using rigid frame implements in irregular terrain and varying soil types. With a hydraulically activated parallelogram, nutrients are applied to your desired coulters depth and will remain in the ground where your plant needs it most.

**Nitrogen is one of the main building blocks for healthy plant growth**, and fertilizer lost to leaching and volatilisation does your plant no good. The underground placement of fertilizer addresses those problems, and contains the much needed nutrient at the stool, increasing nutrient uptake availability to your plant. It also reduces nutrient runoff and associated water contamination as well.

Maintaining a regular depth where grass uptake of your nutrients is minimal can boost your yields and potential profit. And by placing Confidor Guard in the root zone together with your fertilizer, you can spend more time on the things that count.

Trials to compare the volatilization of ammonia from urea applied to sugarcane trash were conducted at four canegrowing centres in Queensland. The losses ranged up to 39% where small amounts of rainfall or dew caused an upsurge in nitrogen loss.

Figure 3: Ammonia losses from applied urea, and rainfall amounts (mm) at experimental sites



Source: Denmead et al., 1990

## NITROGEN LOSSES CAN BE SUBSTANTIAL WHEN:

- urea is surface-applied to ratoons with no leaf canopy, followed by very light rainfall or heavy dew, with hot windy days.
- surface-applied nitrogen fertilizer falls into the interspace and around stool edges, followed by heavy rainfall leading to runoff.

An all-in-one application with REEFA will ensure that there will be enough nutrients available to your plant during critical development stages to maximize the yield potential of your crop.



# VERSATILITY. PRODUCTIVITY. RELIABILITY.

## FRAME

REEFA is constructed from heavy wall rectangular hollow section and can cater for side dressing, as well as stool splitting, simply by readjusting the centre clamp position and adding an extra coultter hanger. The frame can be raised and lowered from both the front and rear, to allow for the various angles required in each soil type.

By simply turning the threaded height adjustment arm, frame operating depth and working angle adjustments are infinite. The toolbar extends telescopically and is activated and positioned by hydraulic cylinder for multiple row width spacing's (1.53 meters to 1.83 meters), as well as drawing in for road travel.

The single bar drawbar with dual swivel enables full oscillation and achieves right angle turns on row entry and exit. It is mounted to the frame by a Category 2 three-point linkage points enabling the unit to be drawn by either option. Raising or lowering the machine when turning or travelling will not affect the pre-set operating height position.

In addition, clamp adjust wheel spacing allows for quick and easy adjustment to suit various row configurations. The rims are reinforced with two fully welded 6mm bands to share the load over the full circumference. Both bands are then connected to the wheel centre with the weight distributed equally across both of them.



## COULTERS

The coultters are mounted on a parallelogram linkage and activated by a hydraulic accumulator to maintain a regular depth over irregular terrain. This facilitates REEFA's distinctive ability to clear obstructions eg jumping rocks and minimizes disc damage. The pressure valve on the accumulator is adjustable to vary pressure in all soil types. The coultters can also be drawn upward to maximize ground clearance without the need to raise the frame to high levels, making turning significantly more stable on hillsides.

The coultter hangers are designed for 760mm discs with tynes easily adjusted from both horizontal and vertical points to match disc arc. Placement of fertilizer and Confidor Guard to your desired level underground is made easy with the long stainless steel dispersion boxes. To minimise deflection during operation, the adjusting plates are cut from 20mm plate. Working depth is adjustable from 75mm to 180mm.



## BIN

The bin is constructed from 4mm stainless steel for strength and durability, while 3mm stainless steel is used to reduce weight in the metering chambers. It has been constructed with sharp side angles and equal metering chambers to empty easily and completely, and can be reduced to less than 3.5 meters wide for road travel.

The metering chambers are flange mounted & bolted to the bin, allowing for future differing dispersion configurations without replacing the whole bin. They are fitted with dual 90mm spiral conveyers (worms) for uniform fertilizer flow and placement.

Toughened glass windows are fitted to each metering chamber to view low levels and are easily visible from the tractor seat. A hydraulically activated top cover can be fitted to safeguard contents from moisture.

All metering tubes & drop chutes are bolted and easily removed for servicing and maintenance. The conveyor bearings are machined from stainless steel with a bronze sleeve for shaft protection. Bin can be wheel driven or rate controlled.





# INNOVATIVE SOLUTIONS FOR TODAY'S TOUGHEST CHALLENGES

## DAVID & PAUL'S STORY

As fourth generation cane farmers, we like to go home each day knowing we have done our best for the cane and the environment. Both Nitrogen and Confidor Guard placement is important to us so losses to volatilization, and wash off in big rain events, can be a big concern, especially in hilly country.

The biggest problem with coulters is that in red soil they are so unreliable they just don't work. Red soil is sticky and blocks everything up, you have to be a bit persistent to get it to work and even then it is hit and miss. One year we hired a coulters but we found on side leans the disc on the top side of the hill would be out of the ground, the middle one would be in the ground and the bottom one would be burying so we have seen all these problems before and it just wasn't good enough. Because of REEFA's design and the way it works, we don't have to worry about any of that and can focus on more important things.

REEFA is the only implement we can really rely on to put everything where we want it and to the correct rate. Before, when you dropped the fertilizer on top, it would bounce and fall everywhere. The grass would get the fertilizer before the cane and grow like crazy; you'd have a hard time controlling it.

What we have noticed now is that by burying the fertilizer under the ground, the grass roots on top can't get to it but the cane does. You can see there might be a strip of green grass where you stool split but the rest won't be as green and is easy to kill when you go to spray it. As a result, we have reduced the amount of chemical used and cut the number of applications down to one pass in most areas. We're confident the grass isn't getting the fertilizer, the cane is, and it is getting all it needs without losing any to the atmosphere.

Now when it rains, because the fertilizer is buried and the stool is a bit higher than the interspace, the water running in the interspace is taking the trash away but the fertilizer is still sitting in the root zone right where you and the plant need it. We're confident that 100% of the fertilizer is where it needs to be, and that's the big thing to us.

Grub pressure is rising and being able to do the fertilizer and the Confidor Guard at the one time, instead of trying to do two jobs, cuts out on implements and saves time. Confidor Guard breaks down with UV exposure and has got to be placed under the ground, it has got to be where it needs to be. That's the main thing we focus on now, putting everything where it has to be and with the depth wheels and all the adjustments you can get that.

With REEFA, we can sleep better at night knowing that we don't have as many losses and the fertilizer is placed exactly where our plant needs it most.

David and Paul Cecchi, South Johnstone, Queensland

## SPECIFICATIONS

<b>Bin Capacity</b>	5 tonne (mixed fertilizer)
<b>Tank Capacity</b>	600L
<b>Coulters</b>	3 or 4
<b>Working Widths</b>	1.53m-1.83m row width x 3 rows
<b>Bin Fill Height</b>	2.375m – min
<b>Transport Dimensions</b>	3.5m width x 2.57m height
<b>Tyre Size</b>	14.9 x 28
<b>Ply Rating</b>	10
<b>Wheel Spacing</b>	variable from 1.52m-2.15m
<b>Gauge Wheels</b>	thread adjust
<b>Gauge Wheel Tyre Size</b>	5 x 10
<b>Frame Tubing</b>	125mm x 125mm x 9mm frame 100mm x 100mm x 9mm hitch and toolbar
<b>Drawbar Clevis</b>	single
<b>Drive</b>	hydraulic – PWM valve controlled
<b>Frame Control</b>	hydraulic cylinder
<b>Flashing &amp; Warning Tail Lamps</b>	optional extra
<b>Wash Tank</b>	optional extra
<b>Lid</b>	optional extra
<b>Hopper &amp;/or Dispersion Box Camera</b>	optional extra
<b>Ground Drive</b>	optional



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