

# For grain growers looking to push the genetic potential of their crop



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**MODDUS EVO®** is Syngenta's Plant Growth regulator (PGR) and contains the active ingredient trinexapac-ethyl. When applied to actively growing crops, MODDUS EVO helps to produce shorter, stronger plants with enhanced root systems, significantly reducing the risk of lodging. It is also now registered for Barley head Loss.

## MODDUS EVO:

- Minimises stem lodging by increasing lower stem strength and reducing overall plant height
- Thickens the base and stem wall of the plant
- Improves crop standability
- Reduces Barley Head Loss

## What do these factors deliver growers?

- Reduces harvesting hassles i.e. picking up lodged crops
- Increased yields in high potential cereal crops
- Improved harvest index – minimised lost grain
- Improved grain quality

## What is lodging?

1. **Stem lodging** – key influencing factors: stem strength and crop height
2. **Root lodging** – key influencing factors: root anchorage and soil type

In Australia, stem lodging is the most common form of lodging experienced by growers. MODDUS EVO is extremely effective at reducing stem lodging but works on both forms.

Trial work has also shown that MODDUS EVO influences root growth. The results show that MODDUS EVO provided an increase in both the numbers and length of the plant's roots, providing increased root anchorage and reducing the lodging risk due to poor root support. This also provides greater capacity for water and nutrient scavenging by the plant.

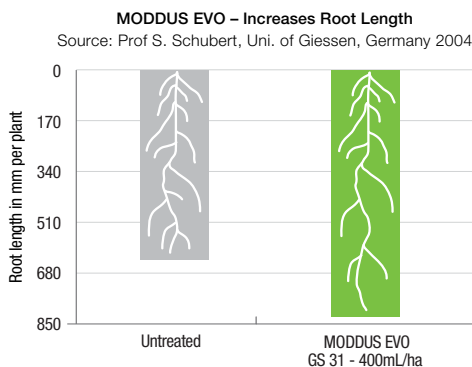


Figure 1: MODDUS EVO increases both the number and length of a plant's roots, providing improved fine root development and greater capacity for water and nutrient scavenging.

**MODDUS EVO – Barley, Average Lodging %**

Data Reference No.: 14, 16, 18, 19, 20, 43, 44, 48

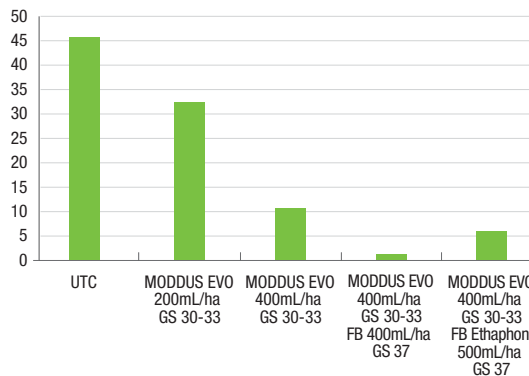


Figure 2: MODDUS EVO reduces the percentage of lodging in barley.

**MODDUS EVO – Wheat Average % Lodging (GS 30-33) 2007-2010**

Data Reference No.: 5, 8, 9, 11, 12, 208, 209, 210, 211, 213-215

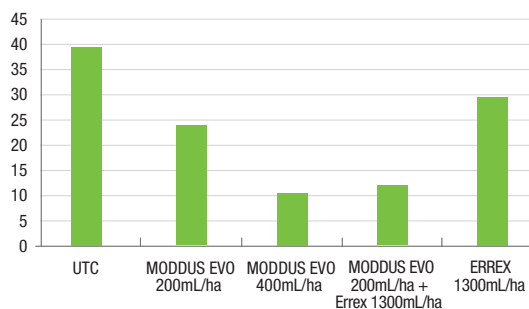


Figure 3: MODDUS EVO reduces the percentage of lodging in wheat.



Figure 4: Commander Barley in Maitland was treated with MODDUS EVO at 300mL/ha at growth stage GS 30, followed by 200mL/ha at GS 37 (right of picture). The crop treated with MODDUS EVO yielded 5.73 t/ha whereas the untreated crop yielded 5.18 t/ha. (Trial, J & D Southwood Pty Ltd, Maitland South Australia.

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## Syngenta's MODDUS EVO is now registered to aid in the reduction of barley head loss.

Head loss in barley can cause major economic losses and can be a deterrent from growing high yielding malting barley varieties specifically in the coastal grains regions of Western Australia and South Australia.

Traditional management techniques such as swathing have previously been used, but this comes with downfalls including the cost or contracting of a swather, more time on the tractor and the potential for reduced grain quality.

MODDUS EVO offers growers a new solution to manage barley head loss in susceptible varieties.

MODDUS EVO reduces barley head loss by reducing peduncle length and increasing peduncle thickness. In doing so, this increases the plants ability to resist environmental conditions which could result in head loss. Trials have shown a tight correlation between peduncle length and head loss potential.

### Application guidelines - barley head loss

**Rate:** 200-400mL/ha

**Use:** Reduction in the peduncle length for the suppression of barley head loss

- Apply to actively growing, healthy crops, do not apply to crops experiencing any significant form of stress.
- Apply at the beginning of GS 30-32 (stem elongation) or at GS 37-39 (flag leaf just visible to flag leaf full emergence)
- Use the higher rates 300-400mL/ha when barley variety has long peduncle combined with high yielding ear
- Refer to the label for Directions for Use

### Application guidelines - anti-lodging

**Timing:** GS 31 (in wheat, barley and oats) and GS 37 (2nd application in barley)

**Wheat:** 300-400mL/ha MODDUS EVO (alone);  
200mL/ha MODDUS EVO + 1-1.3 L/ha ERREX (tank mix)

**Barley:** 300-400mL/ha MODDUS EVO (alone).  
Up to two applications in barley

**Oats:** 300-400mL/ha MODDUS EVO (alone)

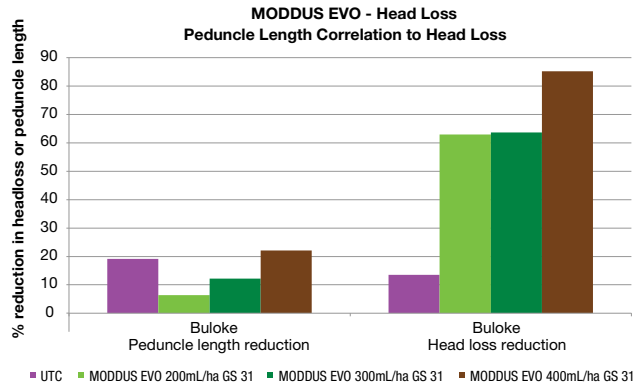


Figure 5: There is a clear response in Buloke highlighting that as peduncle length is reduced, the percentage of head loss reduction is increased.

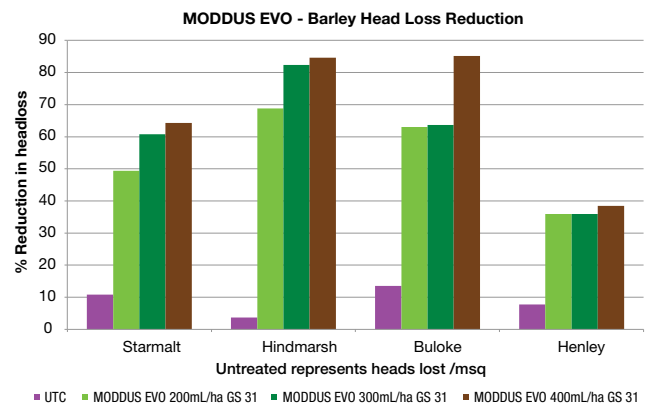


Figure 6: There are clear rate responses across a range of varieties showing increases in the suppression of barley head loss as the rate of MODDUS EVO increases.



**Moddus<sup>®</sup> Evo**

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