

PRACTICE FACT SHEET

GUIDE TO MODDUS™ APPLICATION



Project Catalyst is a grower-led innovation project in sugarcane that was formed to explore, validate and broadly adopt management practice changes for productivity gains and improved water quality for the Great Barrier Reef.

WHAT IS IT?

Moddus™ is a foliar absorbed plant growth regulator (PGR) that has been shown to increase sugar yields. The active ingredient in Moddus™ is trinexapac-ethyl which works by inhibiting the production of gibberellic acid, a plant hormone responsible for cell elongation. Moddus™ is used for harvest management to increase sugar yield.

Information provided in this fact sheet is based on trials conducted in Wet Tropics regions. Please consult your local agronomist if interested in using PGRs in your farming system.

HOW IS IT APPLIED AND WHAT RATE?

Moddus™ can be applied via aerial or ground rig though most commonly applied via aerial application due to accessibility of the crop.

Moddus™ is applied at a rate of 800ml/ Ha to healthy actively growing sugarcane crops between 5 and 8 weeks prior to harvesting. For aerial application apply 25-60ml of water per hectare using a higher water rate in dense crops, for ground rig application water rates are recommended at 150-500L per hectare. Moddus™ will be rain fast within two hours of application.

It is not advised to apply Moddus™ to cane that is flowering or under stress from lack of water or lodge cane. Sugarcane needs to be in an actively growing phase.

WHY CONSIDER MODDUS™?

Moddus™ gives growers opportunities to improve early and late CCS in their crops, as a harvest management tool and to increase grower and industry profitability.

WHAT CCS INCREASE CAN I EXPECT?

Below is a table of trial data that looks at comparing different varieties and what the CCS increase could be during the coming weeks after application.

TREATMENT	VARIETY	4 WKS	6 WKS	8 WKS	10 WKS	12 WKS
MODDUS™	Q208	7.82	10.02	11.21	12.04	12.90
NO SPRAY	Q208	8.31	8.63	9.91	9.84	11.04
CCS Difference		-0.49	1.39	1.30	2.20	1.86
MODDUS™	Q231	9.78	11.97	11.22	12.62	13.08
NO SPRAY	Q231	9.05	9.50	10.88	11.42	11.74
CCS Difference		0.73	2.47	0.34	1.19	1.34
MODDUS™	Q242	9.43	10.52	12.19	12.86	13.05
NO SPRAY	Q242	8.89	9.94	11.71	11.88	11.94
CCS Difference		0.54	0.58	0.48	0.98	1.11
MODDUS™	Q253	9.73	10.92	11.63	12.64	12.96
NO SPRAY	Q253	8.81	9.61	10.91	11.39	11.63
CCS Difference		0.92	1.31	0.72	1.25	1.33
MODDUS™	SRA10	9.23	11.31	12.11	12.78	13.55
NO SPRAY	SRA10	9.02	9.04	9.69	11.45	12.11
CCS Difference		0.21	2.27	2.42	1.33	1.44
MODDUS™	SRA14	7.81	9.02	11.94	12.15	11.94
NO SPRAY	SRA14	7.72	8.46	9.84	10.39	11.22
CCS Difference		0.09	0.55	2.09	1.75	0.72
MODDUS™	SRA5	6.69	8.41	9.59	11.03	10.90
NO SPRAY	SRA5	6.68	6.52	8.51	8.73	10.16
CCS Difference		0.01	1.88	1.08	2.30	0.74

Above trial data sourced from HCPSL



WHAT VARIETIES SHOULD I TARGET EARLY IN THE SEASON?

Trial work conducted in various Wet Tropics regions showed that certain varieties were more responsive to Moddus™ than others and it should be noted that varieties that have flowered will not respond well to application due to sugarcane growth process. Below is a table of some of the varieties that were studied during the trial phase and through predictive modelling activities undertaken by HCPSL.

Responsive varieties	MQ239, WSR24, Q183, Q215, Q219, Q231, MQ238, Q240, Q247, Q253, SRA5, SRA6, SRA10, SRA14, SRA26 (could be considered for the first 2 rounds), SRA28.
Less responsive varieties	Q200, Q208, Q242 (when it is heavily flower), Q250, Q252, SRA31
Non-responsive varieties	KQ228, Q226, Q232 (when it is heavily flowered)

Above table information sourced by HCPSL

Note: Responsiveness of a variety may differ between blocks and locations. Do not apply to varieties that have flowered because response is usually low. The above rating is only an indicator based upon very limited data in some cases. No responsibility will be taken concerning the chemical performance on different varieties.

WHAT HAPPENS IF I CAN'T HARVEST MY TREATED CANE?

The crop will outgrow the Moddus™ application with no detrimental effects to the crop. In fact, some studies done in Brazil have suggested that Moddus™ applications can have beneficial effects on improving root growth. Other studies have found that it can also improve tiller and reduce suckering in late harvest cane.

MODDUS™ BEST PRACTICE TO MAXIMISE RESPONSES

- Ensure crop is actively growing and not flowering.
- Ensure crop is not stressed from disease, YCS, insect damage, poor nutrition, waterlogging or frost.
- To aid uptake via the foliage, ensure at least 8 green leaves are present. Avoid application to recently lodged cane until upright growth has recommenced.
- Avoid applications when conditions have been hot and dry in the weeks prior to application (greater than 30 degrees Celsius and less than 50% relative humidity).
- Time applications prior to, or right at the commencement of flower initiation. If spears are already visible, then the optimal timing has already passed.
- Understand the ripening properties of each variety. Moddus™ gives the greatest percentage CCS increase when applied to varieties that are traditionally low in early sugar content.
- Do not harvest for 5 weeks after application.
- Do not graze or cut for stock food for 5 weeks after application.



Great Barrier
Reef Foundation



Project Catalyst is funded by the partnership between the Australia Government's Reef Trust and the Great Barrier Reef Foundation, The Coca-Cola Foundation and WWF-Australia.

Disclaimer: Copyright 2022. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of HCPSL. Disclaimer In this disclaimer a reference to "we", "us" or "our" means Herbert Cane Productivity Services Ltd (HCPSL) and our Directors, Officers, Agents and Employees. Although we do our best to present information that is correct and accurate, we make no warranties, guarantees or representations about the suitability, reliability, currency or accuracy of the information we present in this report for any purposes. Subject to any terms implied by law and which cannot be excluded, we accept no responsibility for any loss, damage, cost or expense incurred by you as a result of the use of, or reliance on, any materials and information appearing in this report and you agree that we will not be liable for any loss or damage whatsoever (including through negligence) arising out of, or in connection with the use of this report. We recommend that you contact our staff before acting on any information provided in this report.

