

BEST PRACTICES: CHALLENGING PASTURES TO SUPPORT HIGH-PRODUCING HEAVY DAIRY COWS UNDER GRAZING



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Hypothesis

- A **low defoliation intensity** in the pasture will result in **higher forage intake** and better **animal performance** and forage production with lower environmental impact than traditional management.
- The animal's response will be mediated by a more **selective** ingestive behaviour, consuming at a higher intake rate, and driving the intake of a diet with better **nutritional quality** in a shorter time. The low defoliation intensity will maintain a higher leaf area index to intercept light and thus will **growth faster** than the traditional management.

Background at national level

- Chico (2007)
- Mattiauda et al. (2009)
- Soca et al. (2009)
- Faber (2012)
- Zibil et al. (2016)

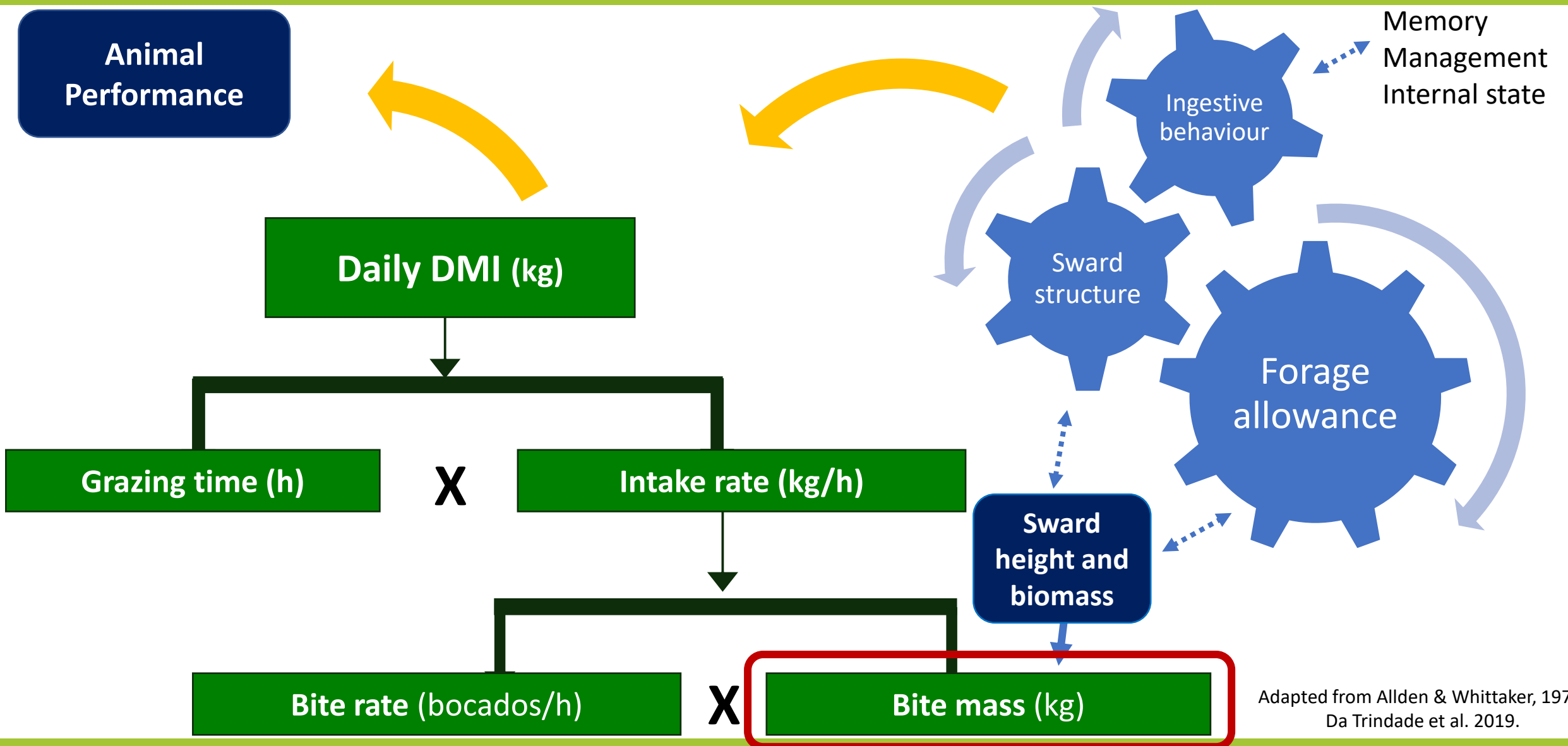


Post-grazing sward heights above 6 cm showing better milk and pasture production

- Post-grazing sward heights below 6 cm:
 - Negative effects on pasture and milk production
 - Pasture persistency

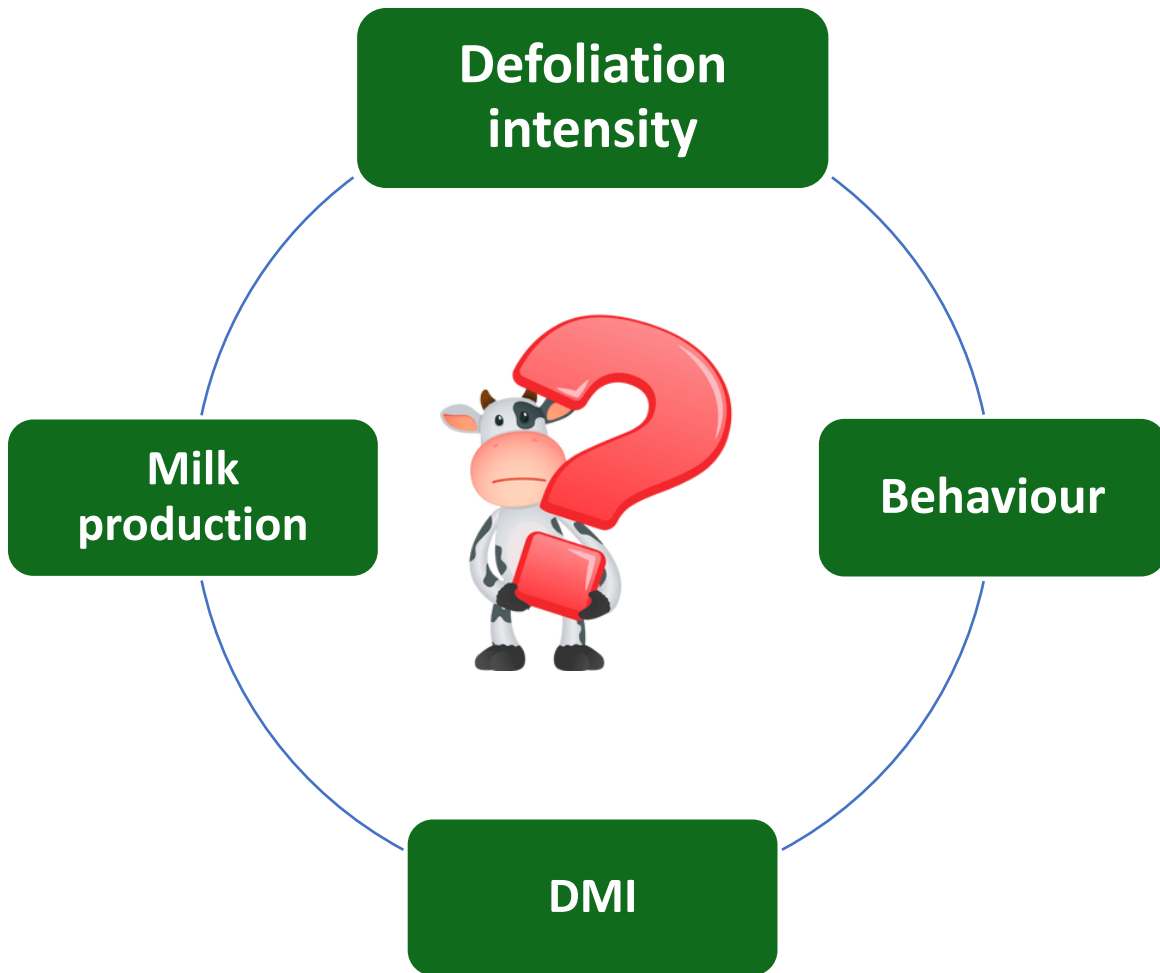


The concepts behind the hypothesis



Adapted from Allden & Whittaker, 1970;
Da Trindade et al. 2019.

Experiment 2017



Experiment 2017

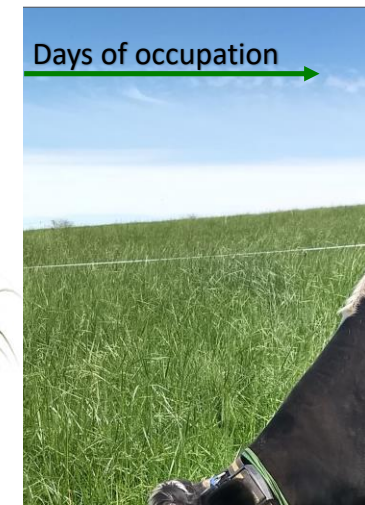


Effect of Post-grazing Sward Height on Ingestive Behavior, Dry Matter Intake, and Milk Production of Holstein Dairy Cows

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- ✓ Start
- ✓ 18-20 cm
- ✓ 3 leaves

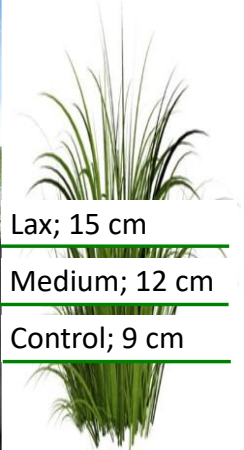


- ✓ Finishing

Lax; 15 cm

Medium; 12 cm

Control; 9 cm



Experiment 2017



- Unsupplemented cows
- Treatments installed in autumn

- ✓ **Start**
 - ✓ 18-20 cm
 - ✓ 3 leaves

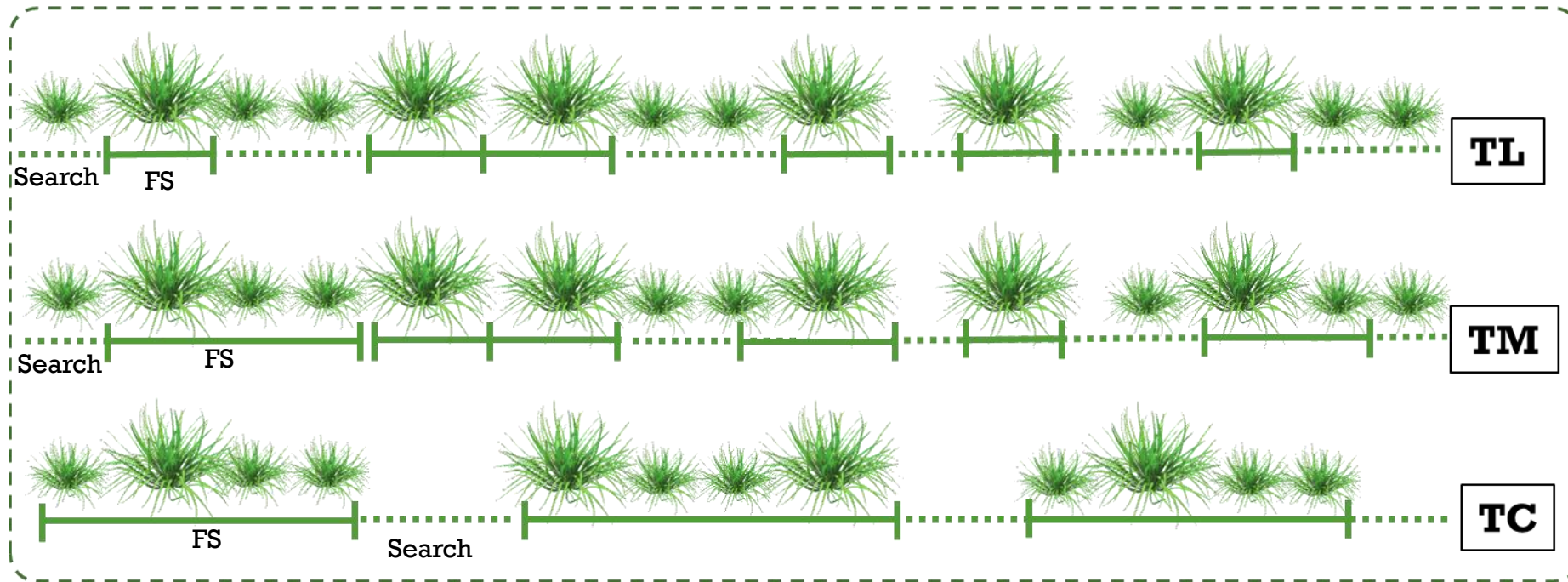


- ✓ **Finishing**

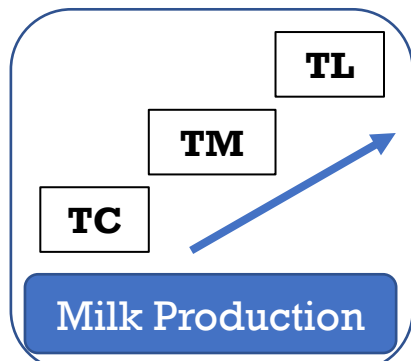
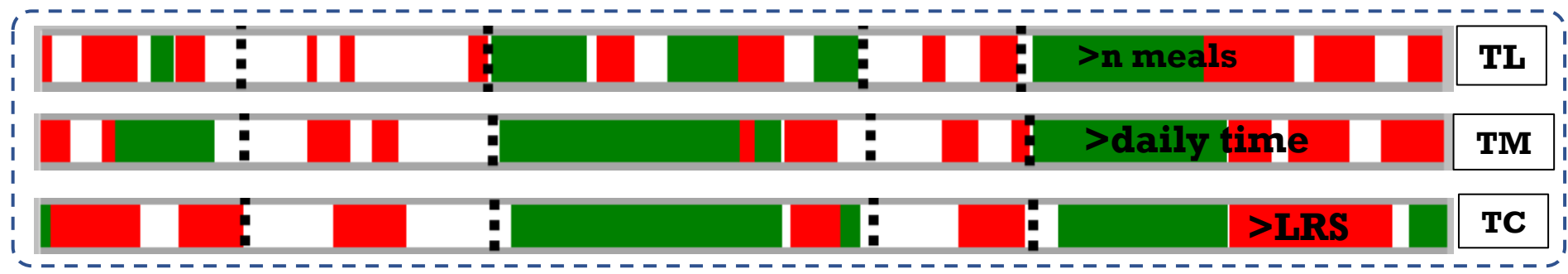
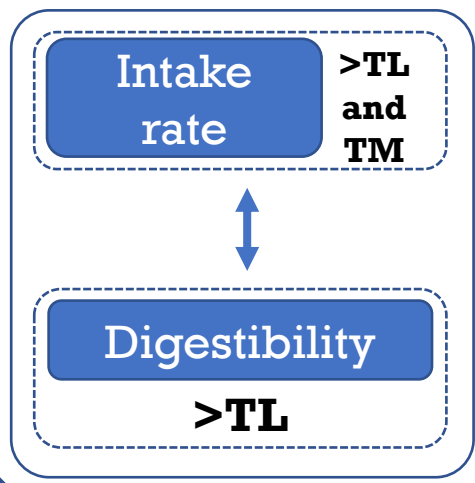
Lax; 15 cm TL

Medium; 12 cm TM

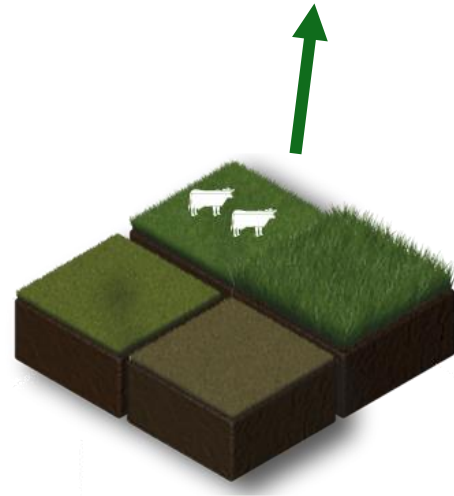
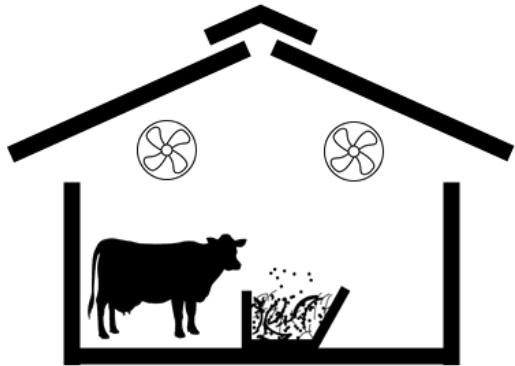
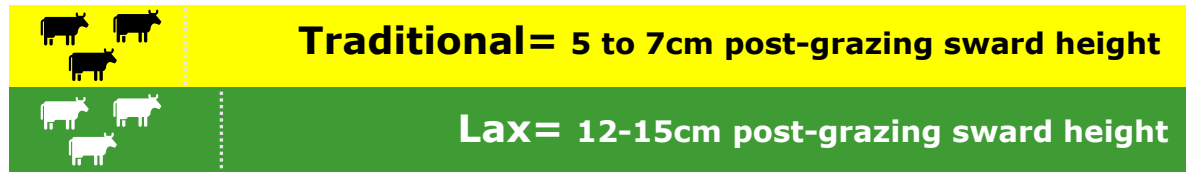
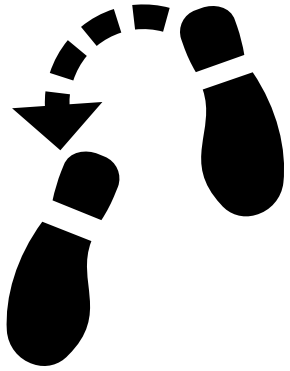
Control; 9 cm TC



Adapted from Galli



Challenging high production dairy cows



High production dairy cows
Mixed feeding system

- ✓ Individual milk production
- ✓ DMI
- ✓ Behaviour
- +
- Milk production per area
- Forage production
- CH₄ emissions
- N balance
- Sward heterogeneity

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THANK YOU!

EGF

2022
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