ACCESS TO GRAZING FOR HIGH YIELDING DAIRY COWS: A NOVEL EXPERIENCE IN NORTHERN ITALY

ABSTRACT # 29786

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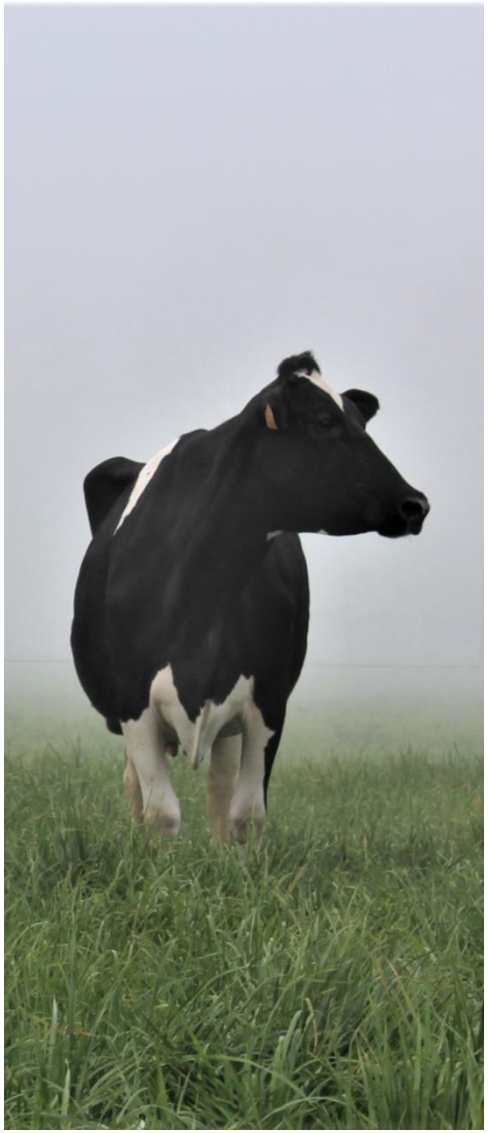
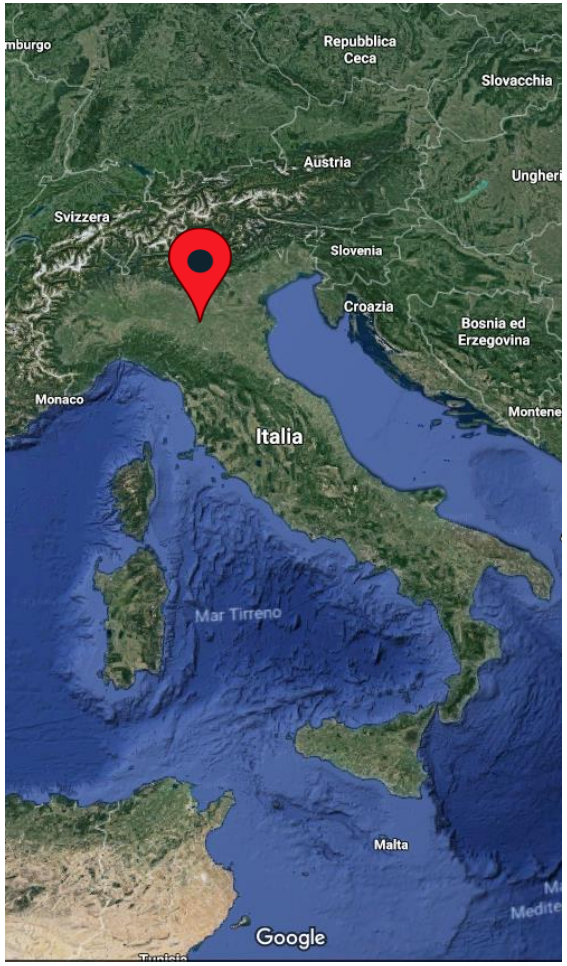
INTRO

- Grazing has been **almost completely abandoned in Italy**, especially in the Po Valley (where most milk is produced)
- Also in Italy the **consumer demand** for allowing dairy cows to access pasture is increasing rapidly
- Italian dairy industry is not willing/prepared to accept this change due to :
  - Climatic reasons (mainly **heat stress** in summer)
  - Limited **land availability**
  - System oriented to **maximize milk production per cow** (Large Holsteins are not well adapted to grazing) largely reliant on the use of concentrates
  - But perhaps **more importantly**: knowledge about (rotational) grazing is lacking
- AIM was **to assess the feasibility** of allowing high yielding lactating dairy cows to access pasture **in the context of the Po Valley**



MATERIAL & METHODS

- Exp. Was carried out in a commercial dairy farm (no research center)
- Farm located in the hearth of Po Valley (Grana Padano)
- **Large Holstein breed with high milk yield** (>12,000 kg/cow*year)
- Lactating herd (~120 cows) was split in two groups
  - **(CON) Control group (55 cows) fed TMR with no pasture access**
  - **(GRA) Grazing group (65 cows) fed TMR + 6 h/d access to pasture (after AM milking, 07:00->13:00)**
- **The two groups were fed the same TMR (ad libitum) inside the barn (50:50 forage to concentrate ratio)**
  - Grass hay (22%) + Corn silage (20%) + Alfalfa hay (6%) + Straw (2%) + Ground corn (28%)+ Soybean meal (8%) + premix (14%)

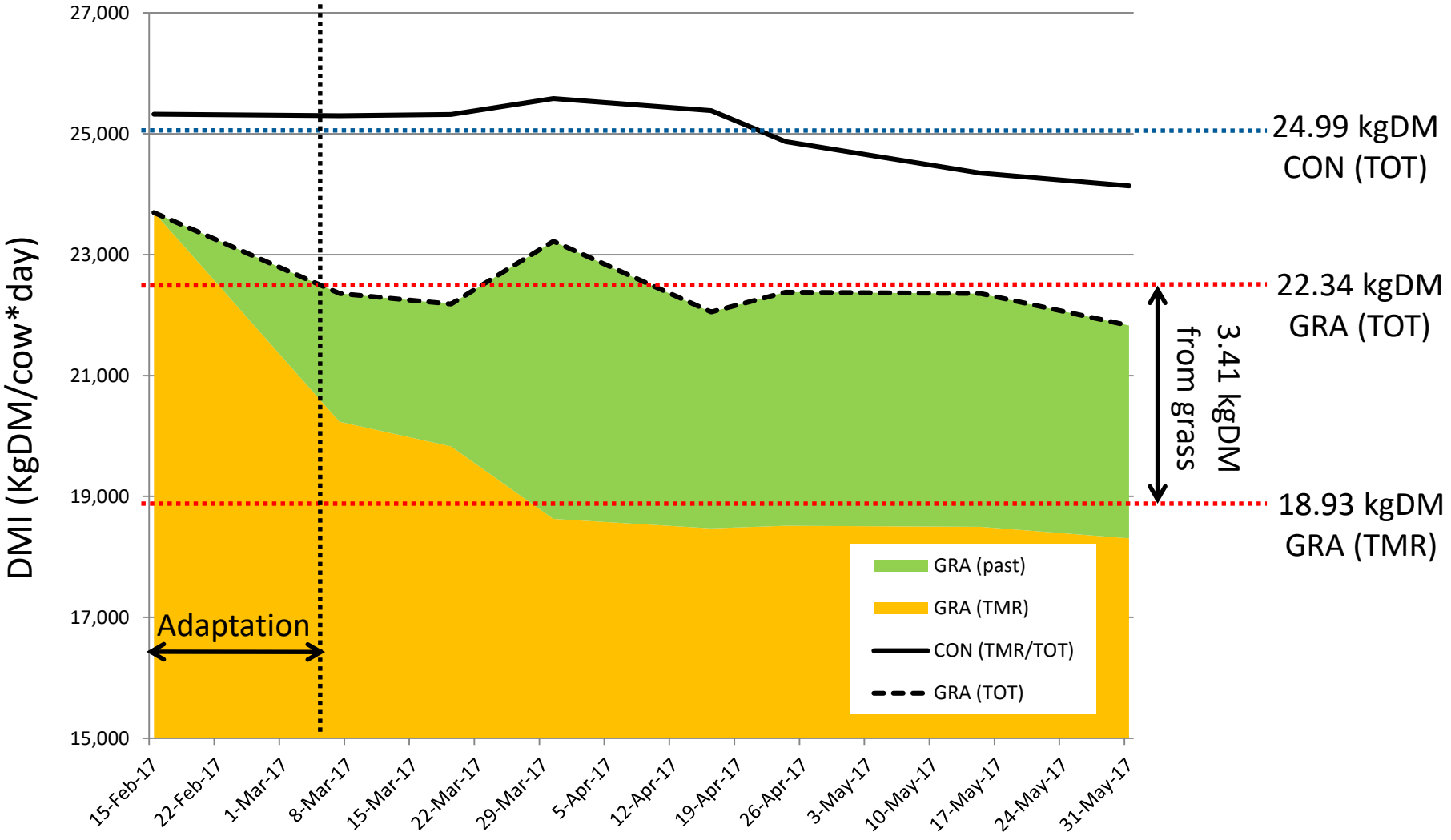


MATERIAL & METHODS

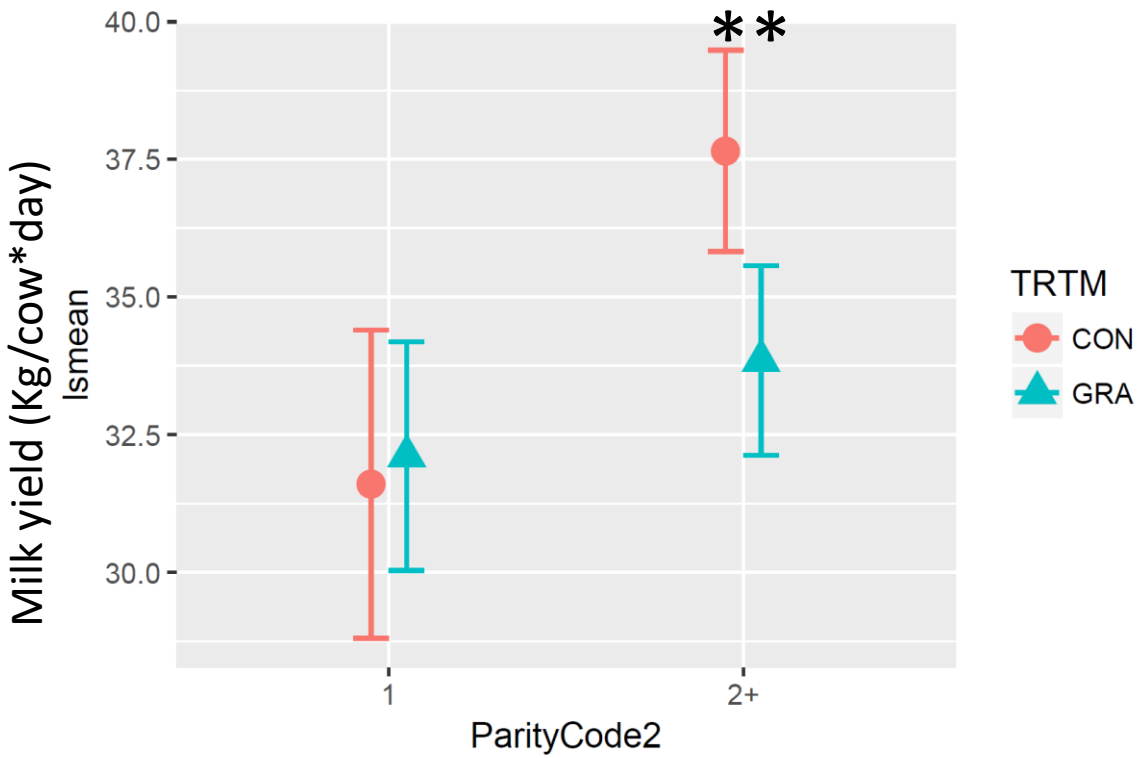
- Cows with **no previous experience with grazing**
- Grassland based on **perennial ryegrass + white clover**
- **Daily rotation/allocation (strip grazing)** with a target grass allowance of 6-8 kg DM/cow (>5cm)
- Experimental period: 15 February 2017 - 30 May 2017 (15 days adaptation)
- **DATA:**
  - **Milk data from DHI** (monthly test days, n.3)
  - **Pasture mass measured weekly** for allocations (n.13)
  - **DMI of TMR measured biweekly** (weighing leftovers, group level, n. 8)
  - **DMI of grass measured biweekly** (herbage disappearance, group level, n. 6)
  - **BCS scored monthly** (1=emaciated to 5=obese, n.3)
  - **Locomotion score at the beginning and at the end** of exp. (1=sound, 5=lame; n.2)
- Data analyzed with **linear mixed model** (R's packages "nlme" + "lsmeans")

SOME PICS

RESULTS:INTAKE

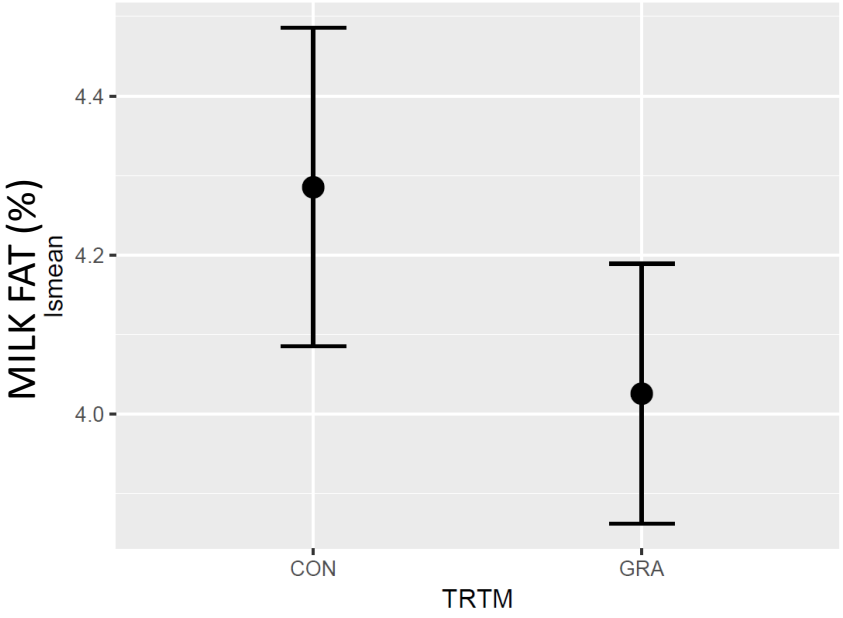


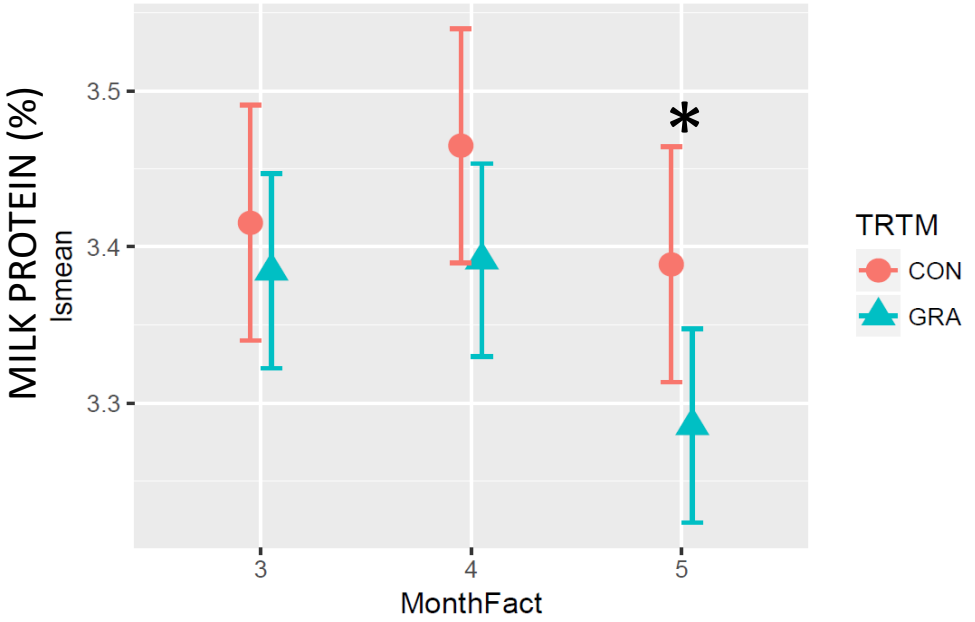
RESULTS:MILK YIELD



- Main effect of TRTM on milk yiled **not significant**
- Milk production of **primiparous** cows did not differ between treatments (**32.11 vs 31.61** kg/day, P= 0.77)
- **Multiparous** cows in GRA produced significantly lower milk than in CON (**33.85 vs 37.65** kg/day, P<0.01).

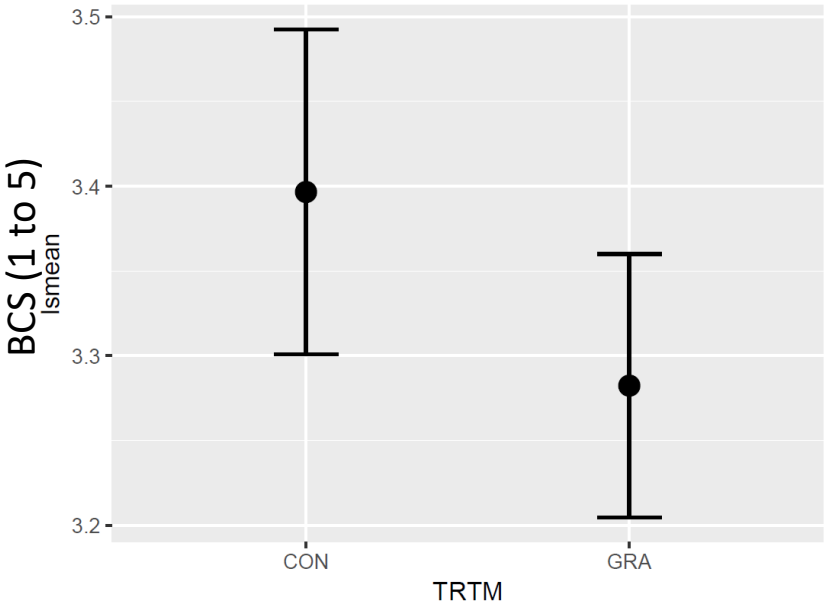
RESULTS: MILK QUALITY

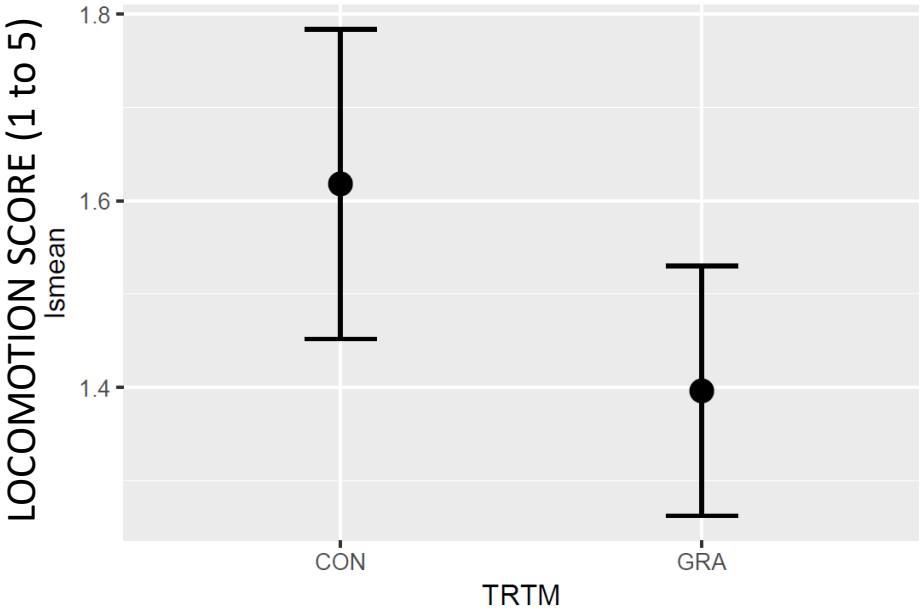




- Milk fat percentage was reduced in GRA compared with CON (4.03 vs 4.29 %, P<0.05).
- Overall, milk protein content did not differ between treatments (3.35 vs 3.42 %, P=0.13) but a significant reduction was observed in GRA at the end of the study (3.29 vs 3.39 %, during month 5/May; P<0.05).
- Part-time grazing **did not affect SCC significantly** (199 vs 275 cells x1000/mL; P=0.38)

RESULTS:BODY CONDITION AND LOCOMOTION





•The GRA cows tended to have lower BCS compared with CON counterparts (**3.28 vs 3.40**, P=0.07).

•At the end of the experimental period, cows in the GRA group had better gait than those in CON (**1.40 vs 1.62** , P<0.05).

SOME PICS:PASTURE MANAGEMENT

CONCLUSIONS

- Results showed that grazing high yielding dairy cows in Northern Italy is feasible, at least during spring conditions
- Access to pasture (even for a limited time) demonstrated to have beneficial effects on cows locomotion/lameness
- Grass management with high yielding cows fed TMR may be challenging
- Loss of BCS and reduced milk components may represent a matter of concern over the long term
- A slight reduction in milk yield can be expected (especially for mature cows). However, since cows grazing part time also consume less TMR, the economics of this type of management deserve specific evaluations

THANKS, QUESTIONS?

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RESULTS:PASTURE MANAGEMENT