

Grazing Management Effects on Pasture Growth: Risks and Rewards

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Introduction

- **Clipping vs. Grazing – why they're different.**
- **How we conducted this research.**
- **Results – just the facts.**
- **Implications – what does it mean to you?**

Clipping vs. Grazing

- **Clipping is cheaper, faster, easier, and less variable than grazing.**



Clipping vs. Grazing

- **In theory, defoliating grass with a blade or an animal's mouth should be the same.**



Clipping vs. Grazing



Nutrient equivalent of manure and urine



Mineral	Equivalent rate (lb/acre)	
Nitrogen	900	800
Phosphorus	250	10
Potassium	350	650
Sulfur	100	50
Calcium	650	10
Magnesium	200	10

- **How we conducted this research.**



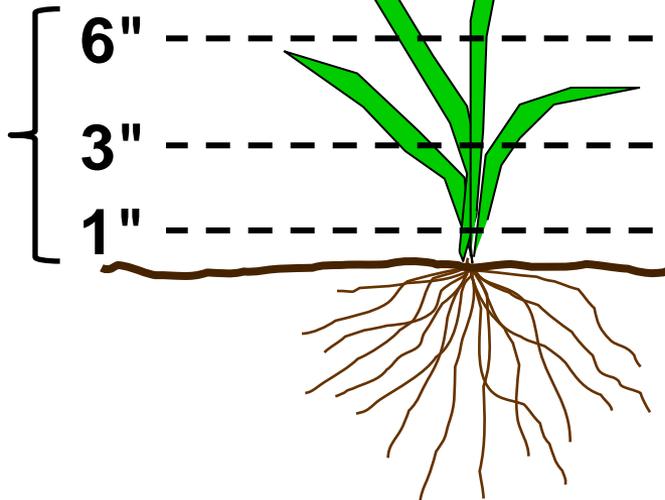
meadow fescue
orchardgrass
quackgrass
reed canarygrass

MDF
OGR
QGR
RCG

**Stubble
height**

Vegetative

12"



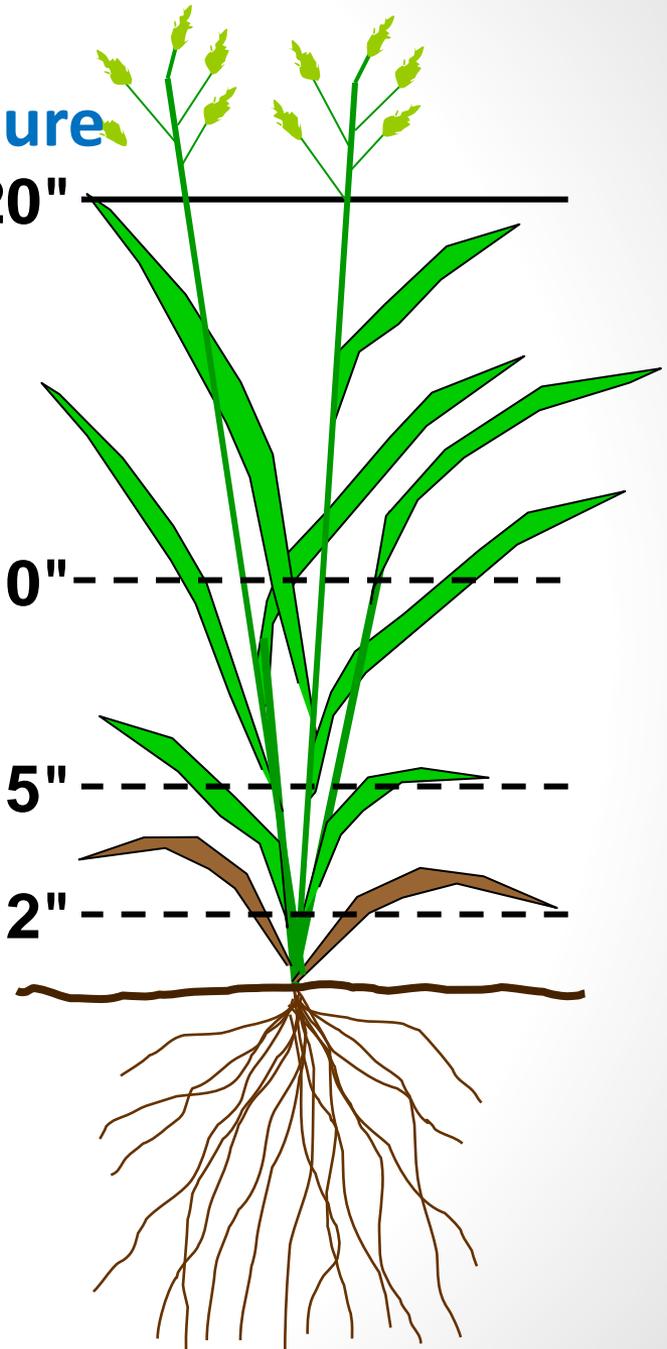
Mature

20"

10"

5"

2"



Research site at Prairie du Sac



Heifers grazing vegetative grass



Heifers grazing mature grass



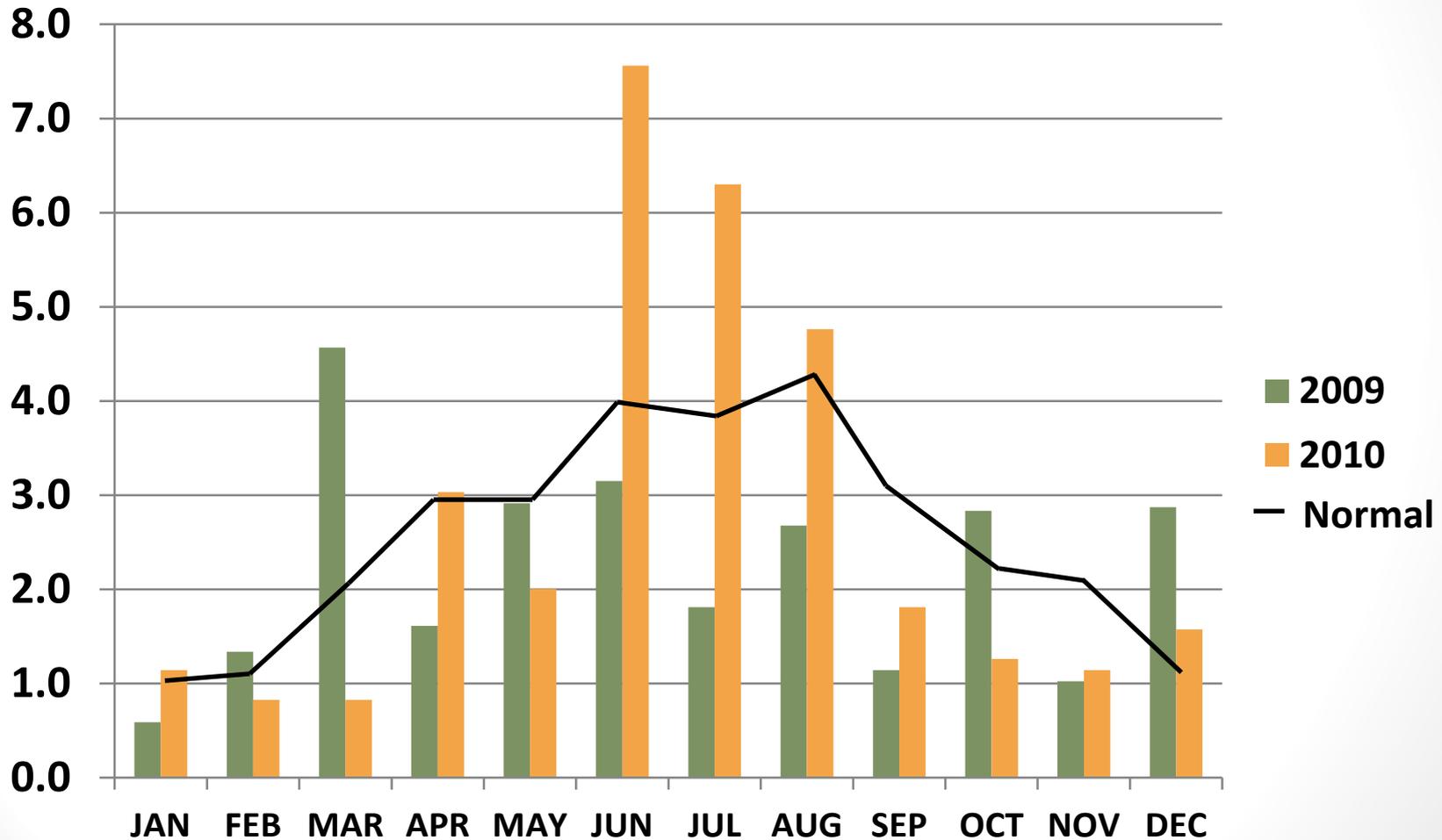
Before and after each grazing event



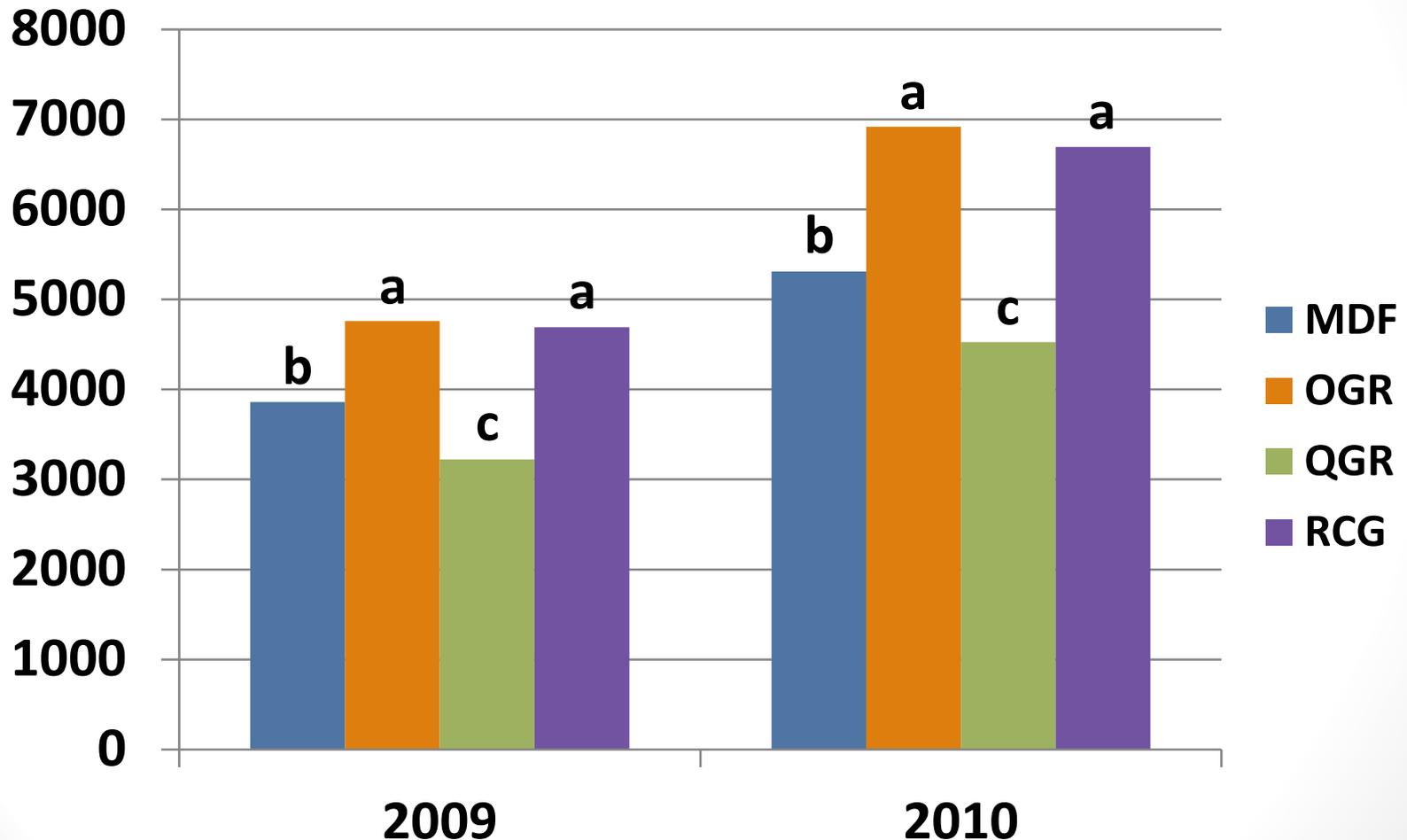
At the end of the grazing season



Precipitation (in.)



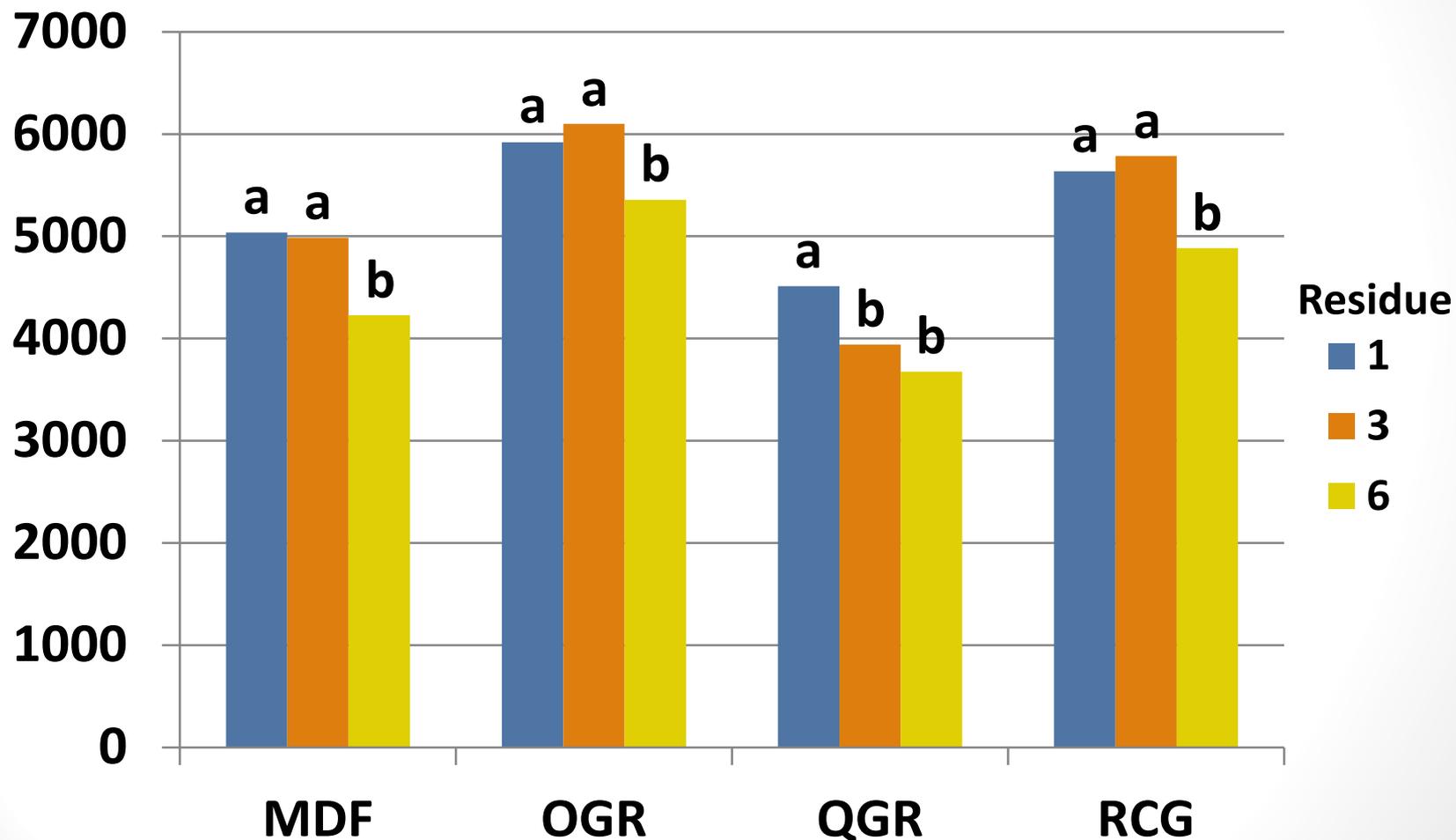
Average annual grazed yield (lb DM/acre)



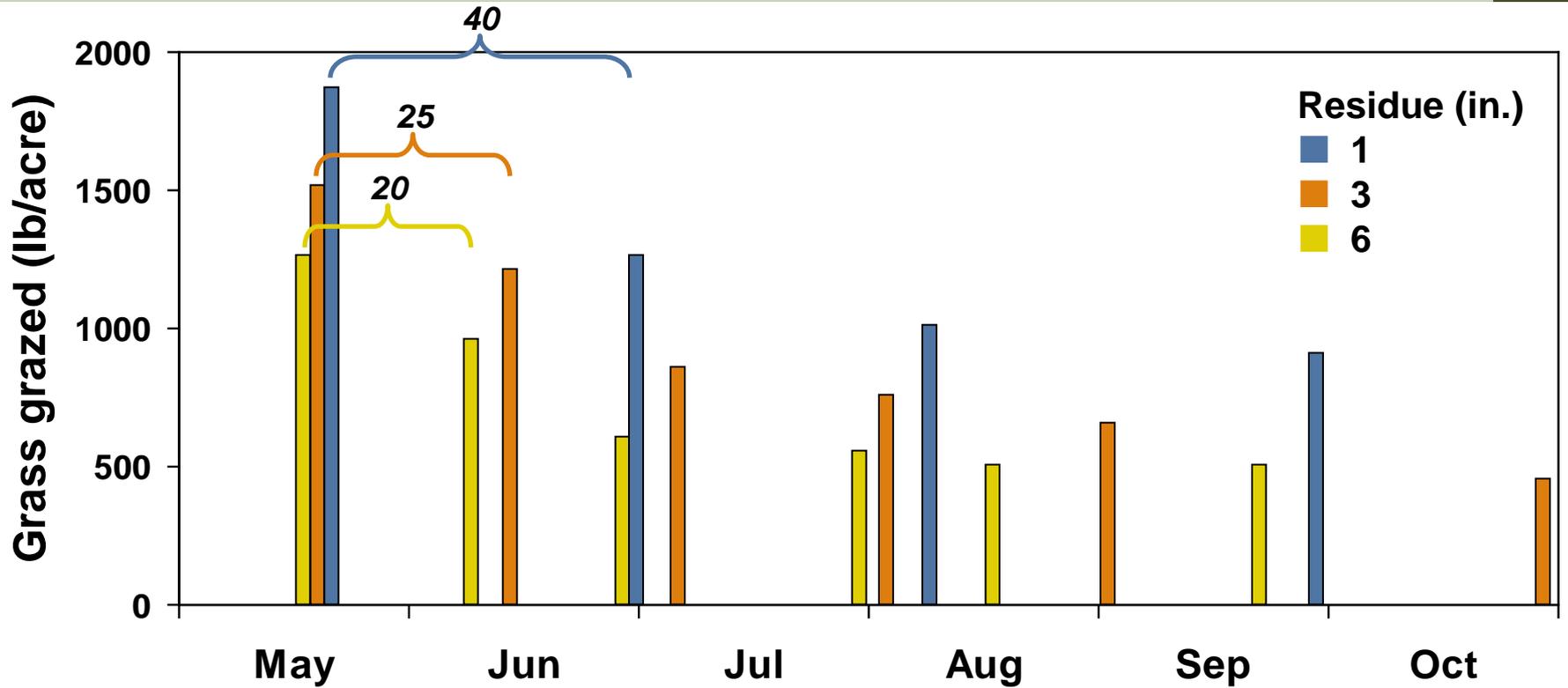
Results for vegetative grass



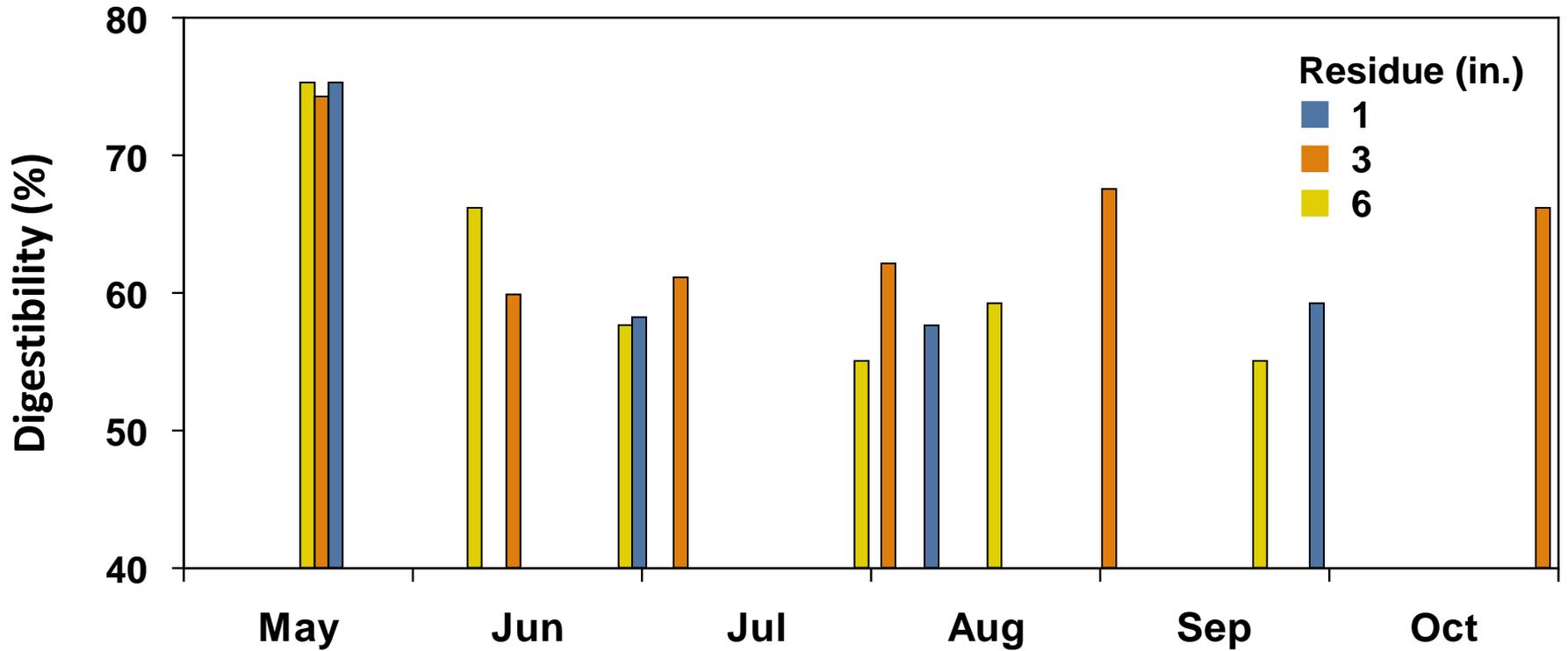
Annual grazed yield (lb DM/acre) @ vegetative stage



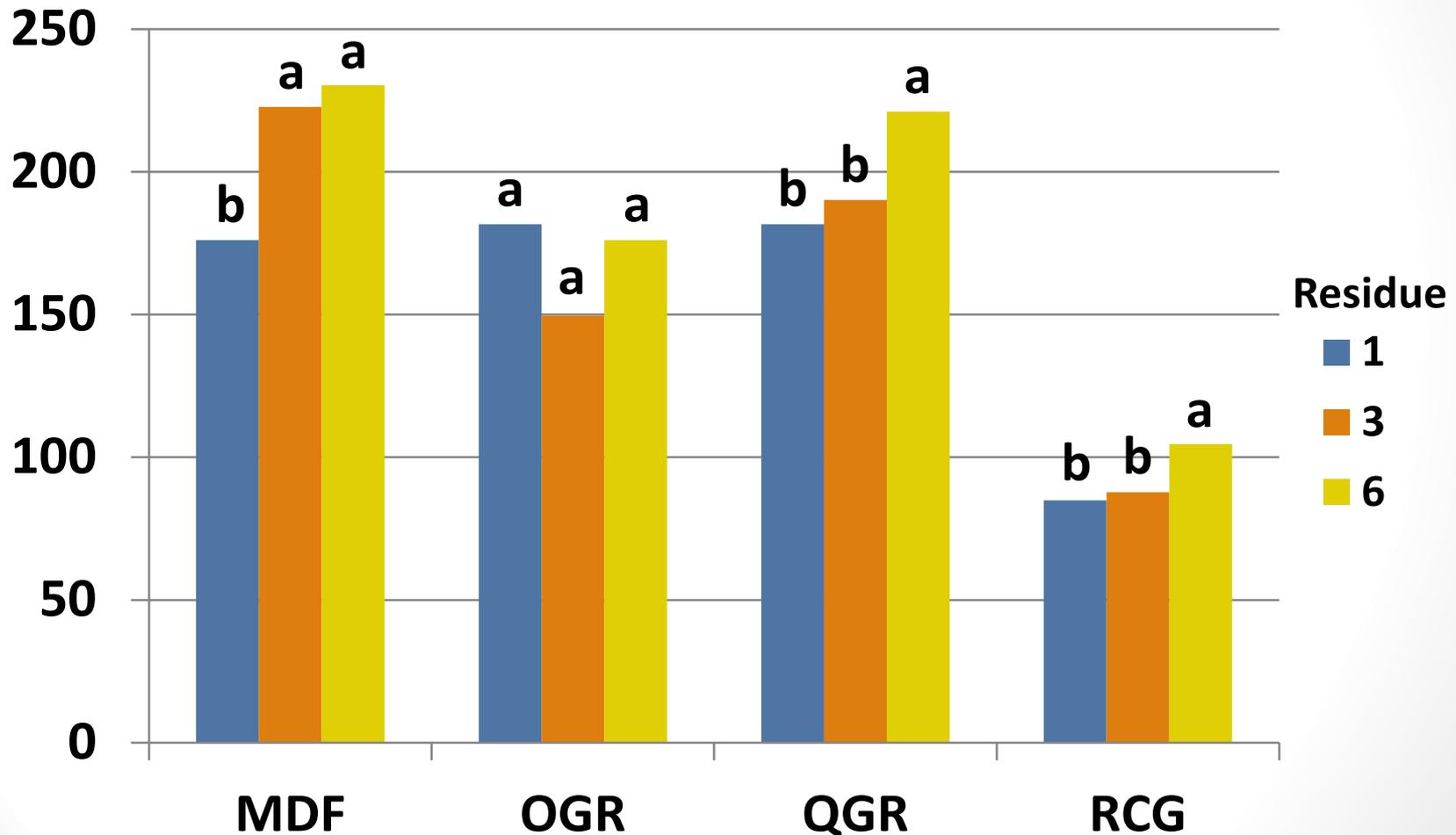
Yield distribution of orchardgrass @ vegetative stage



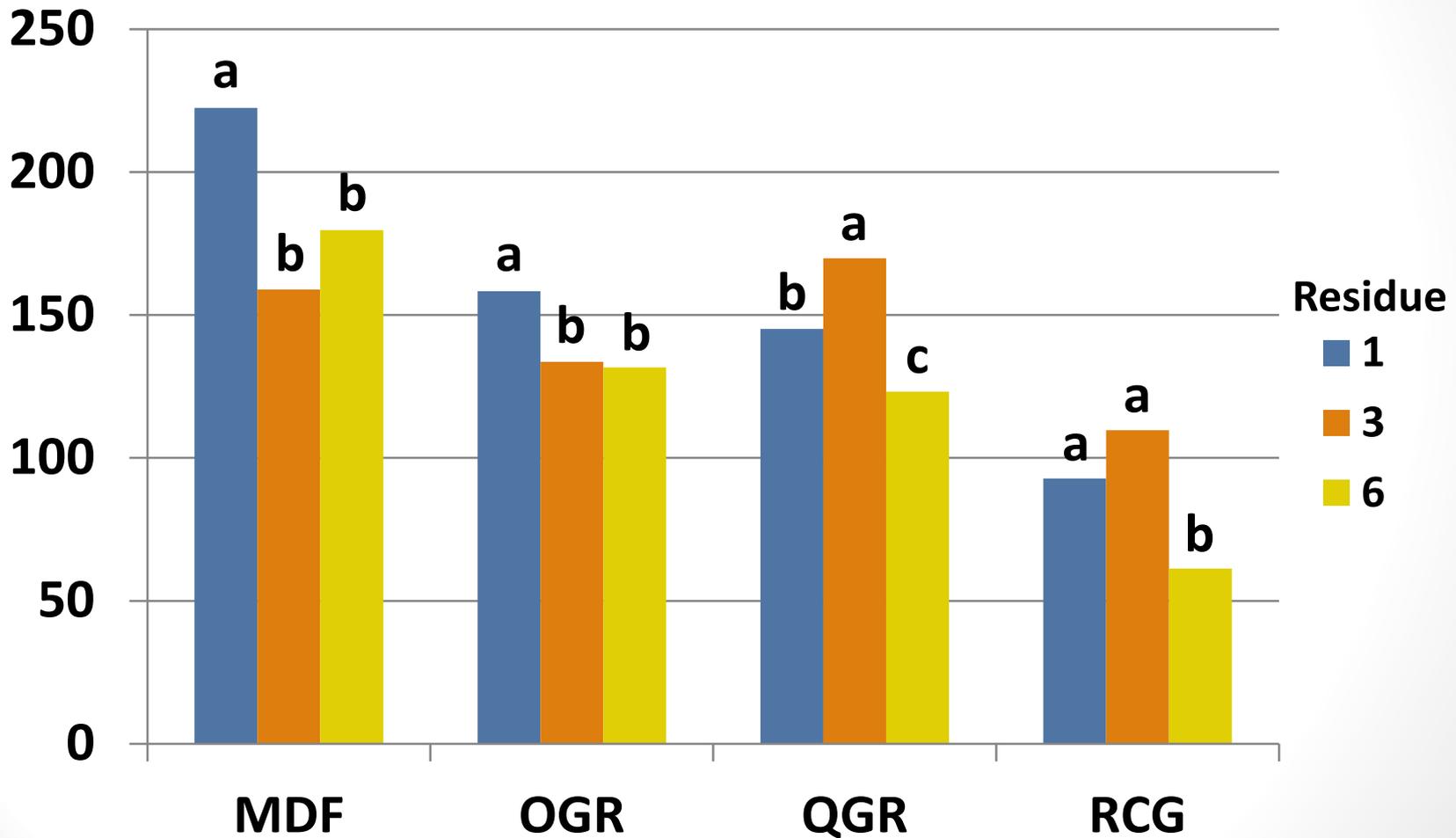
Digestibility of orchardgrass @ vegetative stage



Persistence (tillers/ft²) @ vegetative stage in 2009



Persistence (tillers/ft²) @ vegetative stage in 2010



Orchardgrass in November, 2009

6 in. residue

3 in. residue

1 in. residue

Date when grazing began in 2010

April 28

May 4

May 11

Grazing vegetative grass:

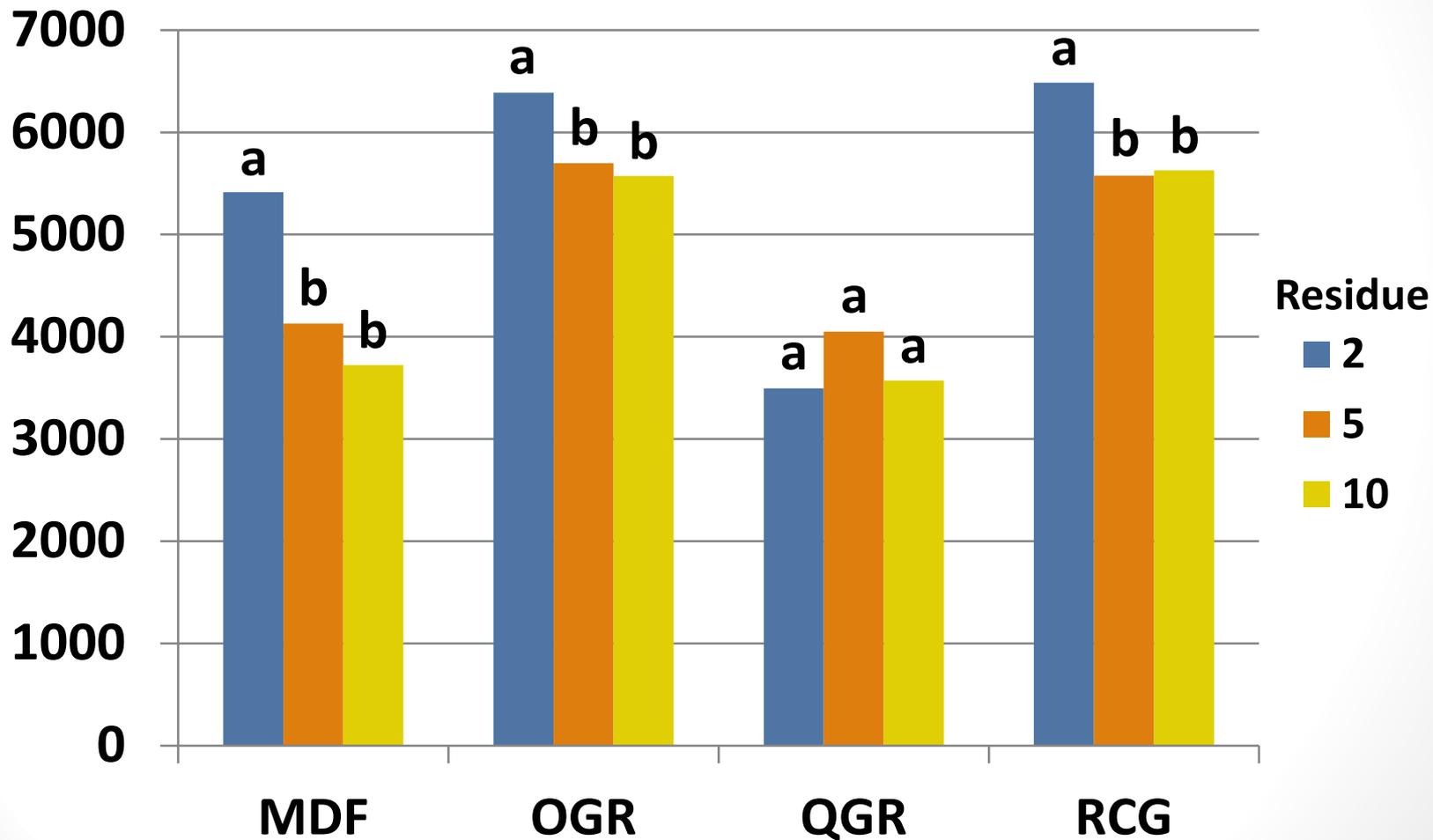


- 1) There is no annual yield reward for grazing lower than 3 inches, but there is risk of killing grass and delaying growth the following spring.**
 - Reducing residue height for even one grazing event can reduce future productivity.
- 2) *Take half – leave half* management reduces annual yield; the rewards are shorter rotation intervals and earlier grazing in the spring.**
- 3) Forage quality is relatively unaffected by residue height.**

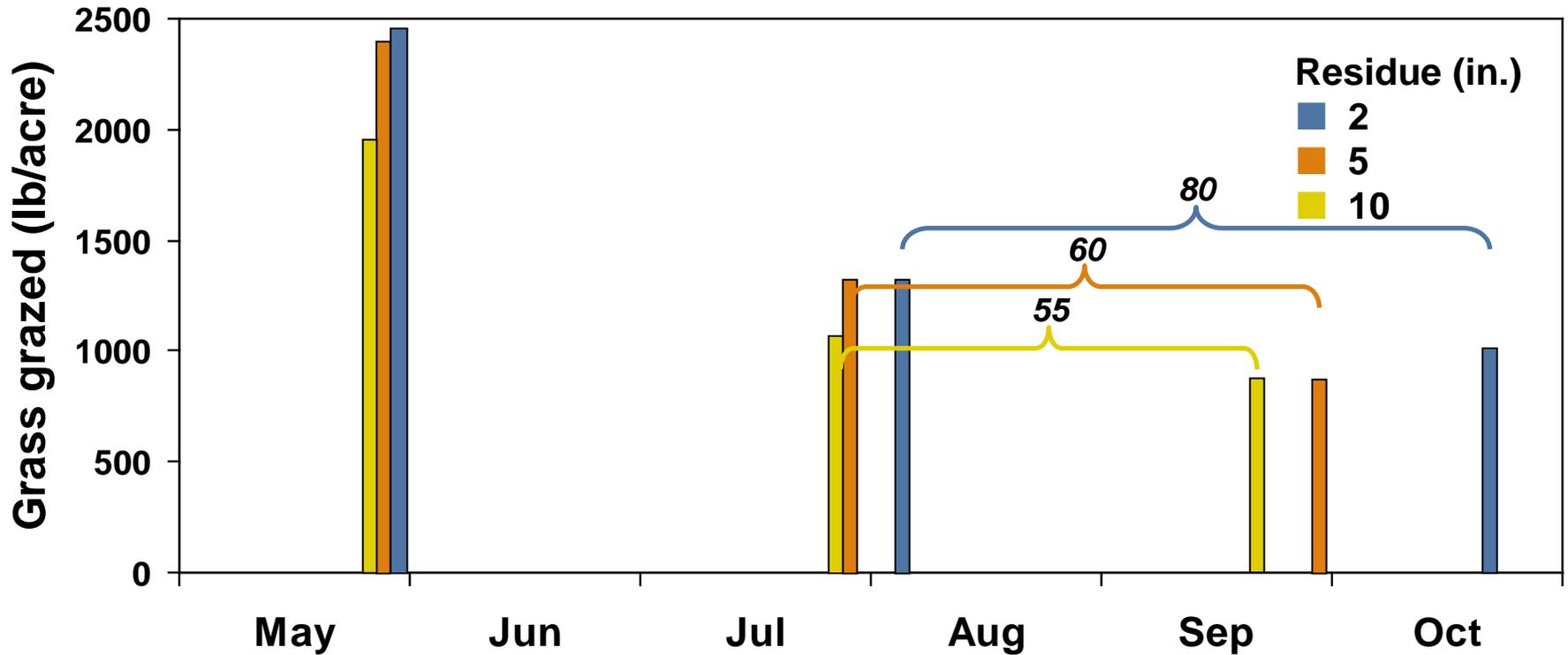
Results for mature grass



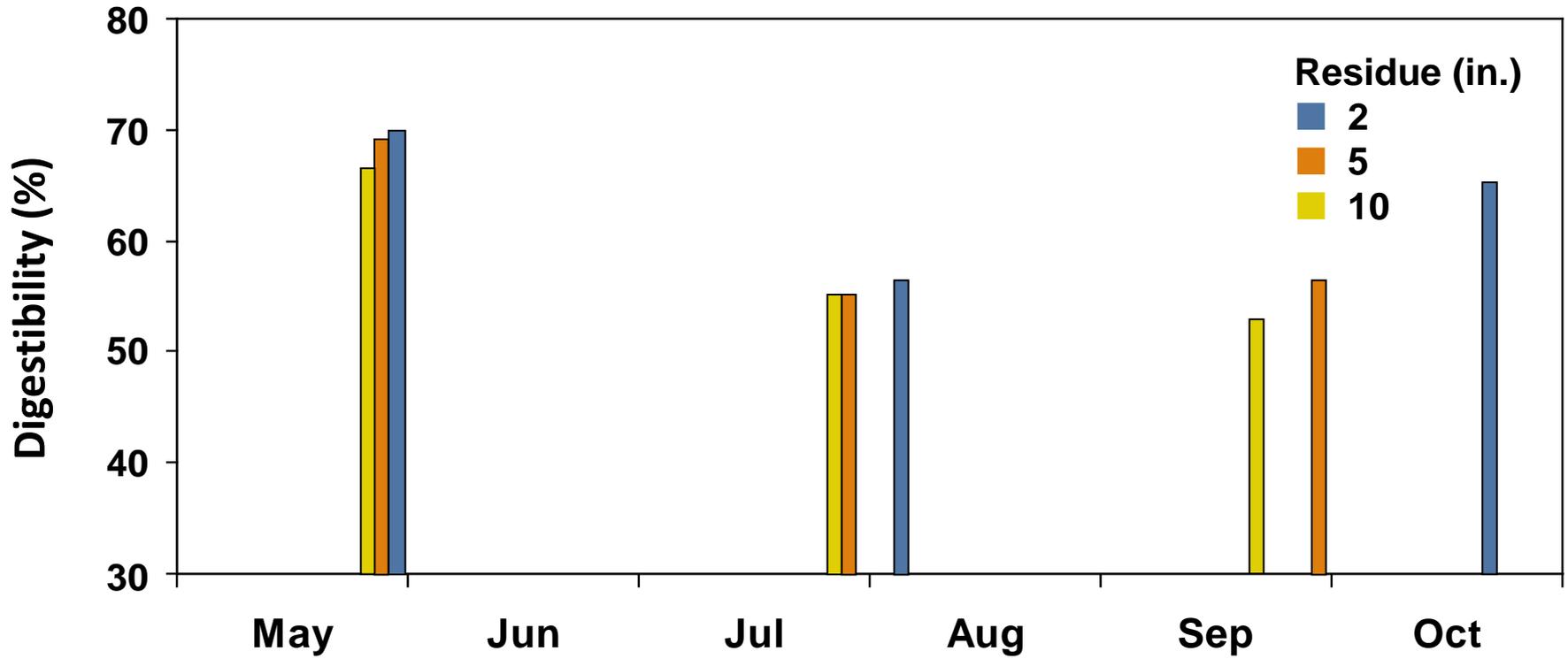
Annual grazed yield (lb DM/acre) @ mature stage



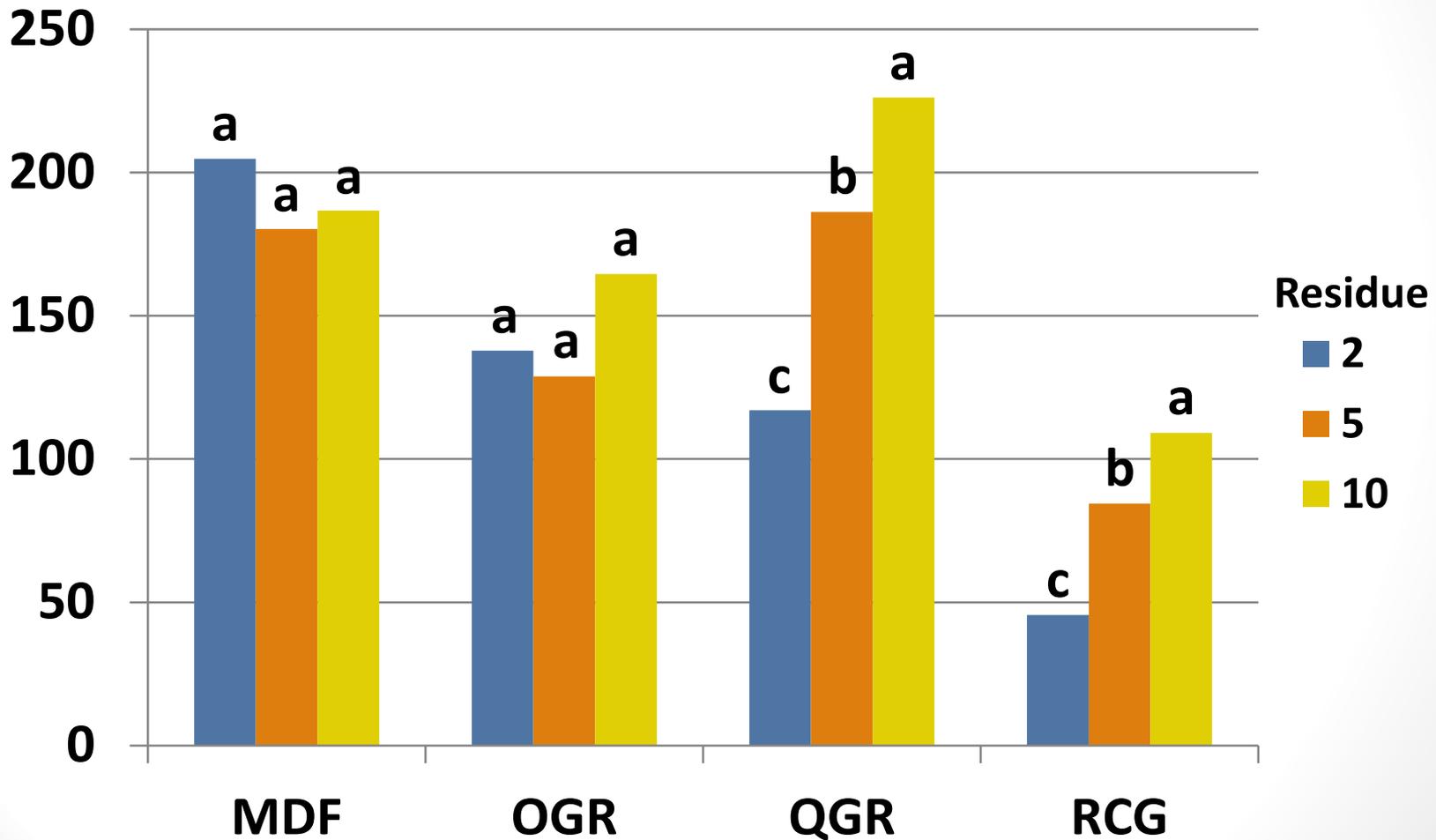
Yield distribution of orchardgrass @ mature stage



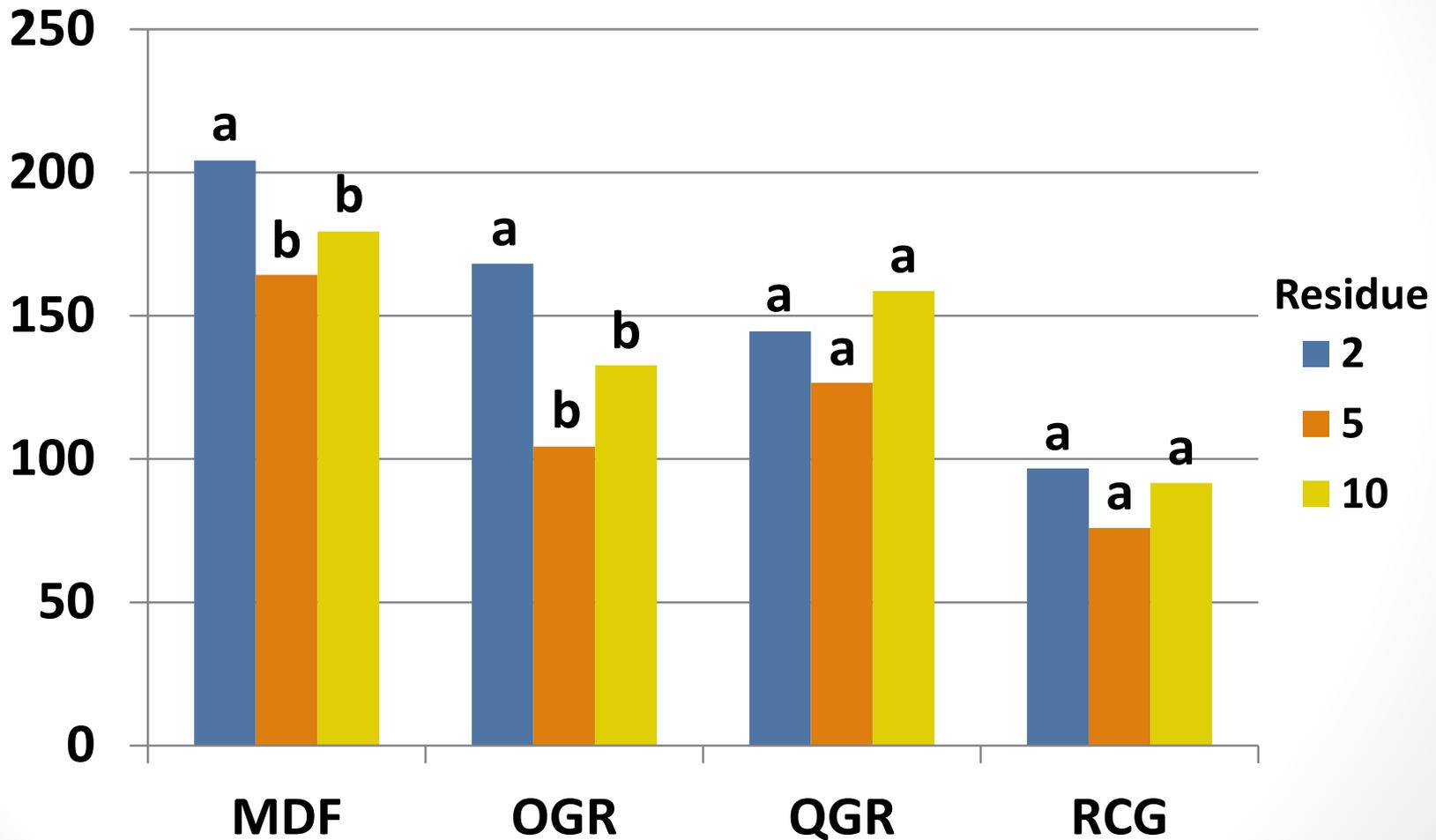
Digestibility of orchardgrass @ mature stage



Persistence (tillers/ft²) @ mature stage in 2009



Persistence (tillers/ft²) @ mature stage in 2010







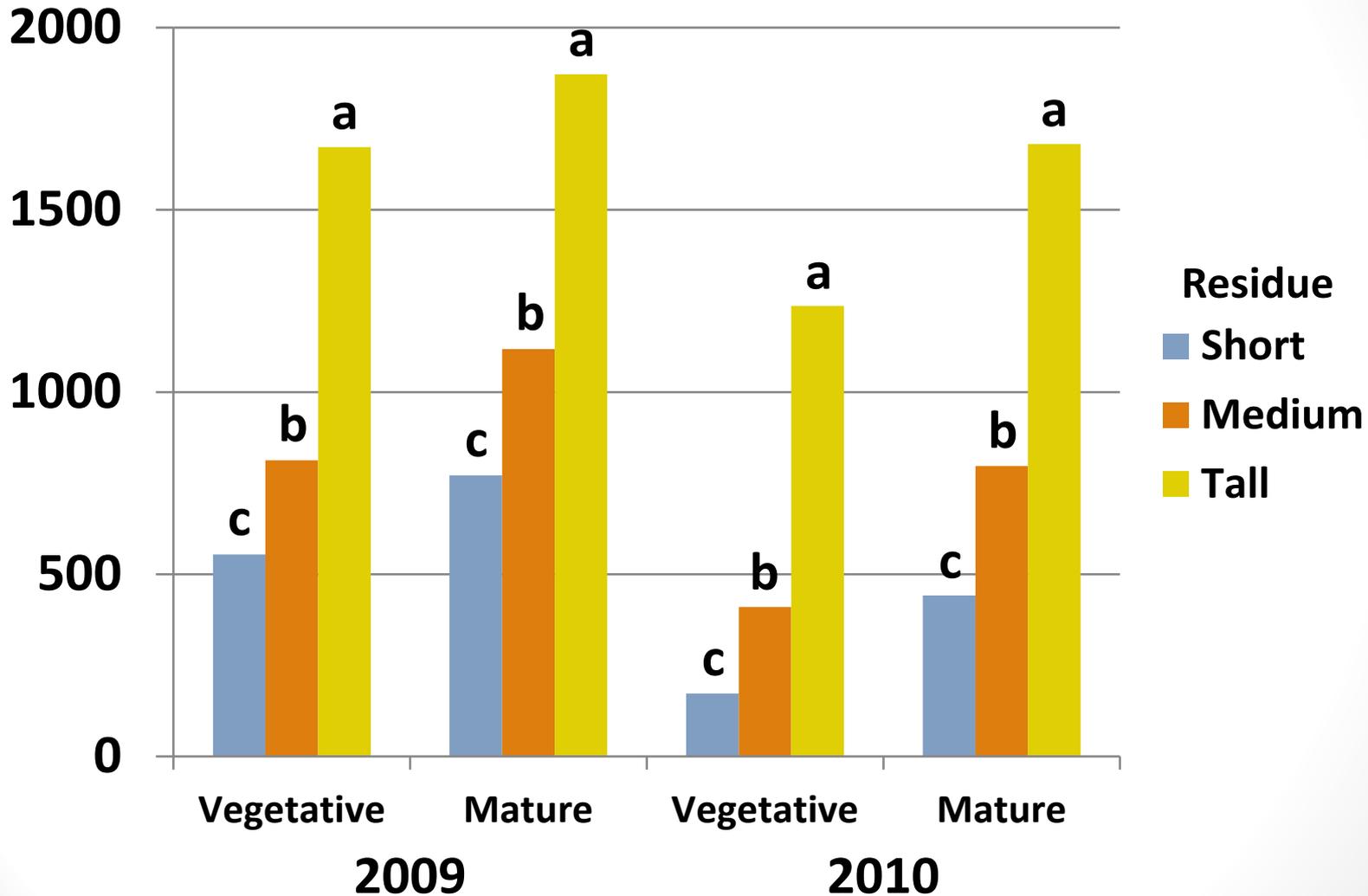


Grazing mature grass:



- 1) Annual yield is increased by grazing lower than 5 inches, but there is risk of delaying growth the following spring.**
 - Rhizomatous grasses may be more sensitive to residue height than bunch grasses.
- 2) Because grass is mature and livestock are generally not forced to graze closely, there is:**
 - no reward for leaving a tall residue.
 - little risk of damaging pasture when mob stocking.

Surface litter at end of season (lb/acre)



The Bottom Line:



- ✓ Grass at **vegetative stage** of maturity is at greater risk of damage from poor grazing management than mature grass.
- ✓ Grass under **stress** (moisture, fertility) is at greater risk of damage from poor grazing management than healthy grass.