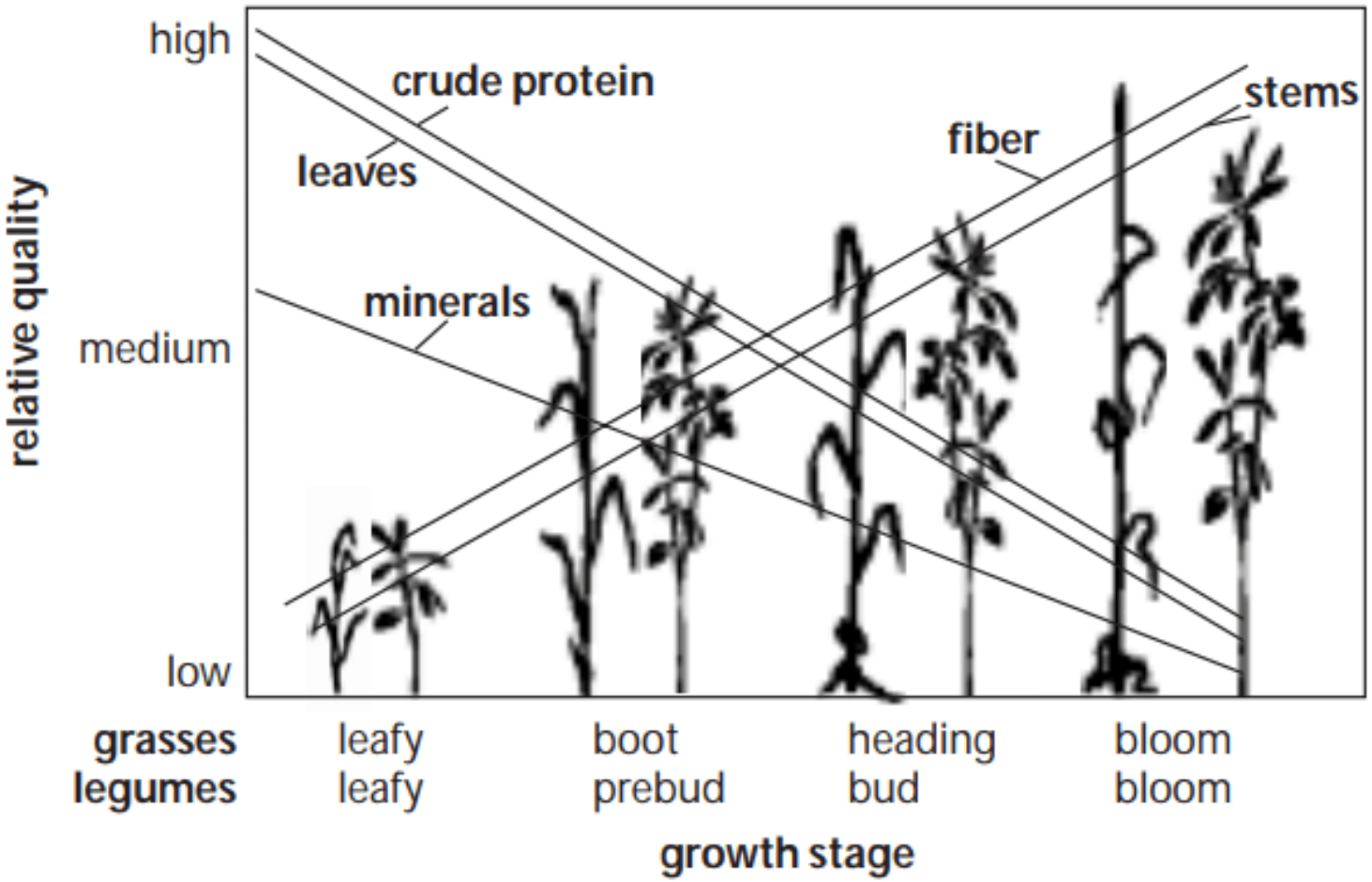
Improving production on sandy soils update

Feed quality considerations

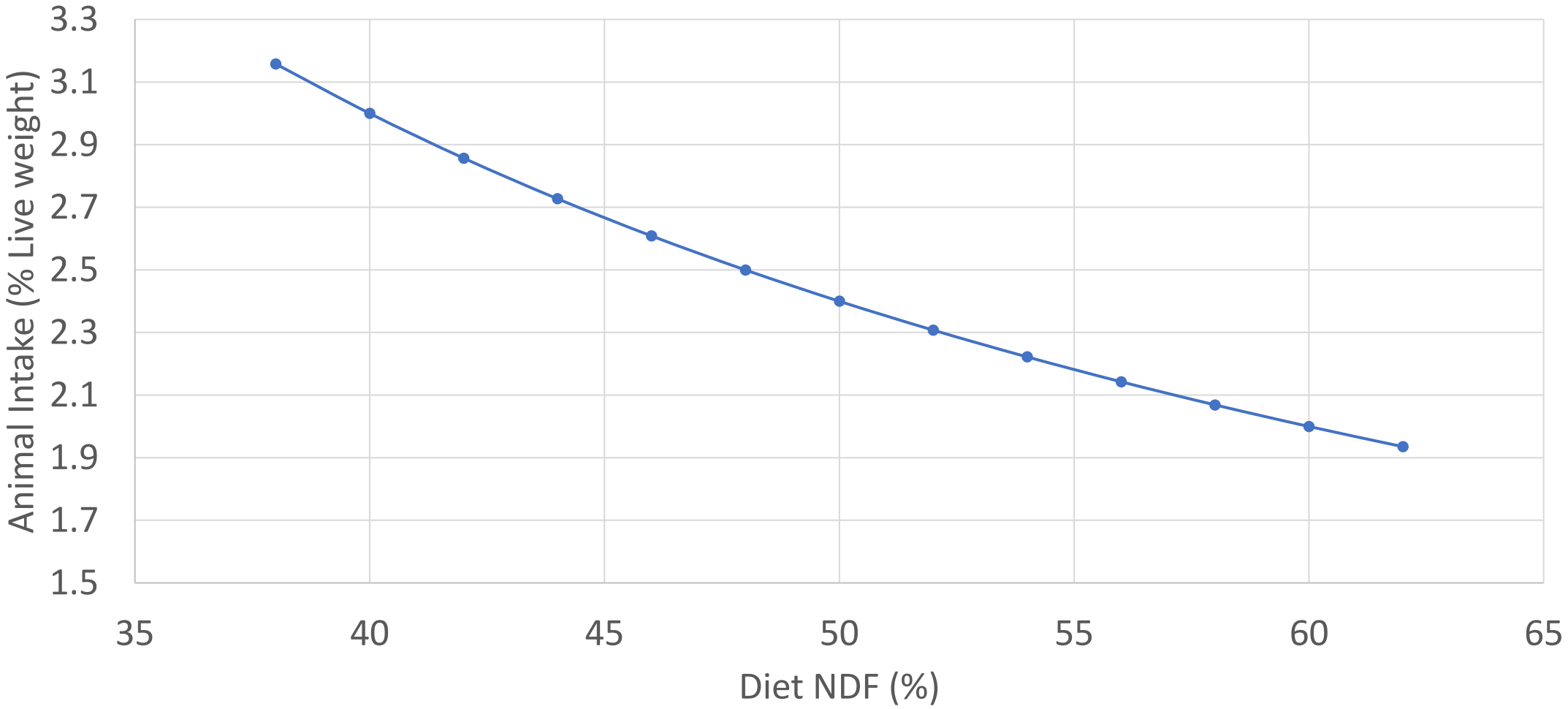
Michael Wilkes

Figure 3. Effect of plant maturity on forage intake and digestibility.

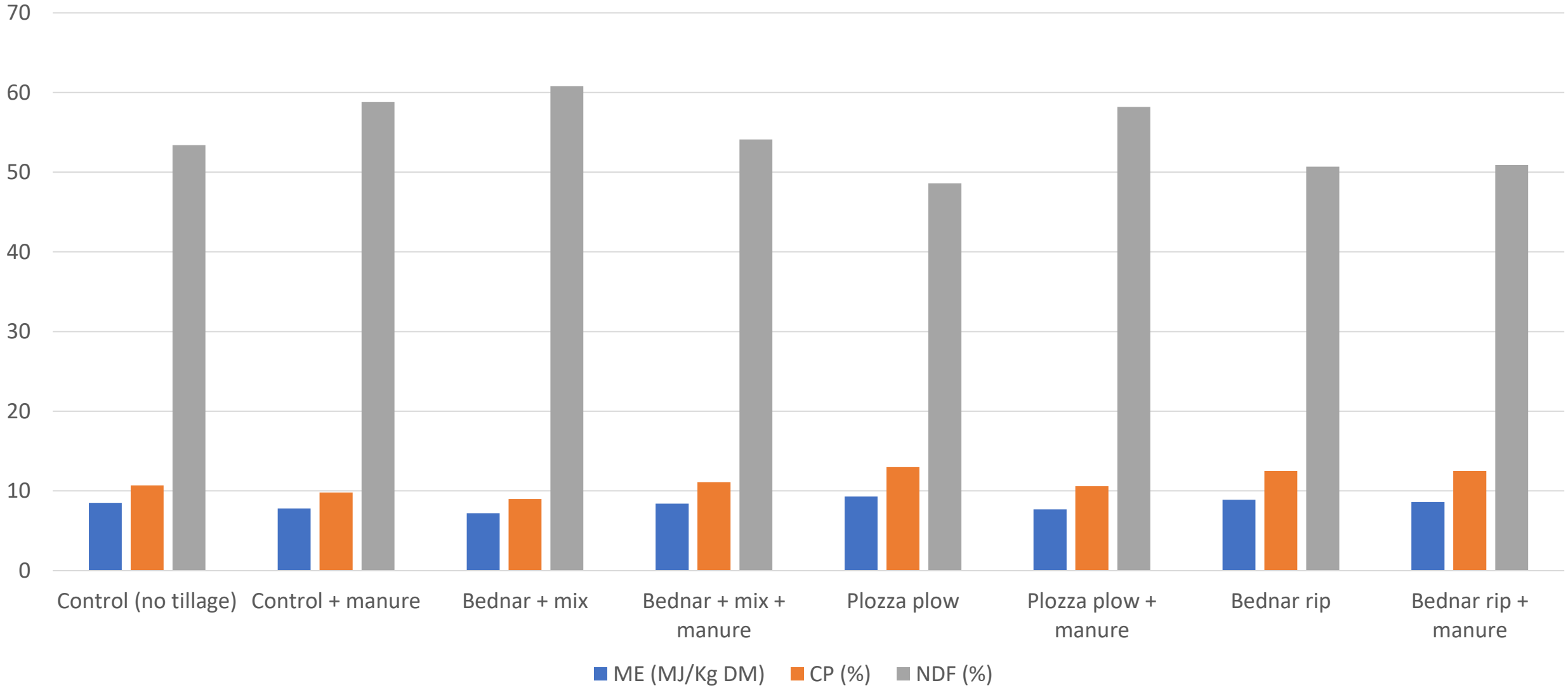


Source: *Adapted from Blaser, R., R.C. Hammes, Jr., J.P. Fontenot, H.T. Bryant, C.E. Polan, D.D. Wolf, F.S. McClaugherty, R.G. Klein, and J.S. Moore. 1986. Forage–animal management systems. Virginia Polytechnic Institute, Bulletin 86-7.*

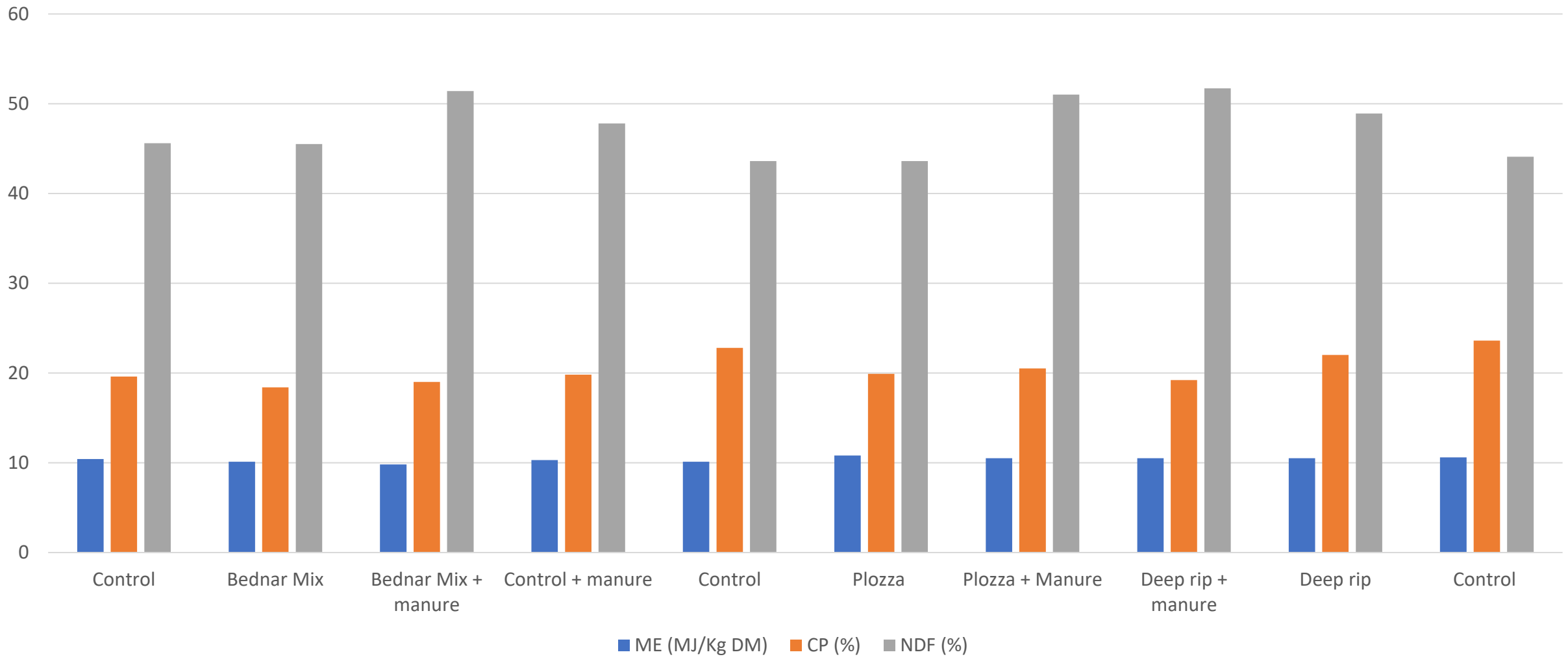
Maximising Feed Intake



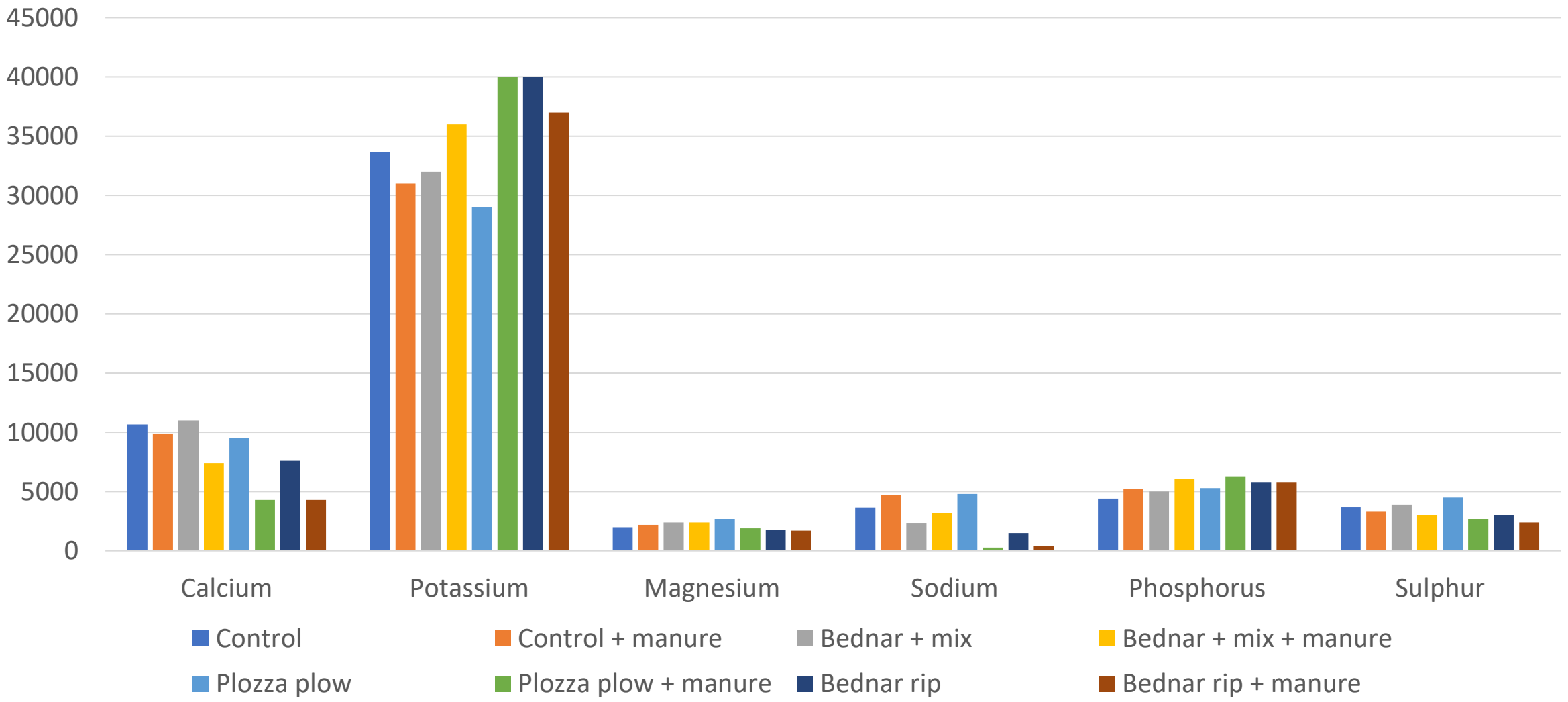
2022-Feed quality



2023-Feed quality



2023- Pasture Macro minerals



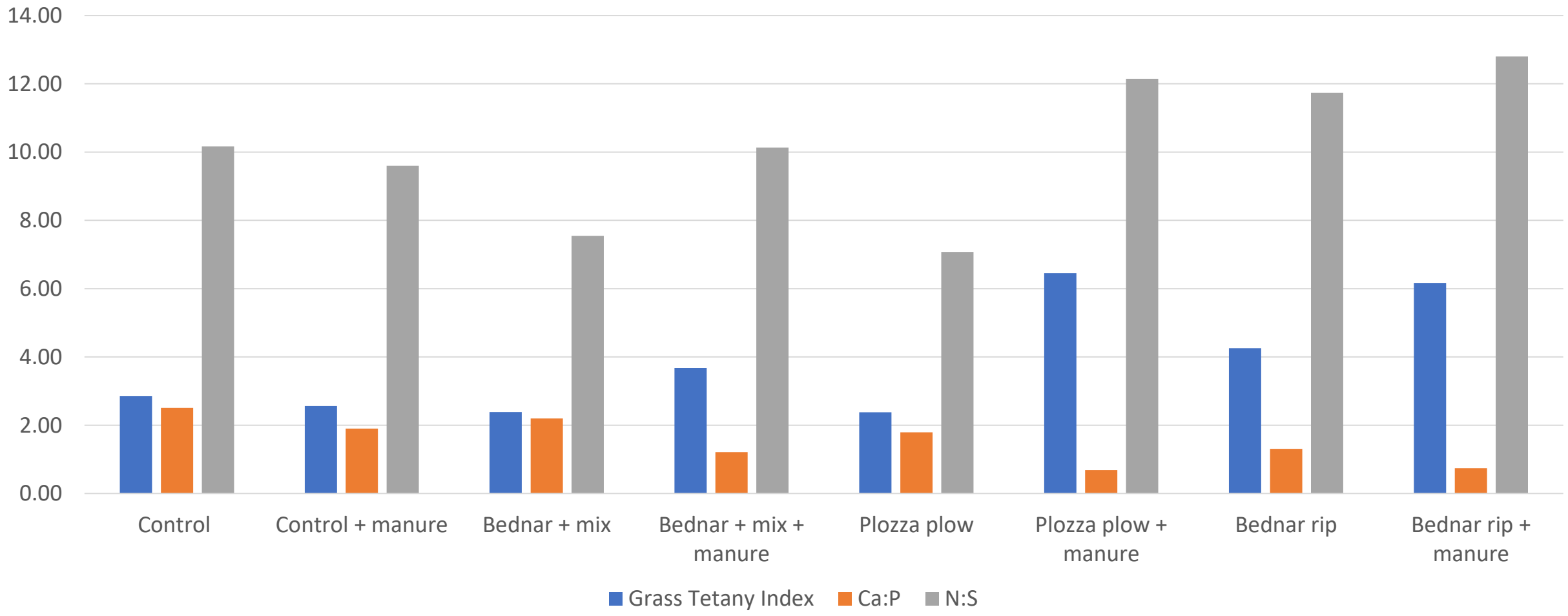
Pasture mineral considerations

- **Grass Tetany Index:** <2.2:1
  - Relationship between Potassium, calcium and Magnesium
  - Impacts on Magnesium metabolism

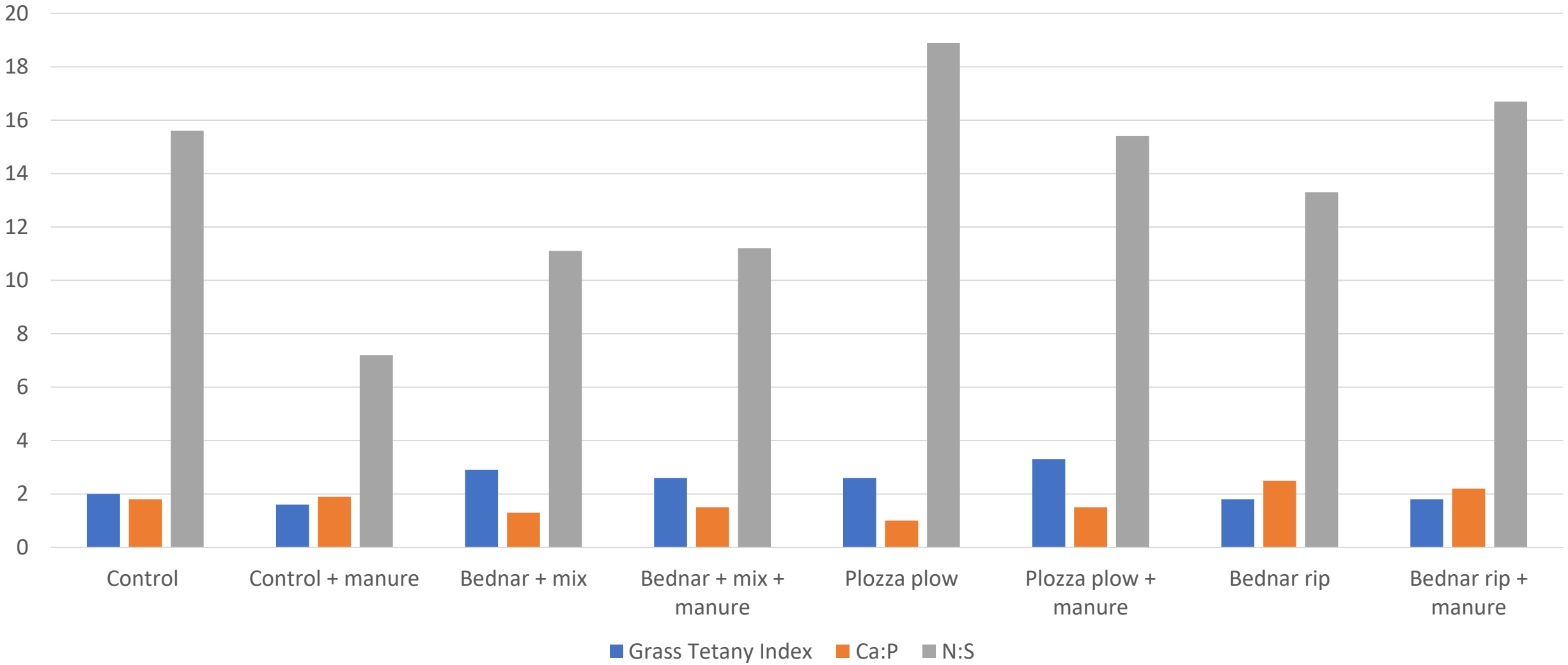
- **Ca:P:** 2:1
  - Relative balance of Calcium and Phosphorous
  - Impact on bone development, lactation and growth

- **N:S:** 12-20:1
  - Impacts on rumen microbial population and fibre digestibility

2023- Pasture Macro mineral ratios



2022- Pasture Macro mineral ratios



Don’t forget the Micro minerals

- **Cobalt**
  - B12 synthesis
- **Copper**
  - Bone development
  - Blood cell development
  - Hair, hoof and fibre growth
- **Zinc**
  - Immune function
  - Reproductive function
  - Hair and hoof growth
- **Iodine**
  - Thyroid function
    - Metabolic rate
    - Reproductive function
- **Manganese**
  - Energy metabolism
  - Blood cell development
  - Bone development
- **Selenium**
  - Immune function
  - Reproductive function
  - Antioxidant status

Take home thoughts..

- Match to the feed requirements of livestock
  - ? If we can grow more earlier, does this change the production schedule?
- **Maximise pasture utilisation and feed intake**
- Understand composition of that feed:
  - Vegetative state pasture
    - K,Ca,Mg balance
  - Mature/Senescent pasture
    - Ca:P
    - Protein and Sulphur
- Remember Micro mineral requirements
- Supplement to manage imbalances/deficiencies