

FODDER TREES TO FEED RUMINANTS

Effect of species, season and management practice on the nutritive value of fodder tree leaves

20-22 May 2019
Le Corum Conference Centre
Montpellier, France

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Objective

To determine the effect of tree management (pollard vs. high stem), season and species on the nutritive value of tree leaves.



Materials and methods

- ✓ Collection of leaves on high stem and winter pollard trees grown on the same site.
- ✓ Sample analysis: enzymatic digestibility of dry matter (ED), dry matter (DM), content in ash, crude protein (CP), neutral detergent fibres (NDF).

2 management types

Pollard

High stem



3 seasons

June

August

October

3 species

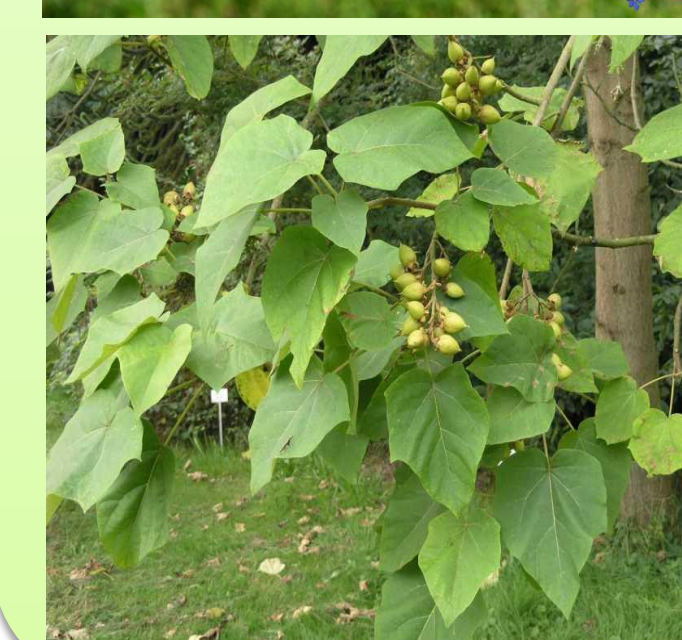
Collection of leaves



Morus alba (White mulberry) n=3
In August 2016
from Le Pradel (Mirabel)



Fraxinus excelsior (Common ash) n=7
In August 2015, 2016
from Lusignan and St Genès Champanelle



Paulownia tomentosa (Paulownia) n=3
In August 2015, 2016
from Vézénobres



Results

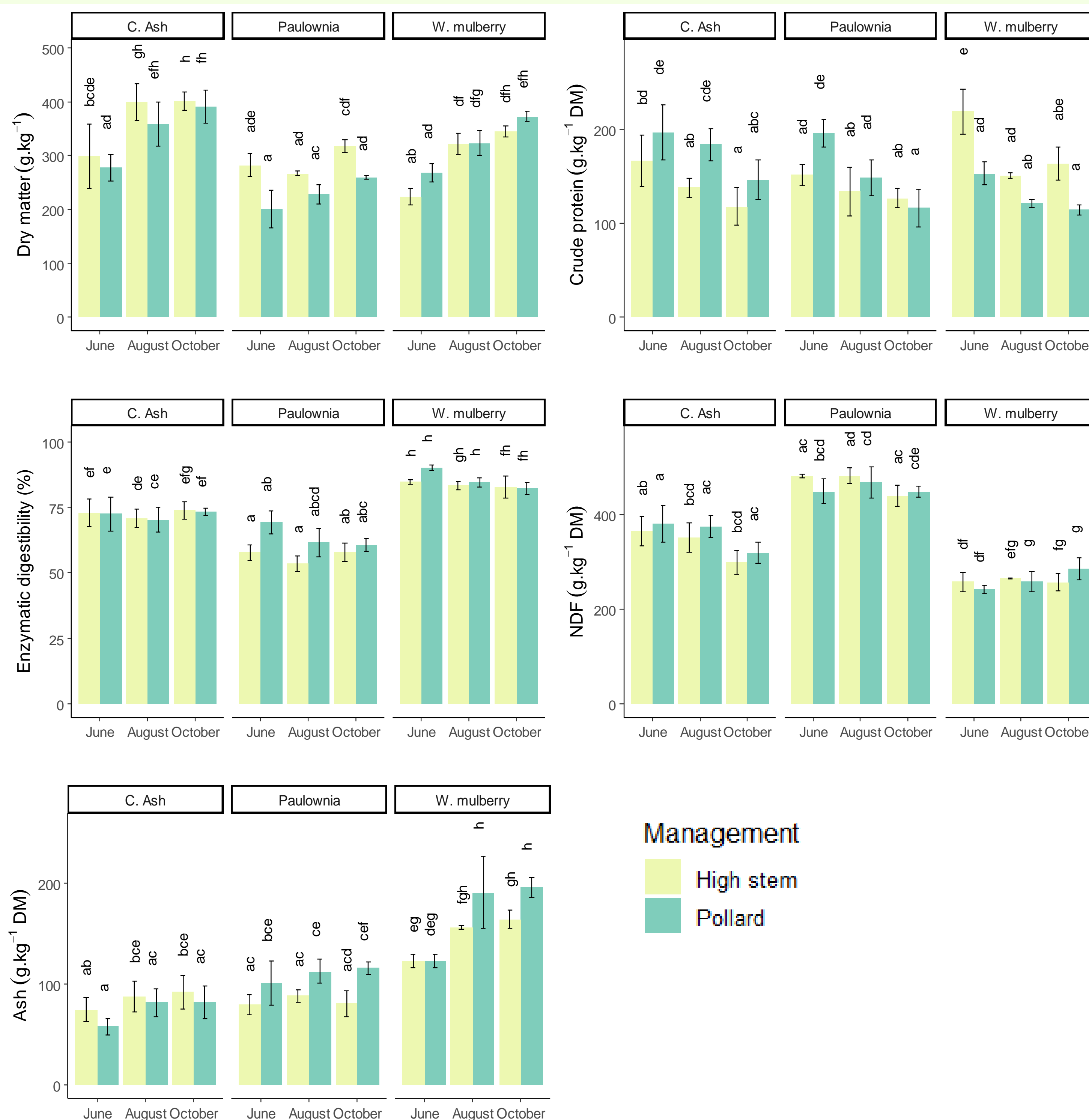


Figure 1 Effect of tree species, season and tree management on leaves enzymatic digestibility and dry matter, crude protein, neutral detergent fibres (NDF) and ash content

- Significant effect of tree management, species, and season on ED, DM, CP and ash content ($P < 0.1$).
- Strong interaction species by management on DM, CP, ED and Ash content ($P < 0.01$). CP was higher in high stem tree leaves than in pollarded tree leaves for mulberry while it was the opposite for ash.
- CP content of mulberry and ash leaves decreased from June to October and the DM increased. There was no effect of the season on DM and CP content of Paulownia leaves.
- Ash and mulberry showed a better fodder quality than paulownia: higher ED and lower NDF content.
- Ash content in the leaves of mulberry was higher than in the leaves of ash and paulownia.



Conclusion

- ✓ The three species showed sufficient digestibility and crude protein content to be including in the diet of ruminants whatever the season and the tree management, in particular white mulberry which showed an excellent fodder quality.