



Mimosa in the Mekong Delta; environmental problem or potential high quality feed resource for goats?

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Introduction

- *Mimosa pigra* L., (Mimosaceae) are mostly native to Central and South America.
- Mimosa has well documented negative impacts on primary industry and the environment in Australia and Asia (Lonsdale et al, 1989)



Mimosa pigra

Introduction (cont.)

- Mimosa is a leguminous shrub, up to 6m tall, found in moist, open sites in the tropics (Lonsdale, 1992)
- It forms dense, practically mono specific tall shrubs in which the ground flora is sparse to non existent (Braithwaite et al, 1989)
- Where it forms a dense under-storey and shades out native tree seedling (Braithwaite et al, 1989)

Introduction (cont.)

- *Mimosa pigra* has hard seeds, seeds can remain viable for more than 5 years in the laboratory and can last for at least 23 years in sandy soils (Lonsdale et al 1988)
- The seed pods are covered with bristles that facilitate floating



Source: Tram Chim National park



Source: Tram Chim National park

Introduction (cont.)

- In Vietnam, the local names of *Mimosa pigra* are Nguu Ma Vuong, Trinh nu nhon,...
- *Mimosa* is one of the worst environmental weeds of the Mekong River basin according to Tran Triet *et al.* (2007)

**The invasion by *Mimosa pigra*
of wetlands of the Mekong
Delta**

Previous work in Vietnam (Tran Triet *et al.* 2007)

- In the Mekong Delta, mimosa is found commonly along water edges of ponds, streams, rivers and canal
- Mimosa is highly invasive in lowland areas, particularly in seasonally inundated grasslands



Source: Tram Chim National park



Source: Tram Chim National park

Previous work in Vietnam (Tran Triet *et al.* 2007)

- Mimosa is now found in all 12 provinces of the Mekong Delta, but concentrated mainly in the fresh- water zone. Upstream provinces of Long An, An Giang, and Kien Giang are most heavily infested.

Mimosa pigra is controlled by many methods such as :

- **biological control,**
- **chemical control (using herbicide),**
- **physical and mechanical control,**
- **ecological management of Mimosa pigra (use of fire and competitive pastures).**

- **The usual approach to the control of this species is to eliminate it. This is costly and not always effective and can have negative environmental effects .**

By burning

Source: Tram Chim National park



A photograph showing a dense thicket of bare, brown branches, likely from a tree or shrub, against a blue sky with light clouds. The branches are thin and tangled, creating a complex network of lines. The overall scene suggests a dormant or winter state of the vegetation.

Chemical method

Source: Tram Chim National park

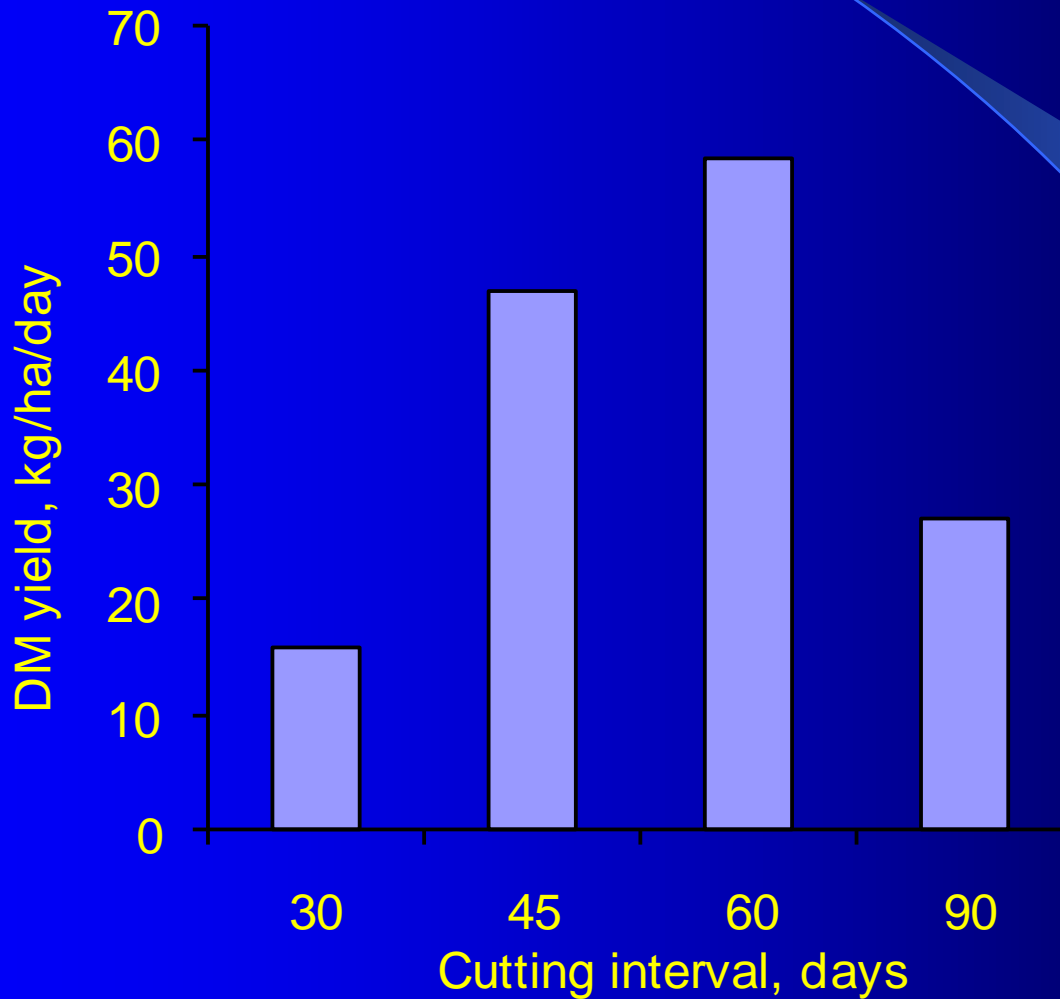
Feeding value of *Mimosa pigra* for goats

Study on biomass production of *Mimosa pigra*

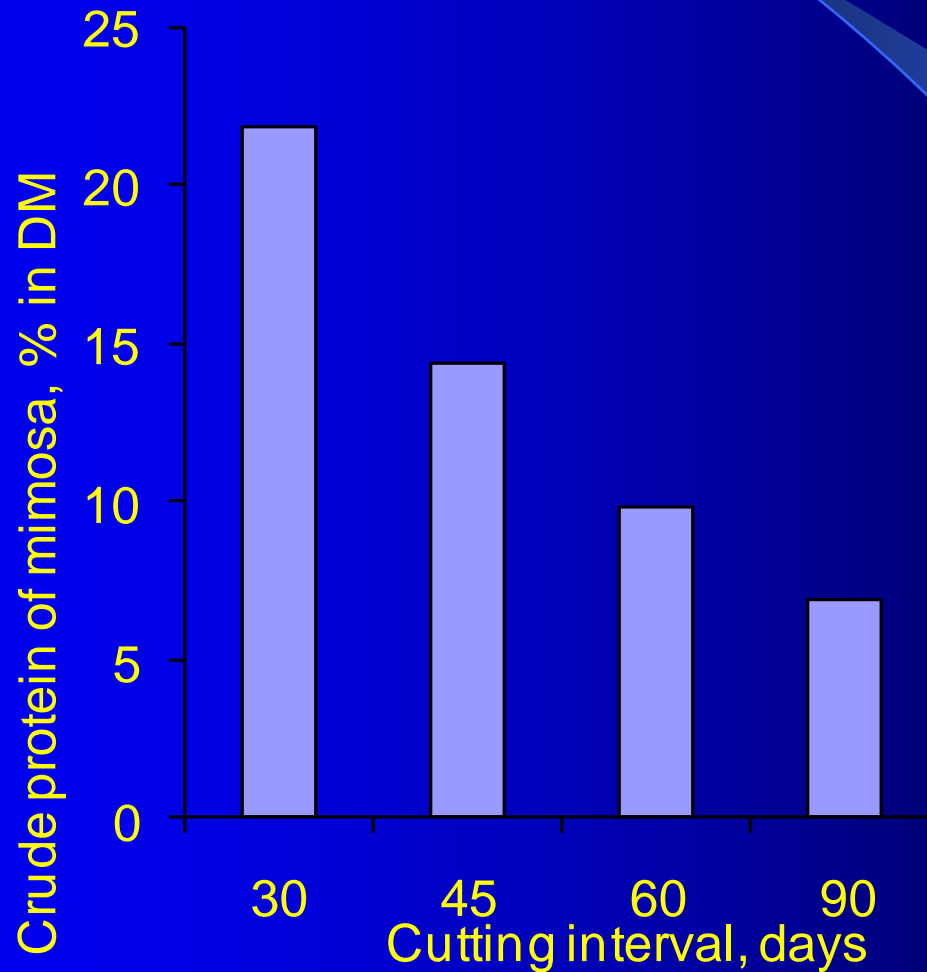
- **The trial was sited in Tramchim national park, Dongthap province where there is a dense infestation with this mimosa.**
- **It was a Randomized Completely Design comprising**
- **4 cutting frequencies of 30; 45; 60 and 90 day intervals**
- **with 6 replications.**



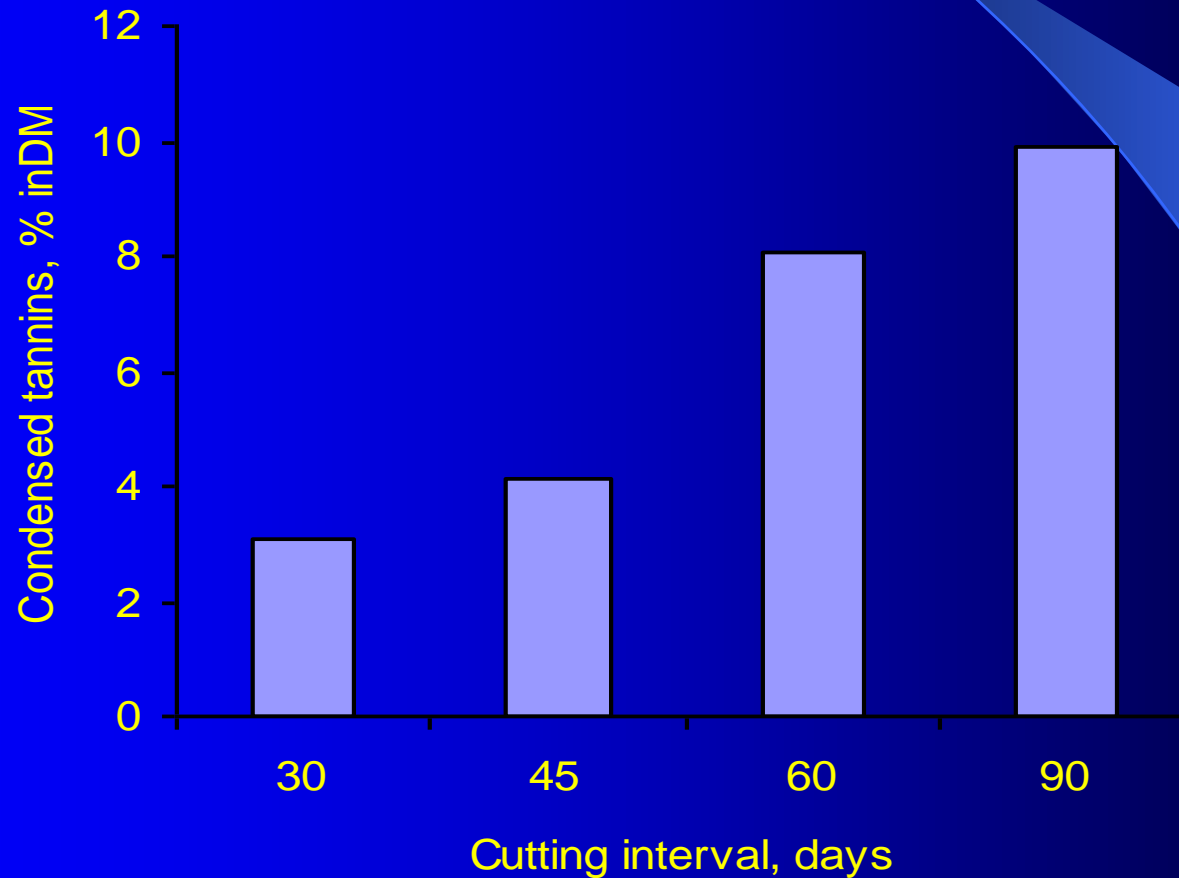
Dry matter yield



Crude protein content of mimosa foliage



Tannin content of mimosa



Growth of goats given natural grass as supplement to grazing in mimosa pigra regions

- **Sixteen growing goats were divided to 4 farm households and in a 2*2 factorial arrangement of four treatments.**

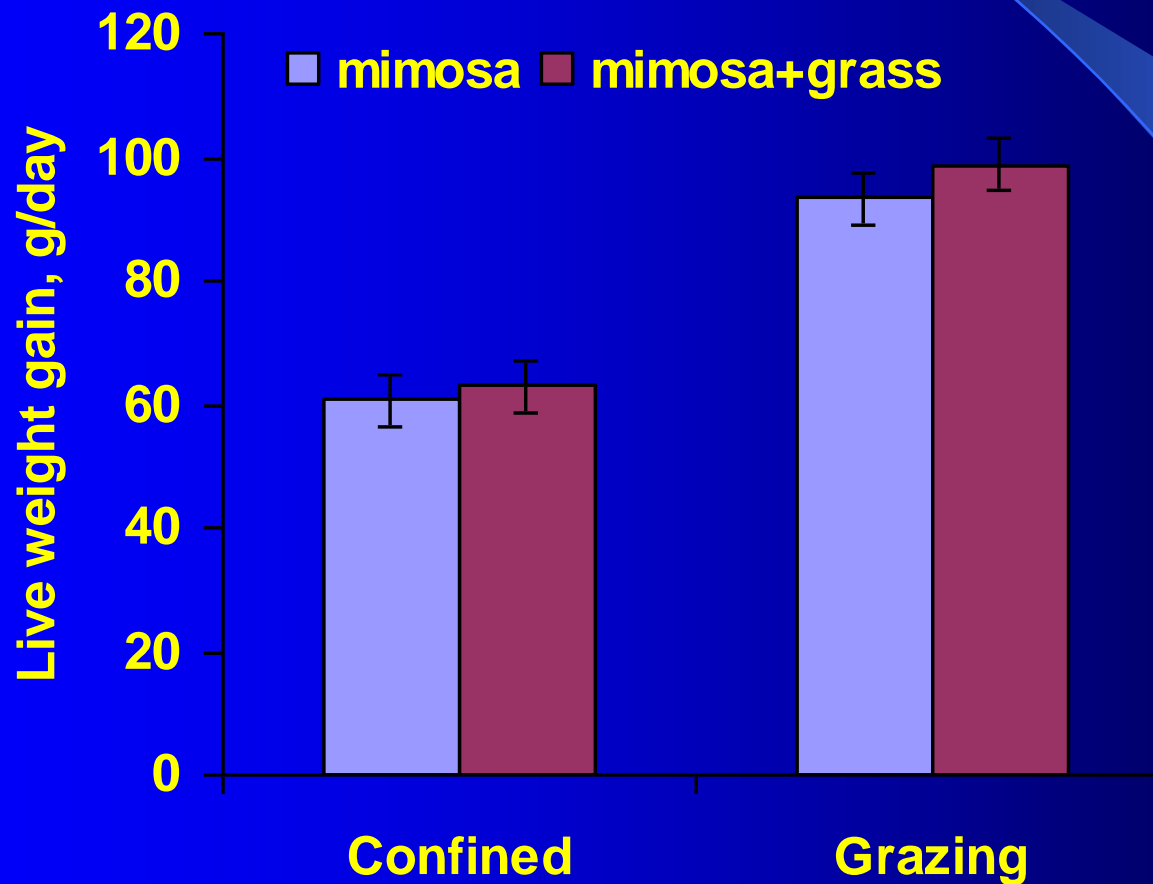
Growth of goats given natural grass as supplement to grazing in mimosa pigra regions

Four treatments :

- **G**: Grazing of mimosa pigra
- **GS**: Grazing of mimosa in the day time and supplement with grass at night time
- **C**: Confined feeding with 100% of mimosa pigra
- **CS** : Confined feeding with mimosa pigra and grass free choice



Growth of goats given natural grass as supplement to grazing in mimosa pigra regions



Conclusion

- The high level of tannin in *Mimosa pigra* leaf (5-9% in DM) probably gives the protein good “by-pass” characteristics for feeding goats.
- *Mimosa pigra* can be a complete diet for growing goats.
- Using mimosa for goats is also a way to manage *Mimosa pigra*

A close-up photograph of a thistle plant. The image shows several green, unopened flower buds and two fully bloomed, pink, spiky flower heads. The stems are light green and have small, rounded nodes. The background is a solid, dark green color.

***Thank you
very much for your attention!***