

## - Introduction -

During the last decades, in the dry tropics of Nicaragua, irregular and massive deforestation has reduced the natural resources of water and lengthen drought periods, decreasing livestock production and causing losses up to 50% of their weight during the dry season due to lack of green pastures.

## - Objectives -

Determine whether if the silvopastoralism is a good alternative as complementary forage for ruminant livestock during the dry season in the dry tropic of Nicaragua.

- Hypothesis: do cows, goats and pelibuey sheep include *G. ulmifolia*, *A. pennatula*, *G. sepium* or *E. cyclocarpum* in their diet during the dry season? If they do, in which quantity and proportion?

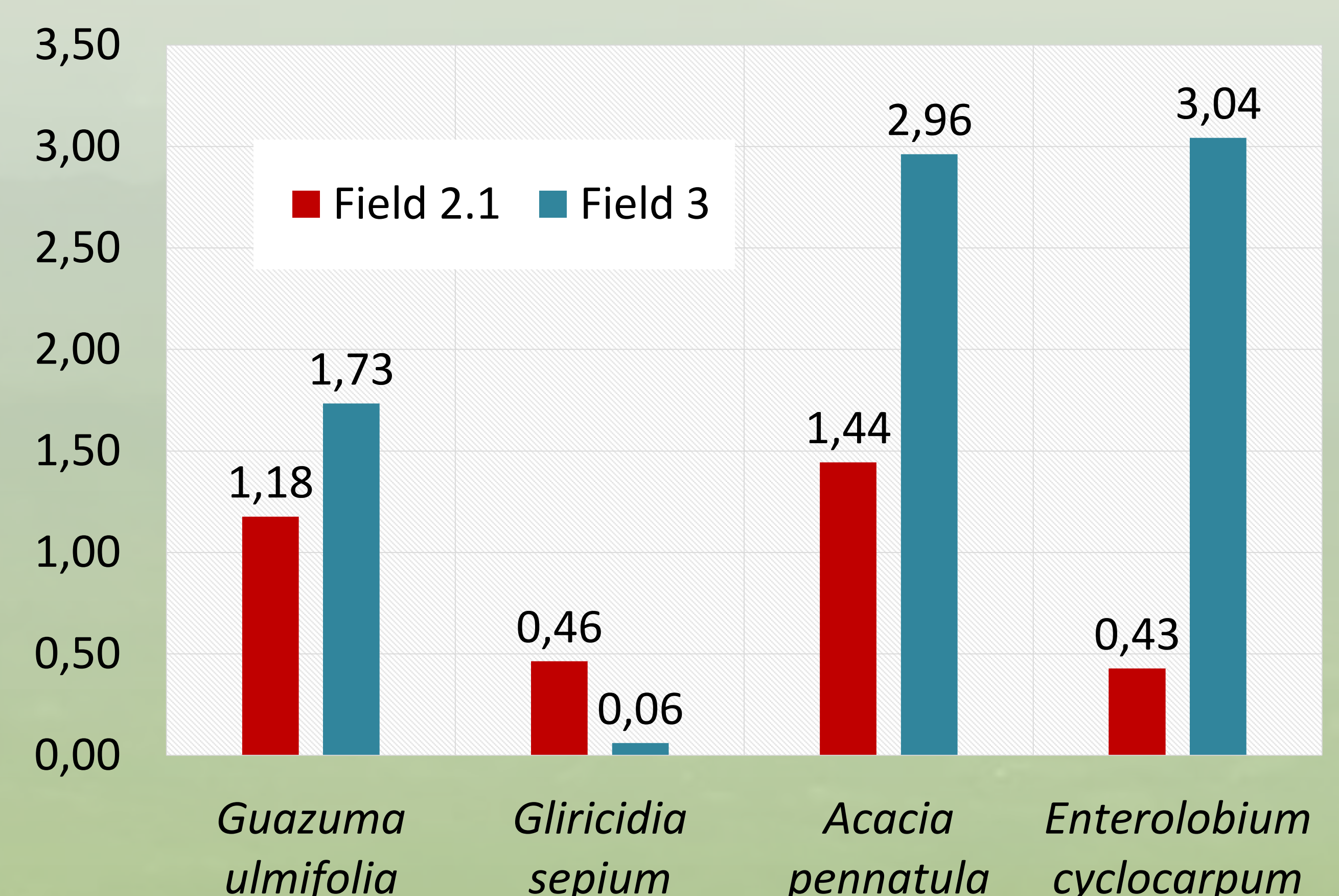
## - Methods & Results -

### Microhistological Analysis of Faeces

	Field 1		Field 2.1	Field 3
	Pelibuey sheep	Goat	Goat	Cow
Gramineae	44,8 ± 8,5%	39,7 ± 5,8%	30,8 ± 5,2%	45,2 ± 8,6%
<i>G. ulmifolia</i>	17,7 ± 5,0% <b>a</b>	6,7 ± 1,4% <b>b</b>	5,8 ± 1,1%	22,5 ± 5,5% <b>a</b>
<i>G. sepium</i>	0,2 ± 0,3%	0,0 ± 0,0%	0,5 ± 0,7%	0,2 ± 0,3%
<i>A. pennatula</i>	0,8 ± 0,9%	0,5 ± 0,3%	2,5 ± 1,0%	0,5 ± 0,5%
<i>E. cyclocarpum</i>	0,0 ± 0,0%*	0,0 ± 0,0%*	0,5 ± 0,7%	0,9 ± 0,6%
Herb. non gram.	36,6 ± 7,4% <b>a</b>	53,2 ± 5,9% <b>b</b>	59,8 ± 6,8%	30,7 ± 5,3% <b>a</b>
Nº samples	9	3	3	12
Nº heads	11	3	7	39

**Table. 1:** This table shows the proportion of plant fragments in feces of cow, goat and pelibuey sheep in three different fields. \*Absence of Enterolobium cyclocarpum in field 1. Data are shown as average ± standard error. Averages followed by different letters (**a**, **b**) in the same row differ significantly ( $p \leq 0.05$ ) one from the other; calculated with Fisher's PLSD test. In field 1, goats coexist with pelibuey sheep. In field 2.1, goats coexist with cows. In field 3, cows are alone.

### Field Data: Availability



**Fig. 1:** Density (individuals/hectare) of the available target trees species in fields 2.1 & 3.

## - Conclusions -

During the dry season, ruminant livestock draw on forage trees, especially the cow and the pelibuey sheep, favouring *Guazuma ulmifolia*.

Eventhough the goat is a natural browser, in the researched fields it behaves as grasser. This is probably due to a sympatric effect, rejecting those vegetal species when cattle or pelibuey sheep are present in the same field.