Arachis pintoi in the humid tropics of Colombia: A Forage Legume Success Story

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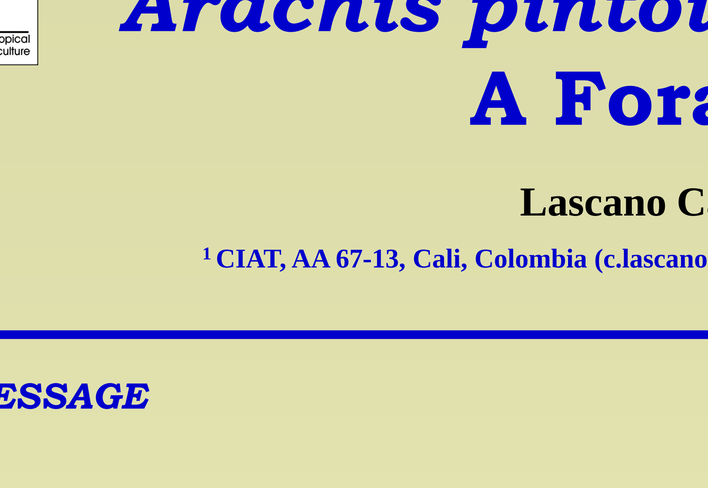
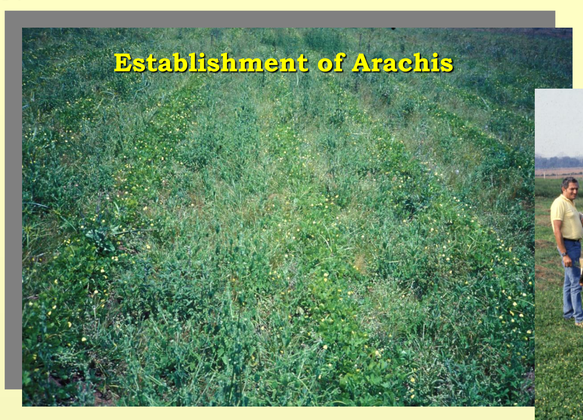
1. THE MESSAGE

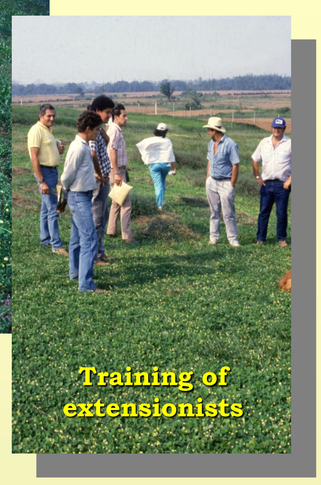
We describe a strategy involving a public-private alliance to promote the diffusion and adoption of forage legumes to recuperate degraded pastures in cattle production systems in tropical regions. The initial strategy of having demonstration plots in pilot farms coupled with field days did not promote adoption of the legume *Arachis pintoi*. An alternative diffusion strategy involving credit, seed supply and machinery resulted in a rapid adoption of the legume technology.



2. INTRODUCTION

In the Amazon region grass alone pastures degrade over time and as a result milk and beef production decline and there is more deforestation. In the piedmont of the Amazon basin in Caquetá, Colombia researchers identified *Arachis pintoi* (Arachis) as one of the most suitable legume options to recover Brachiaria based pastures. However, adoption of Arachis was disappointing. An inter-institutional project involving public and private organizations was launched to promote the adoption of Arachis through demonstrations in pilot farms and field days.





3. METHODS

Initial strategy to promote Arachis:

- Establishment of legume-based pastures in 15 pilot farms to demonstrate benefit of the technology and to serve as promoters to surrounding farms
- Training of extensionists in pasture establishment and management

The initial strategy carried out for a two year period did not promote adoption of Arachis given that farmers lacked capital and there was limited seed supply and lack of machinery in the region.

Alternative strategy to promote Arachis:

- Survey among farmers to define interest in planting Arachis to recover degraded pastures
- Creation of technology transfer fund managed by a milk processing plant (NESTLE) in the region. Funds were provided to adopters who paid with milk
- Contracting multiplication of Arachis seed based on demand
- Contracting tractors and implements for timely land preparation

4. RESULTS

In the following tables we show: a) that grass–legume pasture after the first year produce more biomass than grass alone pastures and b) that despite higher cost of establishment, grass-legume pastures are more profitable than grass pasture as a result of more milk per cow and higher stocking rate.

Table 1. Productivity of pastures with and without *Arachis pintoi* in a representative farm of the Amazon region.

Description	Years after establishment		
	1	2	3
Grass/legume pasture			
Days of rest	39	43	38
Brachiaria kg DM/ha	1.719	3.328	2.714
Arachis kg DM/ha	315	1.443	1.247
Total kg DM/ha	2.034	4.771	3.961
Grass pasture			
Days of rest	42	43	37
Brachiaria kg DM/ha	1.769	3.593	2.348

Table 2. Cost, production parameters and economic returns associated with renovation of pastures with and without *Arachis pintoi* (Arachis) in farms in the Amazon region of Colombia.

Pastures	Cost of establishment (US $/ha)	Milk yield (l/cow/d)	Stoking Rate (AU/ha)	IRR[1] (%)
B.decumbens	68	3.0	1	12.0
B.decumbens + *Arachis*	95	3.5	1.5	19.3
B.humidicola + *Arachis*	146	3.5	2.0	21.8

[1] Internal rate of returnal

High productivity of Arachis-based pastures coupled with high economical returns were key in the decision of NESTLE to promote and facilitate the adoption of Arachis to renovate degraded pastures in the Amazon region of Colombia. With the promotion strategy put in place by NESTLE over 100 farmers established 3000 ha of Arachis-based pastures in a two-year period.

5. CONCLUSIONS

Through a public-private sector alliance it was possible to: a) develop alternative techniques to introduce legumes in degraded pastures, b) carry out in situ demonstrations of proper grazing management of grass-legume pastures, and c) determine profitability of pasture legumes in the system. This information together with credit, seed and machinery promoted the adoption of Arachis by farmers. The traditional method of having demonstration farms and field days as an only strategy proved to be inadequate to promote the adoption of Arachis to renovate degraded pastures in the Amazon region of Colombia.