

## *Arachis pintoi* in the humid tropics of Colombia: A forage legume success story

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### Introduction

Cattle liveweight gain and milk yield can be depressed significantly on grass alone pastures that degrade over time on the margins of tropical forest. Use of legumes in pastures is an alternative to minimise declines in quality and quantity of forage biomass and thus increase livestock production. From 1987–90, forage researchers in CIAT collaborated with several institutions in the Piedmont region of the Amazon basin in Caqueta, Colombia on selection of forage germplasm adapted to acid soils and with potential to reclaim large areas of degraded pastures in cattle farms of the region. The most successful pasture was the legume-grass association of *Arachis pintoi* grown with several *Brachiaria* species. However, livestock producers in the region were not adopting the *Arachis* technology mainly because of lack of promotion, little knowledge on benefits and high seed cost. Thus, an inter-institutional on-farm project involving public and private institutions was carried out to document the on-farm benefits of *Arachis*-based pastures, train personnel of different institutions on establishment and utilisation of *Arachis* pastures using participatory methods and initiate and catalyse an active extension transfer mechanism of the *Arachis* technology in the region.

### Major reasons for success

At the start of the project, it was felt that the success in promoting *Arachis* would depend on establishing legume-based pastures in 10–15 pilot farms of the region. The strategy also considered that the 10–15 key farmers initially selected to participate in the project would act as promoters of the *Arachis* technology to surrounding farmers. This in turn would ensure that a minimum of 100 farmers would be exposed and become adopters of the new pasture technology in the period covered by the project. However, given the high cost of the *Arachis* seed available in the market and the prevalence of absentee owners participating directly in the project, that strategy failed. Therefore, the extension phase of the project required an alternative diffusion approach of the *Arachis* technology. The main elements of the strategy were: (a) creation of a Technology Transfer Fund managed by NESTLE, who bought the milk produced by farmers participating in the project; (b) conducting a survey among all milk producers that sold milk to NESTLE to define interest in rejuvenating degraded pastures using *Arachis*; (c) contracting the multiplication and purchase of commercial seed of *Arachis* to fulfil demand among

interested producers; (d) contracting tractors for timely land preparation and allowing farmers to pay for the partial cost of pasture establishment; and (e) repayment of the loan with milk delivered to NESTLE with no interest on the money. With this strategy, >100 farmers established 3 Kha of *Arachis*-based pastures in a 2-year period.

### Future potential and limitations to wider adoption

Lessons learnt during the course of the project included the need to have flexible research methods for on-farm pasture evaluation and to avoid absentee owners because they do not provide the necessary feedback to researchers and do not promote the technology. On-farm research using participatory methods cannot accomplish the ultimate goal of diffusion/adoption of improved pasture technology by itself. Thus, alternative strategies for diffusion of new legume-based technology should be part of the overall objective of a pasture-livestock project. Future pasture development projects should define the R&D plans of relevant institutions present in the region in order to accomplish a multiplier effect through training.

### Conclusions

By identifying alternative methods to establish grass-legume pastures, by *in situ* demonstrations of proper grazing management and by identifying 'bottlenecks' for the adoption of *Arachis*, the project helped to identify ways to facilitate the diffusion of *Arachis*-based technology in the region. Undoubtedly a large, reliable market for fresh milk in the region contributed to the desire of most participating and non-participating farmers in the project to consider investments on reclamation of degraded pastures. The promotion of legumes by the project also generated interest among livestock farmers in learning more about *Arachis* and its role in increasing milk yield and contributing to soil fertility.

### References

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