



## The Role of Legumes in Forage Production Systems in Tropical Latin America

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Projections are that the world population will grow from the current 7 billion to some 9.2 billion by 2050, while available land for expansion of agriculture will become economically and environmentally unattractive. Urbanization, growing population and income in developing countries, associated with changes in food preferences are fueling a Tropical Revolution with a massive increase in demand for energy, fiber and food, particularly livestock products. The livestock sector accounts for 40% of the world agricultural gross domestic product. It is also socially and politically very important since it employs 1.3 billion people and creates livelihoods for over one billion of the world's poor. This sector is the single world largest anthropogenic land user, accounting for 30% of Earth's surface and 70% all agricultural land. Pasture expansion has been and still is a key driver of deforestation, particularly in tropical Latin America. Meat and dairy production in this Region is almost solely dependent upon forage grasses. Estimates are that around 40% of these pastures are in some degree of agricultural degradation, mostly due to overgrazing, low soil fertilization and biotic problems. This presentation reviews the benefits of forage legumes to sustainable cattle production systems, particularly through their ability to supply nitrogen which is the primary nutrient limiting plant and animal production in tropical Latin America. Forage legumes contribute to increase forage quality and pasture productivity, improve animal diet and productivity, increase above and below-ground biodiversity, reduce weed infestation, increase pasture resiliency and longevity, reduce production costs and environmental impacts of cattle production in the Region. This presentation also focuses on some success histories of transition towards sustainable cattle production systems in tropical Latin America. Forage legumes such as *Stylosanthes capitata* & *S. macrocephala* cv. Campo Grande, *Arachis pintoi* and *Pueraria phaseoloides* have been successfully used in more than 1.5 million hectares of grass-legumes pastures in Brazil and Colombia. Finally, it highlights the contributions of forage legumes to meet the challenges of reconciling the objectives of increasing world food production, promoting economic growth, improving food security, income and human welfare, mitigating environmental impacts of cattle production and ensuring environmental conservation in Latin America.