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Presenter Information

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Propastizal a sustainable range management program for Rio Negro province (Argentina)

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Rangelands in Argentina occupy approximately 1,600,000 km² that represent nearly 60% of the continental territory of the country. The livestock industry dependent upon rangeland resources includes cattle (22,000,000 head), sheep (12,500,000 head), and goats (4,000,000 head) along with many species of native and introduced wildlife. In Rio Negro Province of northern Patagonia, rangelands occupy 203,000 km² with a broad range of environments and extreme climatic conditions. This area has been described as a cool semi desert by Soriano (1983) with a wide range of annual precipitation. At the foot of the Andes, rainfall reaches nearly 4000 mm/year. Fifty km eastward, rainfall drops to 600 mm/year, and 100 km further east, rainfall is less than 250 mm/year. Strong prevailing west winds are common. Livestock breeding is the main industry where sheep (1,800,000 head), goats (176,000 head) and cattle (650,000 head) are the most important livestock enterprises. Nearly 77% of all rangelands in this area are moderately to severely degraded (Del Valle et al. 2002). This reality affects range carrying capacity due to soil erosion and its direct negative effects on preferred forage species. This situation came about not only because of inadequate management of grazing animals, but also because of timber and brush clearing, and un-managed fires. All of these factors contributed to an increase in rural poverty.

During the past 10 years, the Argentine National Government has developed rural extension services through national (Social Agricultural Program, Cambio Rural) and provincial programs (Entity for the Provincial Livestock Program for the Development of Southern Rio Negro Province), that have assisted in only some aspects of pastoral systems in Rio Negro. Now, sustainable rangeland management is being recognized and considered following approval of National Law No. 25,422 (Ovine Law), the law aimed at the recovery of the sheep industry.

During 2004, the Ley Ovina proposed and promoted common strategies for proper range management to improve sheep production systems underwritten by the Provincial Executive Unit of Rio Negro Province (PEU) and in collaboration with technological institutions (National Institute of Agricultural Technology [INTA] at Valle Inferior and Bariloche), educational institutions (College of Agrarian Science and Central University of the Atlantic Region at Comahue State University), and Provincial organisms as well as the Entity for the Development of the Southern Region. The product of this strategy resulted in a group denominated PROPASTIZAL, a rangeland program aimed at generating technology to train agronomists and ranchers in forage evaluation and range monitoring and to advise the PEU in topics related to range management. Some of these activities are conducted by range management specialists trained in courses financed by the Ovine Law. Moreover, the evaluation of the pastures and allotments and the estimation of their carrying capacity are obligatory requirements for all ranchers who wish to obtain credit through the Ovine Law in Rio Negro.

The program is coordinated by one of its members and the group meets four times yearly to discuss the following activities: I-Training and Transfer-The objectives are (1) to elaborate a range inventory and evaluation guide for ranches; (2) to deliver training courses to agronomists in range inventory and evaluation; (3) to train ranchers and farmers in rangeland grazing and herd management technology, and; (4) to prepare reports for professionals and ranchers.

For each one of these objectives, meetings are currently being held with the purpose of (1) improving the range inventory and evaluation and the corresponding reports, and (2) conducting two training courses per year. Courses include the use of satellite imagery, identification of landscapes and physiognomic floristic sites, and the use of rangeland guides to estimate forage production and stocking rate for each ranch. Training in the use of GPS technology software to interpret satellite imagery is a complementary activity of these courses (Boggio, F. et al. 2007; Velasco, V. & G. Siffredi 2007).

II-Evaluation and Monitoring: The objectives are to (1) monitor rangeland evaluation to assess the quality of methods applied on each ranch, (2) offer technical assistance to junior agronomists, (3) scrutinize reports prepared by agronomists, and (4) to advise the PEU in range management related topics.

III-Adaptive Experimentation-These activities aim to generate information and technology that promote sustainable resource use. For these goals, experiences are developed on ranches that result in new guides for range forage evaluation to improve inventory guides for the ranches.

IV-Extension Services-The objectives and activities are geared to produce extension reports in range management for professionals and ranchers to be used as guides during field-day meetings.

After four years of work the PROPASTIZAL group has completed 20 training courses and upgrades for range evaluations for range technicians. There are already 54 range management specialists who have completed 340 range evaluations covering nearly 1,800,000 ha. Each year a subset of the ranches evaluated is monitored with the purpose of assessing the quality of the inventory guide in field evaluations and to evaluate range condition. Currently, the Rio Negro Province Livestock Program and the National Goat Production Law have adopted similar methods developed in the PROPASTIZAL program as a pre-requisite to obtain credit and technical assistance.