Economic Returns to Good Pastures and Forages Management

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Workshop

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Product of experience ... with errors included

Finca Los Laureles

Montenegro, Bagaces, Costa Rica

Content

- The farm
- Reasons for good pasture management
- Pastures and grazing management
- Hay production and conservation
- Cut & carry legumes as supplements
- Costs, investments and financing
- Topics persistently uncovered in research & extension
- Recommendations

Farm *Los Laureles*

- Flat and wavy topography, good drainage
- Watering: 70% of the area
- 70 has:
  - 20 % secondary forest
  - 60 % pastures for grazing
  - 15 % grasses for hay production
  - 2 % forage bank
  - 3 % facilities and roads
- System: Cow-calf and intensive fattening in corrals
- 90 cows, plus growing & fattening up to 400 kilos
- Breeds: Brahman cows. Registered purebred Brahman and Senepol bulls. A percentage of Brahman females kept asr replacements
- Clean water: Drinking water network

Clarification

Three alternatives are addressed

Each alternative is approached from the technical and economic point of view

The three are complementary in the economy of the farm

We do not go into details of other factors that determine profitability in a sustainable manner in livestock farms

Why is it a reasonable investment?

- Better feeding with good pastures and forages implies:
  - Enhanced calving rate and better quality calves at birth
  - Higher milk production per lactation (depending on genetics), better weaning weight
  - Higher LWG at weaning-fattening
  - Better health and longevity of cows
  - Total or partial substitution of concentrates
  - Source of complementary income (sale of hay)
- Why is it not done in other farms?:
  - Little economic information (costs, IRR, risks, etc.)
  - Poor diffusion – demonstration
  - Lack of interest!!!

Grazing Management

- Species: The most appropriate to each ecosystem and farm conditions. LL = Brachiarias, Braquipara
- Particular case LL: Irrigation
- Critical factors: Soil fertility, drainage
- Cost of establishment: 600 US $ / ha
- Maintenance and irrigation costs: US $ 100 / ha / year
- Manure Application: Twice a year
- Fertilization: Start of the rainy season
- IRR: depends on lifespan, 3-10 years; it depends on management; here is the biggest oversight (overgrazing and weeds)
- Rotation: Desirable 30-35 days. Electric fencing and drinking points. Requires adequate estimation of stocking rate and size of each paddock-several criteria
- Supplementation: It may be necessary at certain periods, to alleviate for the number of hours animals are in pastures

Los Laureles: Paddocks for livestock rotation. One day per paddock

Good quality hay Production

- Species: Trasvala
- Critical factors: Leveling, stone free, soil fertility, drainage, clean seed
- Weed control (Sporobolus spp., Cyperus spp.
- Subsoiling every 4-5 years
- Costs of Establishment: US $ 700/ ha
- Fertilization:
  - Poultry litter once a year 10 QQ / ha;
  - Complete formula = 2 QQ / ha after C / cut
- Cutting and packing: every 70-80 days. 280-300 bales / Ha / cut
- Costs: US $ 1.50 / bale
- IRR: High, depends on lifespan: 10-15 years; It depends on the handling
- Storage: Under shade in the hay storage facility
- Usage: 70-80% sold; the rest used in the farm; varies with harvests
- Sale price: US $ 4.00 per 20 kg bale. High Quality. Customers buy at the farm, product can be seen

Quality data for Trasvala hay

Features	Quality A	Quality B	Quality C
Cutting interval, days	70-80	80-95	95-130
Fertilization	Complete formula 90 kg between cuts	Urea 46 kg between cuts	no
Hours in the pasture after baling	1-3	4-12	> 12
Packaging quality (bale weight, kg.)	19-20	17-18	< 17
Storage	In storage facility Up to 60 days	Under trees´ shadow	No cover
Crude protein, %	14-15	9-10	6-8
Digestibility, %	60-65	50-60	40-50

Cut & Carry forage for supplementation of weaning-fattening animals kept in corral

- Protein: Cratylia; Energy: Napier Cuba-22
- Establishment: Very economical, vegetative seed; 60 cm between plants; 70 cm between rows
- Maintenance: Cut every 30 days. Do not let it lignify
- Manure: Applied every 3 months
- Pests: No present
- Weeds: tolerable, as long as they are not poisonous
- Indispensable: Water for irrigation in the dry season
- Harvest: Manual w / machete or with portable equipment
- It is chopped daily with stationary mill

Use of Cratylia as a supplement

Costs, investments and financing

Component	Items	Funding Source
Costs	• Labor • Fertilisation • Weed control (manual & w/herbicides) • Maintenance of fences & watering system • Sanitary control • Suplementation • Machinery maintenance • Fuel	• Sale of animals and hay
Investments	• New fences and facilities • Equipment and machinery • Bulls	• Family resources • Reference to the animal auctions as mechanism • Farmers do not tale loans: Less than 10% of the agricultural credit that is 3% of the total • NDB: A new option

Topics persistently uncovered in research & extension

- Adaptability in different ecosystems
- Response in soils of different fertility, minor minerals
- Weeds: Economic and environmentally friendly control
- Learn to make better use of water
- Improve holistic analysis of costs
- Visit and copy from other experiences. BUT each farm and farmer is different

Recommendations

- There are many very good experiences, we must do more dissemination and demonstration
- Do more economic-environmental analysis
- Farmers associations, universities, private companies and government institutions need to work more closely
- Advances in pilot projects should be deepened and disseminate more results in the PITTA
- A Platform is a good idea ... with useful products !!!

Thank you so much!!

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