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CATTLE ON PASTURE PLANTED IN THE AMAZON

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The livestock, since the time of colonial Brazil, had a role of taming of borders, given its contribution to the Brazilian territorial expansion and the colonial economy, in which formed some of the biggest monetary fortunes. This has to do with the greatest of ease to establish and be conducted in extensive, than the agricultural activity, which was not different in the recent occupation of the Amazon with the incentives of the geopolitics of the developmentalist state in Brazil.

In the Amazon, the creation of cattle began in 1680, on the Isla Grande de Joanes, today Marajó Island, later expanded to the region of the Lower Amazon. This pastoral activity, before the opening of the Belém-Brasília highway, was practiced in flooded fields of the Marajó Island, coastal region of Amapá, Baixada Maranhense, the Lower Amazon flood plains and fields of Roraima, in ultra extended regime, economic value of mediocrity, with flocks not selected. The ability to support these native pastures, was from 3 to 3.5 hectares/animal/year.

Excluding the holm, in other areas the native pasture, presents a low nutritional value and low capacity to support animal. These characteristics are associated to the low level of soil fertility and high rate and speed of lignification of grasses. Also, the potential response to fertilization is very low, which makes biological and economically unfeasible increased productivity through such technological alternative. The holm has, in the period of the flood, the impossibility of keeping animals in the pasture, a phenomenon that causes the use of the maromba - corral suspended for reception of animals.

The Amazon, and particularly the State of Pará, had a deficiency in the production and, consequently, the supply of in natura beef, which penalized the local population, especially the poor, for over a century - from mid 1800 until the end of the

year 1960. This situation changed with the opening of the Belém-Brasília, highway in 1960.

With the logistics of this highway, State of Pará, began to form grazing planted on the area of forest, but, with the empirical knowledge of producers who came to the Amazon. Each one of them took the best possible decision, given the information available to it at the time, i.e., the extensive system of livestock production.

Immediately, four factors contributed to the expansion of production system: a) the opening of the Belém-Brasília highway; b) availability of land; c) the low level of technology employed, established in the slash and burn of plant biomass followed by sowing or planting of seedlings of the forage harvester; d) the demand for meat on the market of Belém and Bragantina region in Pará.

Two species of grass brought by ranchers were used for the formation of grass, the Colonião grass (*Panicum maximum*), sown in the largest area of pasture formed and the Jaraguá grass (*Hyparrhenia rufa*), sown in smaller proportions. Then the genera of grasses *Brachiaria* and *Pennisetum* were also planted. The Zebu cattle was the (*Bos taurus indicus*) with the Gir, Guzerá races followed by Nelore race that predominated.

The strength of the forest cover was, for those ranchers, synonym of good soil fertility, which is not true. The genesis of the soil of the Amazon, in their majority, is poor nature, its constitution there are hundreds of millions of years, was from sediments of low fertility. Already the biomass of tropical rain forests is usually three to four times greater than the forests of temperate climate, in addition to that dead roots, living beings in soil and its products of excretion or synthesis, as well as his mortal remains, when of the decomposition, with the interference of climate, propitiate the formation of humos and the cycling of nutrients between the vegetation and the soil.

Allied to the good performance of newly planted pasture was the availability of land cost much less than current in Livestock Central Brazil, and also land without the purchase value. Add to these conditions tax incentives and the Programa de Redistribuição de Terras e de Estímulos à Agroindústria do Norte e Nordeste (PROTERRA). The latter financed through the rural credit by Banco da Amazônia and Banco do Brasil, with subsidized interest rate of 7% per year, for an inflation rate that had evolved from less than 20% at the beginning of 70 to around 40% in the mid-1990s; and that, at the end of 1979, walked for three digits, as in fact arrived in 1980.

With these favorable conditions began to form in the imagination of the ranchers an Amazon generous, no longer as "green hell", but as "paradise of livestock in the humid tropics. In the contexts, real and imaginary, the region has reached the end of the decade of 1970, with pastures well or poorly formed between six to eight million hectares in area of forest in different density gradients of vegetation.

The growth of bovine livestock, in the Amazon, in the decades of 1960 and 1970, the period of performance of fiscal incentives, subsidized rural credit, new roads, and even with the imaginary of "paradise", livestock grazing newly planted forest area had to 1960, 1980, performance as shown in the table below.

Growth of the cattle herd in the Brazilian Amazon: 1960-1980

Year	Flock (n° head)	Growth in %
1960	2.638.181	100,00
1970	4.004.534	51,79
1980	12.036.063	200,52

Source: Census of Agriculture:1960,1970,1980, IBGE.

This livestock boom, in large part, on the basis of the projects of tax incentives for livestock approved by SUDAM, had its peak in mid 1976. The states of Mato Grosso and Pará, together, they stayed with 87.7% of the financing of projects approved, respectively 61.2% and 26.5%. Another aspect of this reality concerns the land speculation, with predominance in Paragominas (PA) and northeast of Mato Grosso, area of the Araguaia River basin, in virtue of the inflationary process legislation. The valuation of the land, those areas reached 500% above the real value.

Problems in the party, but not negligible, but with the growth of the flock shown in the table, it is notorious that, an important characteristic of the Brazilian livestock, which also establishes itself in the Amazon, is to have the majority of your flock created to pasture. This condition puts the national cattle with one of the lowest cost of production of beef in the world, providing low cost of production, for being the most economical way and practice of producing and delivering food to the cattle. The Amazon, with low-temperature thermal amplitude not allowing the formation of frost and relatively less severe dry periods and periods than in other Brazilian regions, allows the pasture is the food base of cattle throughout the year, contributes as one more attractive to this economic segment. More recently, flirting the wave environmentalist, she began to be disclosed as the system of production of "green" ox or bullock of grass (grass-fed beef), that is, fed only with grass.

However, a different reality began to appear. The degradation of pasture, compromising the productivity of livestock; Changes in the economic scenario and the environment from the year 1980, with growing criticism under the deployment model for livestock farming, then in force, began to oppose the expansion of this activity, since she behaved as an itinerant system of livestock. This occurs on new areas of natural vegetation of primary forest of Cerrado, contributing to the repetition of this cycle of degraded pasture and deforestation, and that greatly contributed to stigmatize the cattle in the Amazon as an activity unproductive and damaging to the environment.

Its practice continued in the decade of 1980, which may be characterized as a second cycle of this recent model of cattle ranching in the Amazon. This made occurring by the sale of wood, antropizadas or forest areas, since the tax incentives and rural credit subsidized passed by modifications. This new cycle without the support of favorable financing and with inflation that accelerated, would have a more speculative agrarian rather than productive.

As already mentioned, this livestock was implanted with the empirical knowledge of cattle ranchers pioneers who came to the Amazon motivated by factors also already described. In the formation of pastures, they had no technologies for deployment and management of pastures, and also, options of forage germplasm adapted to the ecological and agronomic conditions of the Amazon. These ranchers much less knew about recovery of pasture. What they used was the cleanliness of the pasture, that is, the elimination of species not harvester with the burning of pasture.

This practice reduces the raw organic matter of the soil and, consequently, changes the carbon cycle, contributing to the emission of greenhouse gases into the atmosphere. In the biological attributes, the action of the flame of the fire decreases the availability of food (source of energy) for microorganisms, decreasing, mainly to the mesofauna population in the soil. As to the physical properties of the soil, the burning increases the density and resistance to penetration, as well as the reduction of total porosity and aggregate stability.

This phase of extensive livestock, with deforestation and abandonment of antropizadas areas, and encouraged by the policies of the Brazilian developmentalist state, contributed to characterize the livestock activity as unsustainable and unaffordable for the Amazon. This situation began to change from the year of 1980 with research into the agrostologia, integrated production systems and by changing the funding system for livestock. This new context has to contribute to the deployment of livestock on conditions not empirical and more sustainable.