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**Publications on Livestock Production and Marketing in  
Latin America and the Caribbean by North American Geographers**

In the preparation of this review of the contributions of North American geographers to an understanding of the livestock industries of Latin America and the Caribbean, I have begun with an acceptance of the analysis of the characteristics and trends of work in commercial agriculture which Hegen, Hoy, and Griffin presented to this assembly ten years ago (1971), and updated for this volume. In those papers the work on the livestock sectors was reviewed within the larger context of commercial agriculture. My extension of the benchmark paper into the livestock sectors has been developed from a survey of the literature as it has been identified in Deal's *Latin America and the Caribbean, A Dissertation Bibliography* (n.d.), in the volumes on the Social Sciences' published since 1965 in the *Handbook of Latin American Studies*, on the excellent "Latin American Bibliography" which Don R. Hoy so generously supplied to me, and in my own more modest file.

For the most part, the work on the livestock sectors by North American geographers has been in the stream of traditional cultural and economic geography. The bulk of the work has been about the beef cattle sector; dairying has received modest attention, and other sectors of livestock production and marketing have been all but ignored. Central America, the Llanos, and the Pampa, perhaps with some redundancy, have been the areas where the organization of the beef cattle industry has been most researched. The reference to regions reminds me to acknowledge the large and fine regional literature that is relevant to an understanding of the geography of livestock production and marketing, but which is excluded from this account, with a few exceptions. The exceptions are representative of the useful works with livestock content not revealed in the titles. My short regional list would include West's *The Mining Community in North New Spain: The Parral Mining District* (1949), Wagner's *Nicoya, A Cultural Geography* (1958), Parson's *Antioqueño Colonization in Western Colombia* (1968), and the more recent work of Harnapp, "The Mexican Huasteca: A Region in Formation" (1972). Chronology and proper perspectives require inclusion of such early genre as Tower's "The Pampas of Argentina" (1918) and Jones' "Agricultural Regions of South America" (1928).

On the introduction and spread of livestock breeds, Winsberg (1968; 1970) and Thompson (1978) have worked, the former with cattle in Argentina, and the latter with dairy stock in southeastern Brazil, as did Brand in Mexico (1961) and Parsons in Antioquia. In this vein on diffusion, Parson's papers (1970, 1972) regarding the Africanization of the New World tropical grasslands must be noted. The topic recalls to the writer seminal work of Oscar Schmieder on the nature of the Pampa grasslands (1929). A good sense for the production and marketing of cattle in the colonial era of Mexico is afforded in three works: Brand's "The Early History of the Range Cattle Industry in Northern Mexico" (1961), West's Parral monograph, and the study by Barrett on "The Meat Supply of Colonial Cuernavaca" (1974). Barrett's work is essential reading for anyone who would understand the contemporary system and politics of *municipio*-level meat marketing in Spanish America. Lobb's historical study of cattle regions along Brazil's southern frontier (1970) awaits complementing works on the core areas of Brazil to match the Mexicali papers. Perhaps North American geographers have not addressed the Brazilian counterparts to the Mexican studies because Brazilian and European investigators have produced a rich literature about the colonial livestock industry. Kehr's overview (1975) of cattle raising in Brazil is useful in the contemporary sense. Economic and cultural geographers have trod the Pampa to good effect for 60 years in their tracing of occupance and land use themes but seem to have been little drawn to the operations or functions of the contemporary livestock industry. Among active geographers, James (1941) and Rolf Sternberg (1972) have done the most to synthesize the story of the occupance of the Humid Pampa. Shaw (1945) and White (1945), delved into questions of Argentine beef and world affairs as they explored the problem of foot-and-mouth disease, but not since then has anyone looked into large questions of international movement of livestock or livestock products in the River Plate region. One aspect of such movement that never has been explored is the legal and contraband trade of livestock in the Cono Sur. For that matter it is untouched elsewhere. To return to the interest of Shaw in *aftosa*; he also wrote on the epizootic in Mexico (1949). The Mexican experience was studied again in the remarkably comprehensive work of Sigsworth (1975). The concerns that drew investigators to the Pampa have been supplanted by interest in tropical ranching areas of late, as suggested by Denevan's paper (1963) on cattle ranching on the Mojos Savannas and Brunnschweiler's entry (1972) into the llanos frontier of the Meta. The inquiries remind one of the leather britches and boots approach to data gathering that Christ espoused in a fruitful venture that led to articles on the cattle industry of Llanos and Maracaibo lowlands (1937; 1943; 1956). Although it is the

rare geographer who preceded Crist into the interior, it should come as no surprise that James addressed the question of cattle production possibilities in Venezuela (1924). White and Thompson (1955) and White (1956) later revived the topic.

If there is a thrust to the research interests of North American geographers concerned with the livestock industry, it is the work in tropical beef production and marketing that a group of young dissertation writers undertook in the 1970s. Kelsey's work on the industry in the Roraima Savannas (1972), Vernon Smith's on Guanacaste (1970), and Alderman's on the beef cattle industry of Honduras (1973) are at the center of the thrust. Smith's and Alderman's work break with tradition in adopting methodologies that quantifiers will find congenial. Their work, together with West's paper (1976) on cattle raising and the beef export trade of Middle America, Miller's study of beef production and trade in Central America and Panama (1974; 1975), Martinson's paper (1974) on the rise of Central American beef plantations, Parsons' paper on cotton and cattle on the Pacific lowlands of Central America (1965) and Thompson's papers (1961) on the beef industry of El Salvador afford a fairly comprehensive body of literature on the sector in Central America.

Although the matter of crop/livestock relationships is dealt with in the work of individuals cited heretofore, Henderson, in the context of Baja California (1964), and Wood, in the context of Guatemala (1967), focus on the theme. It comes through well, too, in Stewart et al., "Transhumance in the Central Andes" (1976), the lone study of the transhumance phenomenon. Study of the production and marketing of milk has involved some geographers. MacPhail's dissertation (1953) and immediately related articles (1955) and the re-casting entitled "Puerto Rican Dairying: A Revolution in Tropical Agriculture" (1963) are good models. Akin, too wrote (1952; 1954) on the dairy industry of the San Juan area. Thompson added to the literature on dairying in Chile (1959; 1960) and El Salvador (1961), as did Patten with a paper on dairying in Nicaragua (1971), and Morris with a paper on dairying in Argentina (1972). The dairying areas of the Pampa are revealed in a less traditional approach in Winsberg's "*Una regionalización estadística de la agricultura en la pampa argentina*" (1970). Brown and Lentnek (1973) departed from the traditional, also, in an assessment of a model of the diffusion of innovation in the context of dairying in Aguascalientes, Mexico.

Except for Bergmann's paper on sheep farming and erosion in Patagonia (1977), Thompson's brief account of swine production and marketing in El Salvador

(1961), Aschmann's "Indian Pastoralists of the Guajira Peninsula" (1960), and Gade's explanatory "The Llama, Alpaca and Vicuna: Facts vs. Fiction" (1969), no other livestock-specific topic was found to have attracted the attention of North American geographers. It is a large void, considering the long-standing importance of swine in Mexico and Brazil; the recognition, at least by nationals, of hog races in some major countries; the astonishing scale of commercial poultry production in countries like Mexico and Brazil; and the importance of pastoralism involving goats in several areas. By and large, the *Camelidae* have been left to anthropologists. There is a need for research on the environmental impact and on the cost to society of the continuation of traditional grazing practices of all stock types owned by peasants and large-scale operators.

To conclude, we know very little about the process by which livestock breeds have been introduced, adopted, and modified. We know little of *criollo* races, or of the manner in which cattle have become *azebuado*, or crossed with the Brown Swiss in the tropical lowlands and Holsteins generally. A good deal is yet to be learned about the production and marketing of livestock and their products in most areas but Central America. The international and internal contraband trade are untouched. Little more has been done with the realities of milk production and distribution.

One is reluctant to suggest priorities for work in the future, recognizing that scholars have particular interests, resources, and mayordomos to please. I think that we and Latin Americans would benefit by relatively disinterested research on marketing systems that link rural enterprise to the factory and city. There is a need to look at the role of such institutions as the coyote or introducer, at state subsidized programs to convert *ejidatarios* and *colonos* into dairymen; and at the past experience with national and regional formulas to resolve persistent seasonal deficiencies in product availability and quality.

I am not suggesting that North American geographers offer formulas; I am suggesting that they are in a better position than are most nationals to review the historical experience with policies and practices that have a bearing on the production and marketing of perishable food products for urban and rural populations that are growing rapidly.

## References Cited

Akin, W. E. "The Dairy Industry of the San Juan Area of Puerto Rico." (Doctoral

Dissertation, Northwestern University, 1952).

Akin, W.E. "Climate and Dairying in the San Juan Area of Puerto Rico," *Philippine Geographical Journal*, Vol. 2 (1954), 40-52.

Akin, W.E. "The Dairy Industry of the San Juan Area," in C.F. Jones and R. Picó (eds.) *Symposium on the Geography of Puerto Rico*. (Rio Piedras: University of Puerto Rico Press, 1955), 47-70.

Alderman, R. "A Geographic Analysis of the Beef Cattle Industry of Honduras." (Doctoral Dissertation, Michigan State University, 1973).

Aschmann, H. "Indian Pastoralists of the Guajira Peninsula," *Annals of the Association of American Geographers*, Vol. 50 (1960), 408-418.

Barrett, W.J. "The Meat Supply of Colonial Cuernavaca," *Annals of the Association of American Geographers*, Vol. 64 (1974), 525-540.

Bergmann, J.F. "Sheep Farming and Erosion in Patagonia," in G.S. Elbow, (ed.) *International Aspects of Development in Latin America: Geographical Perspectives; Proceedings of the Conference of Latin Americanist Geographers, Vol. 6*. (Muncie: CLAG Publications, 1977), 65-74.

Brand, D.O. "The Early History of the Range Cattle Industry in Northern Mexico," *Agricultural History*, Vol. 35 (1961), 132-139.

Brown, L.A. and B. Lentnek. "Innovation Diffusion in a Developing Economy: A Mesoscale View," *Economic Development and Cultural Change*, Vol. 21 (1973), 274-292.

Brunnschweiler, D. *The Llanos Frontier of Colombia: Environment and Changing Land Use in Meta*. (East Lansing: Michigan State University, Latin American Studies Center, 1972).

Crist, R.E. "Life on the Llanos of Venezuela," *Bulletin of the Geographical Society of Philadelphia*, Vol. 35 (1937), 13-25.

Crist, R.E. "Cattle Ranching in the Tropical Rain Forests," *Scientific Monthly*, Vol. 56 (1943), 521-527.

Crist, R.E. "Along the Llanos-Andes Border in Venezuela: Then and Now," *The*

*Geographical Review*, Vol. 46 (1956), 187-208.

Deal, C.W. *Latin America and the Caribbean, A Dissertation Bibliography*. (Ann Arbor: University Microfilms International, n.d.)

Denevan, W.M. "Cattle Ranching in the Mojos Savannas of Northeastern Bolivia," *Yearbook of the Association of Pacific Coast Geographers*, Vol. 25 (1963), 37-44.

Gade, D.W. "The Llama, Alpaca, and Vicuna: Fact vs. Fiction," *Journal of Geography*, Vol. 68 (1969), 339-343.

*Handbook of Latin American Studies*, No. 27, Social Sciences-1965, Henry A. Adams, ed. (Gainesville: University of Florida Press, 1965).

*Handbook of Latin American Studies*, No. 29, Social Sciences-1967 Henry A. Adams, ed. (Gainesville: University of Florida Press, 1967).

*Handbook of Latin American Studies*, No. 31, Social Sciences-1969 Henry A. Adams, ed. (Gainesville: University of Florida Press, 1969).

*Handbook of Latin American Studies*, No. 33, Social Sciences-1971, Donald E.J. Stewart, ed. (Gainesville: University of Florida Press, 1967).

*Handbook of Latin American Studies*, No. 35, Social Sciences-1973, Donald E.J. Stewart, ed. (Gainesville: University of Florida Press, 1973).

*Handbook of Latin American Studies*, No. 37, Social Sciences-1975, Donald E.J. Stewart, ed. (Gainesville: University of Florida Press, 1975).

*Handbook of Latin American Studies*, No. 39, Social Sciences-1977, Dolores Moyano Martin, ed. (Gainesville: University of Florida Press, 1977).

Harnapp, V.R. "The Mexican Huasteca: A Region in Formation." (Doctoral Dissertation, University of Kansas, 1972).

Hegen, E.E., D.R. Hoy and E. Griffin. "Commercial Agriculture," in B. Lentnek, R.L. Carmin, and T.L. Martinson (eds.) *Geographic Research in Latin America: Benchmark, 1970; Proceedings of the Conference of Latin Americanist Geographers, Vol. 1*. (Muncie: Ball State University, 1971), 182-208.

Henderson, D.A. "Agriculture and Livestock Raising in the Evolution of the

Economy and Culture of the State of Baja California, Mexico." (Doctoral Dissertation, University of California at Los Angeles, 1964).

Hoy, D.R. "Latin American Bibliography," unpublished, 1980.

James, P.E. "The Possibilities of Cattle Production in Venezuela," *Bulletin of the Geographical Society of Philadelphia*, Vol. 22 (1924), 45-56.

James, P.E. "The Process of Pastoral and Agricultural Settlement on the Argentine Pampa," *Journal of Geography*, Vol. 40 (1941), 121-137.

Jones, C.F. "Agricultural Regions of South America," *Economic Geography*, Vol. 4 (1928), 6-30.

Kehr, J. "Cattle-Raising in Brazil: An Overview," *Revista Geográfica (Mexico)*, Vol. 83 (1975), 95-108.

Kelsey, T.F. "The Beef Cattle Industry in the Roraima Savannas: A Potential Supply for Brazil's North." (Doctoral Dissertation, University of Florida, 1972).

Lobb, C.G. "The Historical Geography of the Cattle Regions Along Brazil's Southern Frontier." (Doctoral Dissertation, University of California, Berkeley, 1970).

MacPhail, D.O. "The Cattle Industry of the South Coast of Puerto Rico." (Doctoral Dissertation, University of Michigan, 1953).

MacPhail, D.O. "The Cattle Farms of Southern Puerto Rico," in C.F. Jones and R. Picó (eds.) *Symposium on the Geography of Puerto Rico*. (Rio Piedras: University of Puerto Rico Press, 1955), 213-244.

MacPhail, D.O. "Transformation in the Pastoral Land Utilization of Southern Puerto Rico," *Revista Geográfica (Mexico)*, Vol. 17 (1955), 1-7.

MacPhail, D.O. "Puerto Rican Dairying: Revolution in Tropical Agriculture," *The Geographical Review*, Vol. 53 (1963), 224-241.

Martinson, T.L. "Rise of the Central American Beef Plantation, 1960-1970," *Geographical Survey*, Vol. 3 (1974), 1-13.

Miller, E. "The Beef Industry in Central America and Panama," *Great Plains -*

*Rocky Mountain Geographical Journal*, Vol. 3 (1974), 88-95.

Miller, E. "The Raising and Marketing of Beef in Central America and Panama," *The Journal of Tropical Geography*, Vol. 41 (1975), 59-69.

Morris, A.S. "Dairying in Argentina," *Revista Geográfica (Mexico)*, Vol. 76 (1972), 103-120.

Parsons, J.J. "Cotton and Cattle in the Pacific Lowlands of Central America," *Journal of Inter-American Studies*, Vol. 7 (1965), 149-159.

Parsons, J.J. "Antioqueño Colonization in Western Colombia." *Ibero-Americana*, No. 32. (Berkeley: University of California Press, 1968).

Parsons, J.J. "The Africanization of the New World Tropical Grasslands," *Tubingen Geographische Studien*, Vol. 34 (1970), 141-153.

Parsons, J.J. "Spread of African Pasture Grasses to the American Tropics," *Journal of Range Management*, Vol. 24 (1972), 12-18.

Patten, G.P. "Dairying in Nicaragua," *Annals of the Association of American Geographers*, Vol. 61 (1971), 303-315.

Schmieder, O. *The Pampa, a Natural or Culturally Induced Grass-land?*. (Berkeley: University of California Press, 1929), 255-269. *University of California Publications in Geography*, Vol. 2, No. 8.

Schmieder, O. *Alteration of the Argentine Pampa in the Colonial Period*. (Berkeley: University of California Press, 1929), 303-321. *University of California Publications in Geography*, Vol. 2, No. 10.

Shaw, E.B. "United States Restriction on Argentine Beef," *Scientific Monthly*, Vol. 61 (1945), 101-108.

Shaw, E.B. "Mexico's Foot-and-Mouth Disease Problem," *Economic Geography*, Vol. 25 (1949), 1-12.

Sigsworth, G.W. "The Mexican Epizootic of Foot-and-Mouth Disease: A Study in the Spread, Eradication and Impact of Infectious livestock Disease, and Associated Modernization in the livestock Industry." (Doctoral Dissertation, University of Illinois, Champaign-Urbana, 1973).



- Smith, V.A. "Beef Cattle Production and Marketing in Guanacaste, Costa Rica." (Doctoral Dissertation, University of Florida, 1970).
- Sternberg, R. "Occupance of the Humid Pampa, 1856-1914," *Revista Geográfica (Mexico)*, Vol. 76 (1972), 61-102.
- Stewart, N. R., J. Belote and L. Belote. "Trans-humance in the Central Andes," *Annals of the Association of American Geographers*, Vol. 66 (1976), 377-397.
- Thompson, J. "La Industria Lechera de Chile Central," *Informaciones Geográficas*, Vol. 7 (1959), 6-23.
- Thompson, J. "The Chilean Dairy Industry," *California Geographer*, Vol. 1 (1960), 35-40.
- Thompson, J. "The Beef and Dairy Industry of El Salvador," in *Studies in the Food Supply of El Salvador*. (Berkeley: University of California, 1961), 31-60.
- Thompson, J. "The Production and Marketing of Swine in El Salvador," in *Studies in the Food Supply of El Salvador*. (Berkeley: University of California, 1961), 61-64.
- Thompson, J. "Production, Marketing and Consumption of Cattle in El Salvador," *The Professional Geographer*, Vol. 13 (1961), 18-22.
- Thompson, J. "A Evolução das racas de gado leiteiro do sudeste do Brasil," *Boletim do Leite (Rio de Janeiro)*, Vol. 597 (1978) 2,4,6,8,10; vol. 598 (1978) 32,34,36.
- Tower, W.S. "The Pampas of Argentina," *The Geographical Review*, Vol. 5 (1918), 293-215.
- Wagner, P.L. "Nicoya, A Cultural Geography," *University of California Publications in Geography*, Vol. 12 (1958), 195-250.
- West, R.C. *The Mining Community in North New Spain: The Parral Mining District*. (Berkeley: University of California Press, 1949), Ibero-Americana No. 30.
- West, R.C. "Recent Developments in Cattle Raising and the Beef Export Trade in the Middle American Region," *Actes du XLII Congres International des Americanistes*, Vol. 1. (Paris: Congres International des Americanistes, 1976), 391-402.

White, C.L. "The Argentine Meat Question," *The Geographical Review*, Vol. 35 (1945), 634-646.

White, C.L. "Cattle Raising: A Way of life in the Venezuelan Llanos," *Scientific Monthly*, Vol. 83 (1956), 122-129.

White, C.L. and J. Thompson. "The Llanos-A Neglected Grazing Resource," *Journal of Range Management*, Vol. 8 (1955), 11-16.

Winsberg, M.D. *Modern Cattle Breeds in Argentina: Origins, Diffusion and Change*. (Lawrence: University of Kansas, 1968).

Winsberg, M.D. "The Introduction and Diffusion of the Aberdeen Angus in Argentina," *Geography*, Vol. 55 (1970), 187-195.

Winsberg, M.D. "Una regionalización estadística de la agricultura en la pampa argentina," *Revista Geográfica (Mexico)*, Vol. 72 (1970), 45-60.

Wood, H.A. "The Crop-livestock Relationship in Guatemala," *Revista Geográfica (Mexico)*, Vol. 66 (1967), 95-106.