

From Feral to fully farmed: 250 years of Cattle on the Falkland Islands, 1763-2013

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Abstract

A very few cattle were landed on the Falkland by the French in 1763, later augmented by about 60 head by the Spanish. Unoccupied from 1770 to 1820, reports then indicated 20,000 to 100,000 head roaming East Falkland. From the 1830s cattle were hunted for hides, an activity formalized through (British) Government land grants and slaughter licences. During the 1840s Government tried to attract settlers and sheep began to super cede cattle. There were occasional uncoordinated attempts to improve the genetics through introduction of "superior" breeds. An experimental farm established in the 1920s was short-lived as cattle numbers declined and sheep numbers increased. Further sporadic cattle imports were made during the mid twentieth century. Artificial insemination was introduced in the 1970s with imported British beef and dairy breed semen. A National Beef Herd was established in 1997 to breed superior cattle – mainly via artificial insemination and embryo transfer – able to produce organic or "near-organic" beef finished at 24-30 months under the harsh environment of the Falklands with a view to obtaining access to the EU market. Local farmers collectively own about 6000 cattle in small herds whose main objective is to supply household milk and beef.

Keywords: Feral livestock, hunting, cattle breeds, biotechnology, marketing

1. Discovery and the Scramble for the Falklands

The Falkland Islands, an archipelago comprising two large and many smaller islands, are located at 51-53° S, 57-61° W some 300 miles east of southern South America, have a land area of about 4700 square miles (Figure 1). They were possibly first sighted by Amerigo Vespucci in 1501-1502. Their "discovery", however, is credited to Richard Hawkins in 1594. Captain John Strong of *HMS Welfare* apparently made the first landing in 1694. Captain Beauchene of St Malo discovered the island later named after him in 1701 whence the names Malouines or Malvinas derive. On 5 April 1764 Louis-Antoine de Bougainville settled on East Falkland at Port Louis and claimed possession of the archipelago for France. The Spanish then bought the islands from France. Meanwhile, the British Captain John McBride established a settlement at Port Egmont on Saunders Island on 8 January 1766. As a direct consequence of these events there were several near wars before the 1982 conflict between Argentina and the United Kingdom (Freedman, 2005; FIG, 2012).

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Figure 1: Map of the Falkland Islands and their location off the coast of South America

Pigs and goats were possibly put ashore by early explorers and sealers to provide fresh meat on subsequent visits. The first documented introduction, however, was by de Bougainville who left Saint Malo on 1 September 1763, to arrive at Ilha Santa Catarina off the Brazilian coast about three months later (Pernety, 1769). The Governor presented the expedition with two oxen, two cows, one heifer, two turkeys and 26 ducks. The detailed, usually punctilious, journal of Pernety (1769) did not note bulls being loaded but this becomes apparent when the crew later cuts banana leaves for the stock already on board. Sailing on to Montevideo, 12 female cattle, six mares, two colts, two geldings, 12 goats and kids, 11 sows and one boar, 14 or 15 ewes and two rams and many chickens and ducks were taken on board.

Departing Montevideo on Tuesday 6 January 1764 and consequent on appalling weather one goat ("bouc"), two sheep and three cows died in a storm on 25 January. One sick cow and one sick bouc were sacrificed the next day. One stallion, one bouc and one ewe were thrown overboard on 27 January. Landfall on the Falklands was made on 31 January but no animals were landed. Several cows, "very tired" from the hail and rain, were killed on 1 February "in order not to let them die and be obliged to throw them overboard" as had happened to a bull loaded at Santa Catarina as were some boucs and many ewes. Several trips were subsequently made ashore, some expressly to cut grass for the animals. Horses and cattle were finally unloaded on 20 February. A mare and foal quickly died but the cattle were still alive and apparently flourishing next morning. As the ship left, twelve pigs remained with the 28 founding settlers. Litters of 11 and 12 were born to two sows and, it was added, that with the other sows and a boar one could imagine how they would multiply². The cattle were left to roam but were trained to return every evening by tethering a new born calf and letting it bawl for its mother (Pernety, 1769).

Dom Pernety fails to say how many animals were landed but it was very few. This nucleus, augmented sporadically over the next 50 years, multiplied rapidly according to later accounts, becoming the cause of much international bickering. French occupation of Port Louis was transitory, the Falklands being sold to the Spanish in 1767. The Spanish Governor, Don Ruiz Puente, was impressed by the fine pasture and increased the 60 cattle and six horses the French had left with imports from the mainland. Some sources indicate that after the early settlements were abandoned all livestock perished. A 1778 census recorded 2,180 cattle, of which 395 grazed in an enclosure around Port Louis, and 166 horses. By 1782 cattle numbers had fallen to 534 and horses to 50. Another source reports 7,774 animals in 1785.

² These were enormous litter sizes for that period.

At bullfights in 1789, twelve bulls were killed to celebrate the coronation of the Spanish King Charles IV. During the early 1790s reports indicated 3,460 cattle but in 1798 numbers had fallen to 1,567. In 1804 there were 235 cattle and 735 horses, rising to 367 cattle and 838 horses by February 1806 (Strange, 1973; Destefani, 1982; Cawkell, 1983; Philpott, 1996; 2007).

The Spaniards left the islands in 1811 and there was no further permanent occupation until 1820. Louis de Freycinet, a French explorer and naturalist, was shipwrecked in February 1820 but was later rescued and taken to Montevideo. "Sealers and whaling vessels of various nations seem occasionally to have touched there, attracted by the immense herds of cattle (which had wonderfully increased from a few left by the Spaniards) and by the numerous marine animals..." but this information had yet to reach the mainland (Cawkell, 1983). De Freycinet's reports of huge numbers of cattle and horses were a sensation. After Freycinet's departure Benjamin Morrell shot "bullocks" and geese around Port Louis during a visit in the sealer *Wasp*. Morrell noted the "Luxuriant meadows in the interior afford excellent grazing for cattle all the year round. ..." and, regarding a proposal to establish a penal colony, wrote "their healthiness is undoubted [...], the total absence of inhabitants, the great abundance of cattle existing on them, and [...] offer inducements to their occupation as an asylum for unfortunate criminals not to be met with in any other quarter of the globe". The period 1820-1850 was the genesis of tales, repeated until they seemed factual, that there were 20,000-60,000 or 100,000 cattle on the islands (Morrell, 1832; Martin, 1843; Spruce, 1992; Cawkell, 1983; Mainwaring, 1983; Gibran 1998; Wheeler, 2004; Rubin, 2008). Until 1839, when Melville took animals from Port Pleasant to White Rock on the schooner *Montgomery*, West Falkland had no cattle so these huge numbers were all on East Falkland.

In 1823, Argentina (then the United Provinces of the River Plate) granted a concession on East Falkland to Louis Vernet to exploit the cattle. Vernet brought into partnership Jorge Pacheco, Pablo Areguati (both "Argentinians") and Robert Schofield (a British merchant in Montevideo). In February 1824 an expedition led by Areguati failed as the five horses that survived the voyage were too weak to hunt. Vernet formed a new company in 1825 and he led an expedition in 1826 but his teams could not compete with cattle on the boggy terrain and horses and 'gauchos' were often injured. He concluded that mainland horses needed retraining before being put to work. Some success was achieved when Vernet built holding yards: "we have already constructed corrals or pens for the cattle at night, all over the island". Stone or turf corrals were fundamental to the enterprise for rounding up cattle for conversion to economic products. Hides, treated at a 'saladero' by salting, drying and arsenic, were the main early product, followed by lean meat in long strips, soaked in brine and packed in salt in barrels. Fat was rendered to grease and tallow (Cawkell, 1983; Spruce, 1992; Philpott, 2007).

Disputes over sovereignty continued. For example, "in 1825 the Buenos-Ayrean government proceeded to assign to a German named Louis Vernet the whole of the eastern island with all its cattle and produce as well as the neighboring island called Staten Island in perpetuity ...". In December 1832, "At Port Louis, on East Falkland Island, a Buenos-Ayrean schooner of war was lying, and a small party of soldiers under the same flag occupied the shore, where there was an inconsiderable settlement of foreign persons, chiefly Buenos-Ayreans who were engaged in catching wild cattle, &c. for the supply of such ships as occasionally touched there".

2. British Settlement

The British returned in December 1832, concerned by unlawful activities by American sealers and Argentine assertions of sovereignty. On 20 December they posted a possession notice at Port Egmont and on 2 January 1833 expelled the Argentine Resident and put Matthew Brisbane in charge. On 26 August 1833 a gang of mainly unemployed gauchos murdered Brisbane, his deputy William Dickson and four others. The next day they killed some tame cattle and boasted they would have fat beef (Helsby, 1833; Martin, 1843). Skirmishes between garrison and gauchos lasted more than three weeks. On 16 September a foraging party "met with cattle, and had driven them close to the head of the bay, but being so very tired had left them there; returned to the island to breakfast, and afterwards to look for the cattle, found them about three miles from where we landed at the head of Salvador Bay; drive about twenty of them along the South bank of the Sound as far as the point formed by creek opposite Long Island, and when within a few hundred yards of it they bolted back again.

Killed a small one which in very poor condition, sufficient to last us for supper this evening and breakfast tomorrow morning" (Helsby, 1833; Martin, 1843). This last statement admirably demolishes the gaucho comments about fat beef.

In the austral summer of 1833 Charles Darwin, then naturalist on HMS *Beagle*, plus several gauchos explored part of the islands on horseback. There were few animals in the best cattle country as they had "lately been much harassed" but they found a small herd in which a gaucho lassoed ('lazo') a cow round the horns after failing to drop it with a 'bolas' (Darwin, 1906). A description of how a horse prevented itself from injury whilst keeping the cow on a taught rope follows (Figure 2). The cow was immobilized by cutting a tendon before killing it by severing the spinal cord. Darwin (1906) described the subsequent supper of 'carne con cuero' (meat with skin) as superior to common beef as venison is to mutton. On 17 March at Rincon del Toro, Darwin noted the high proportion of bulls due to the number of cows killed. The paucity of horses compared to cattle was attributed to the territorial urge of stallions and to lesser disease resistance. Horses were small and degenerate, unlike the cattle which had increased in size and were very aggressive (Darwin, 1906).



Figure 2: Catching wild cattle in the 1820s (original water colour by William Dale)

Some ten years later Darwin exchanged correspondence with Bartholomew James Sullivan who had been 2nd Lieutenant on HMS *Beagle* in 1833-1836. He was also a noted hydrographer who surveyed the islands in HMS *Arrow* in 1838-1839.

In an early letter to Darwin and in response to queries addressed to him Sullivan wrote

"Near Port Pleasant the colours are very much mixed but Brown predominates, and there are very few white or nearly white -- towards Mount Osborne on the North side of Choiseul Sound there is little difference except that white with Black heads or four quarters are often seen, while a few small herds which seemed to keep much on the high ground round Mount Osborne, had a number (sometimes above half) of a peculiar mouse or lead colour and different shades approaching nearer to black. We never saw many of this colour anywhere else and what is very singular the first really fat cattle we killed for the season were seven that I shot among the streams of stones on my way to Mount Osborne within a mile of the Summit and 1500 feet above the sea. This was early in November at which time in other places we got no fat cattle. To the Westward and Southward of the Pass round the head of Choiseul Sound the white colour becomes the predominate one, that is, white with more or less Black all their heads being black and generally the feet but the black extending less on the shoulders than it does more to the Eastward.

Many black are met with in all localities and Brown, red & c also, but the predominating colour is so different that while near Port Pleasant you discover them in the distance by the dark spots on the land, about Swan Island Harbour on the shores of Falkland Sound, you first observe white spots in the distance, tho on getting nearer these prove to be not only nearly white, but with more or less black or red mixed with it, white with red spots being also very common. I do not think the herds mingle much with each other for whenever we drove different batches together we generally saw them separate again under their own leaders." (Sullivan, 1843). Darwin's interest in colour segregation shows that he was already formulating ideas on evolution and natural selection. Interest was also expressed in the calving season. By mid October just above half the calves had been dropped, all within the previous month. Early in November on Mount Osborne nearly all the cows had calves up to about two months old. Of four cows shot, one had a 2-week old calf, one was close to parturition and two had calved probably two months ago as they were in calf again with fetuses the size of a large mouse. In January around Mount Osborne there were few small calves, not one in fifty was less than six weeks old, and dams seldom, as before, remained to defend them when hunted.

From Choiseul Sound to Adventure Sound near the island's southern extremity calves were younger, being little larger than those farther north had been two months earlier. Sullivan considered that breeding started near the Hills in early September and was over by mid November whilst southward it began at least a month later and was not over until late December. This puzzled Sullivan as the 30 miles distance could not alter the season and it was colder among the northern hills than in the southern lowland. Sullivan further supposed that age at first breeding was less than at "home", as some with calves appeared little more than calves themselves. They must therefore produce calves in their second year but he thought pregnancy at one year old seemed almost impossible: the real situation was probably that early calves of one season conceived late next season at 16-17 months old (which he thought not uncommon at home). With respect to stature, the hide of a "middling size" animal weighed 120 lbs green and 47 lbs dry, this being that of a very large one in Montevideo where, also, hides were not so thoroughly dried. He concluded that Falklands bulls were larger than Patagonian ones (Sullivan, 1843).

The British now took firmer steps at consolidation and started several new settlements to exploit the cattle that were the islands' economic mainstay. Captain (later Admiral) Grey was surprised at Port Louis, in view of the miserable condition of the people, to find "about two hundred tame cattle feeding on the adjoining hills, many of them cows with calves by their sides [and] since we have been here the ship's company has been supplied with beef from the tame cattle, and the butter and milk we get is excellent". In 1838, foreign ships were told that wild cattle and horses were protected and anyone wanting beef or bullocks should apply to the Naval Officer in Charge (Lieutenant Robert Lowcay, who recorded 260 tame cattle, 54 wild "for present use" and 700-800 dry and salted hides).

In September 1839 Port Louis had 160 tame cattle and 12 horses "fit for lassoing and pigs and other domestic animals". Lieutenant John Tyssen succeeded Lowcay in late 1839 and in February 1840 reported 190 tame cattle and 14 milch cows and, based on estimates by the gaucho 'capitaz', 40,000 wild cattle and 4,000 horses plus about 100 cattle on West Falkland. In 1839 George T. Whittington formed the Falkland Islands Commercial Fishery and Agricultural Association to pressurize the British Government to colonize the islands. He published 'The Falkland Islands', a leaflet containing material acquired from Vernet, and petitioned Government with support from more than one hundred London merchants, ship-owners and traders demanding a public meeting to discuss the islands' future. In April 1840 Whittington wrote to the Colonial Secretary proposing that his Association colonize the islands. When he received no reply he sent his brother J. B. Whittington with settlers and stores to Port Louis where they arrived in January 1841. Whittington demanded possession of land allegedly acquired from Vernet. The British Resident said he had no authority to let Whittington have any land but could not prevent the party going ashore. Established at Port Louis, Whittington built a 9-room house and started a fish-salting business in a building erected by Vernet. Whittington's party included John Markham Dean, a young clerk who rapidly became a merchant of repute (Lowcay, 1839; Tyssen, 1840; David, 1977; Ainslie, 1980). The first British lieutenant-governor, Lieutenant Richard Clement Moody, arrived in October 1841. Tame animals numbered 86 cattle, 43 horses, 31 sheep, 3 goats, 20 pigs and 45 dogs.

There were 30,000 wild cattle, 3,000 horses and 500 pigs.³ Within three months Moody sent a report to the Colonial Secretary, Lord Stanley. He noted cattle were of several breeds but all long horned with fine clean limbs and coats. Bulls were of great size and, the gauchos said, wild and difficult to capture. Cows, however, were easily tamed for milking but tended to stray. Beef was fine grained, firm, very well flavoured and fat if cut from a wild animal. He stressed the need to conserve cattle for the islands' economy but recommended sale to a company that would also make substantial purchases of land. The area should preferably be bounded by the sea except for an isthmus connecting it to the rest of the island. Sale to a company would aid a long term strategy of use rather than slaughter for immediate gain that would result from issuing licences to buyers of land. The company should also be contracted to supply meat to Government and government vessels. Later in 1842 Moody proposed "domesticating the herd of wild cattle, dividing them and locating them upon grazing farms, and exporting salt beef, hides, tallow, horses, etc. to the London or other markets at prices to ensure a sale". He further advocated setting up four farms to rear "choice English breeds" (Anon, n.d.).⁴

Estimates of numbers continued to fluctuate widely. Lowcay thought there were 15,000-20,000 cattle and 5,000-10,000 horses on East Falkland in January 1838. Bodie, who made early surveys from HMS *Arrow*, estimated about 30,000 cattle in 1842. Meanwhile Moody revised his numbers to 40,000 cattle and 2,000 horses. In a further revision in 1848 he "believed there were certainly not less than 70,000 or 80,000" cattle. In spite of such apparent increases, Moody worried about losses from illegal hunting and requested a naval vessel for protection of Crown Property – cattle and fur seals. An indicator of the economic role of cattle in the first half of the nineteenth century is that the oldest seal of the colony of 1846 depicts a ship and a "bullock". This seal was included on the colony's flag from 1865 until the 1940s and was later incorporated into the Governor's flag (Figure 3). Moody continued despondent because he lacked the means to capture cattle, meat stocks were low and demand was growing (David, 1977; FIGA, 1842a; 1843a; 1848a).



Figure 3: Island and Governor's flags with medallions emphasizing the importance of cattle

In 1842 Government earned £640 from land sales, £330 from beef and £270 from sheep, hides and rent of seal rocks. Moody tried to obtain gauchos and horses from the mainland but these gave him "more vexation than all the other circumstances which occur in the colony put together" and the gauchos "had no direct interest in keeping the cattle together, but on the contrary were insidiously led by the ill-disposed to conceive that their interest lay in losing the cattle so as to prevent the formation of a large tame herd and to keep the Government dependent upon them". Moody saw no alternative to cattle management remaining with Government. He was not overjoyed at this because, as all the inhabitants and passing ships needed beef, Government House resembled more a Retail Butcher's Shop than an administrative centre and the head of Government was rather a Chief Herdsman. He appointed a settler – Mr Sculley, a Lincolnshire farmer who had arrived with his sheep flock – to supervise the herd, sell beef and collect money (FIGA, 1842b; 1843b; 1843c; 1843d; 1844).

³ Pigs received little official attention but were a staple of sealers and whalers who hunted them for food and there were probably many more than the 500 estimated here.

⁴ Most of the information here is taken from Kew, Public Records Office file CO 78/5; Correspondence 1843, Papers relative to the Falkland Islands, House of Commons, presented to Parliament by Her Majesty's Command, 27 August 1841; Correspondence, Copies or Extracts of any Correspondence relative to the Falkland Islands, since the last Papers laid before the House on the 27th Day of August 1841 (No 183), 22 June 1843.

3. Early Settlers and Government Policies

Moody made determined attempts to attract settlers. In addition to Sculley, a half-caste female gaucho named Antonina Roxa had established a herd of seven cows, three calves and 40 sheep in 1843. In late 1845 Moody tried encouraging settlers to rear stock by offering tame cattle in 100-head lots at 20 shillings per head, providing that females not be killed for three years: the scheme attracted no buyers. When the tame herd reached 800 head he proposed selling wild cattle to all-comers at £150 per 100-head lot. A disadvantage here was that private beef sales would compete with Government but he believed a long term nucleus of thriving settlers more important than maximizing short term revenue. Contracted settlers would receive 4s 6d for the hides, hooves and horns of cattle sold alive and would sell skim milk for no more than 3d a quart (2 pints) and whole milk for not more than twice that. In 1847 Moody introduced a scheme whereby for a yearly licence fee settlers could graze cattle on plots of 160-320 acres on the coast and 320-640 acres inland. Whittington and a James Phillips were among the earliest settlers granted Crown Land grazing rights. The scheme was extended later by Governor George Rennie, giving settlers the right, provided they purchased not less than 160 acres, to a grazing licence on the surrounding 6,000 acres. Under a Land Proclamation of 1861 – paving the way for the ranching system that became the norm -- settlers could obtain a 1-year grazing licence for a 6,000 acre block. Provided they erected a house and stocked minimum numbers of animals they could rent the block on a renewable 10-year lease and take its wild cattle for a royalty fee. Rennie also formed the General Improvement Society to encourage vegetables, dairy produce, poultry and pig production (FIGA, 1845a; Tatham, 1993).

Bartholomew James Sullivan, former 2nd Lieutenant of the *Beagle*, was one of the first settlers. Like many naval officers of his time he was put on half pay so he took unpaid leave to set up farming in the Falklands. In 1848 he hired a ship and embarked his family, farm implements and some high-class animals for the Falklands, which he considered especially suited to farming and livestock rearing. By late 1851, on expiry of his agreed naval absence, he abandoned his speculation and returned to England. According to Darwin, whom Sullivan visited in England in 1852, “he and three other gentlemen have set up a large cattle farm, and hope it will answer very well” (Darwin, 1852). Further attempts to extend the settler base were made by Moody when 30 Chelsea Pensioner families arrived in the Falklands to help with security but they were also provided with prefabricated houses, a cow and a sow and were expected to cultivate 10 acres.⁵ Robert Christopher Packe from Norfolk leased a farm on East Falkland in 1850 and was later joined by his brother Edward to establish farms on West Falkland (Sullivan, 1896).⁶

4. The Lafone Hegemony, Decline of Cattle and Rise of Sheep

A cornerstone of Moody's plan for development was almost laid in 1843. Frederick de Broses of Montevideo wanted to establish a 'saladero' but considered cattle were too expensive at £2 a head. Other parties soon showed interest. Samuel Fisher Lafone, a Liverpoolian operating a hides and tallow business in Montevideo, had discussed a ranching operation with Vernet in 1834. Negotiations foundered when Vernet thought Lafone was weighting matters in his own interest. Consequent on Moody's proposals for land rent, Lafone sent Marcelino Martinez, an 'estancia' owner from Buenos Aires, to the Falklands to prospect the possibilities for livestock. Martinez estimated cattle numbers on East Falkland at 100,000 and reported favorably to Lafone.

⁵ Information on Chelsea Pensioners is from <http://www.falklands-museum.com/index.php/the-pensioners> (accessed 15 July 2012). Pensioners are former other ranks of the British Army in receipt of a Service or War Disability Pension. The Falklands Pensioners were all service injured with an average age 42 years, the youngest being 26 years: 17 of the 30 were Irish. They were contracted to stay seven years but several returned to England before expiry of this period.

⁶ Robert Packe was Acting Governor for two months in 1880, http://www.museums.norfolk.gov.uk/polar/vere_packe.htm (accessed 15 July 2012). The Packes joined an exodus of original settlers to Argentina after the First World War but, as a company, Packe Brothers owned land on West Falkland until after the 1982 war when firm efforts were made to “Falklandise” and subdivide land for local ownership. Government bought Packe Brothers for £500,000 in 1984 when William Luxton was board chairman and principal shareholder whilst also a Member of the Islands' Legislative Council. <http://hansard.millbanksystems.com/lords/1984/oct/16/falkland-islands-purchase-of-packe> (accessed 15 July 2012).

Following prolonged discussions, Lafone proposed to rent 200 square leagues (1,384 square miles) south of the isthmus at Darwin (later and still known as Lafonia, Figure 4) with rights to exploit the cattle there. Lafone was to pay £60,000 and supply Government, within five years of contract signature, a total of 20,000 white ewes, 200 rams 3,000 tame cows, 30 bulls, 100 tame mares, 5 tame stallions, 40 horses broken to the lasso, 30 sows and 10 boars (FIGA, 1843e; 1845b).



Figure 4: Map of Lafonia showing cattle posts and 'boca' wall

Lafone was awarded the contract – signed by his brother Alexander Ross Lafone – in March 1846. This dismayed Moody as it effectively prevented his allotting wild cattle to new settlers and made Stanley dependent on Lafone for beef (Lafone's agent, Williams, had previously been upset with Moody for licensing settlers to hunt cattle). Doubts arose about Lafonia's true area: where it more than 200 leagues the contractor would purchase the excess at the same rate but were it less he would select the deficiency on West Falkland and adjacent islands. Rennie, on appointment, also disapproved of the Lafone contract. In a letter to Earl Grey dated 28 December 1848 he stressed that he considered the cattle monopoly and absolute control of one-third of East Falkland had "unhinged the system commenced by Capt. Moody, without as yet proving a satisfactory and efficient substitute". In discussions with Lafone's agent, however, Rennie agreed that culling of old bulls and providing better pastures were the priorities (Anon, 1850a).

Moody's estimate of Lafonia's area was quickly discovered to be about twice the true extent. The implications for cattle numbers not only affected Lafonia but East Falkland as a whole because estimates were based on counts of sample square leagues extrapolated to the presumed area of the island. East Falkland is now known to cover 2,250 square miles. A total of 30,000 cattle would imply 13.33 cattle per square mile whereas 100,000 would equate to almost 45 per square mile.⁷ Lafone now started litigation with Moody that was to continue for years. He had come to believe there were far fewer than 100,000 cattle and, this being the case, there would be serious repercussions on profits. Two experienced ranchers sent to the Falklands by Lafone in 1848 concluded that the stock was being rapidly reduced by hunting and the consequent death of suckling calves and, more importantly (and probably realistically), that East Falkland cattle numbers had never exceeded 30,000.

⁷ These, particularly the last, are unlikely numbers as they could not have been sustained given the Falklands' livestock feed resources. This also destroys another contemporary myth that numbers would, as in Uruguay, double every four years.

Moody accepted that there had been a shortfall in Lafonia's area and offered Lafone 73 square leagues on West Falkland or, as a reluctant alternative, 60 square leagues on East Falkland (which was better for Lafone but contained North Camp and most of the Government's buildings and the new settlement at Anson) (FIGA, 1847a, 1847b).

Lafone was an absentee landlord and never visited the islands. He died of yellow fever in Buenos Aires on 30 April 1871 aged 68 (Dodds, 1897). Moody's fears were realized when, rather than introducing British settlers as had been contracted, Lafone sent gauchos to hunt cattle. By 1846 these men had already established Hope Place on the south shores of Brenton Loch and in 1849 a sod wall (the 'boca' wall) was built across the isthmus at Darwin to control cattle movements. Difficulties in interpretation of the contract continued, especially with the quality and quantity of beef supplied to the Government. The agreement was complicated by both Williams (Lafone's manager) and Sculley (Government herd manager) supplying beef to Government. Sculley complained that because Williams was not providing cattle in accordance with Lafone's agreement he in turn was unable to supply beef and that three-quarters of 51 inferior animals supplied by Williams had died. Williams replied that Sculley had 200-300 animals at Sparrow Cove that were adequate to meet all needs but he did send extra animals to Stanley in two batches. Lafone in Montevideo was aware of the problems and wrote (for him) an almost abject apology to Rennie, specifying that Williams had been instructed that the agreement must be respected (FIGA, 1848b).

A new contract was signed on 9 January 1850. The Lafones were to purchase all of East Falkland south of a line between Darwin Harbour and a point on Brenton Sound together with Beauchene Island and some town and suburban allotments. Up to 1 January 1856 the Lafones have "the absolute right to an exclusive dominion over all wild horses, horned cattle, sheep, goats and swine upon the Falkland Islands, or any of them, with full power to kill and dispose thereof, but subject to the following restrictions (namely) not to kill except with the permission of the Governor for the time being any cows, wild or tame, except those unfit for breeding, or which should be required for consumption in the said Colony, nor reduce the number of bulls below the number requisite for insuring the largest possible annual increase". The Lafones also had exclusive rights to supply beef to Government and visiting ships. The price was £30,000 of which £10,000 had been paid in 1846, £10,000 cash was due immediately and the remainder was to be paid at £2,000 per annum without interest from 1 January 1852. Specified numbers of horses and pigs were to be "exhibited" to the Governor between 1850 and 1854 as well as a stipulated number of other stock between 1850 and 1856. In 1855 this was 1,500 cows, 25 bulls, 8,000 ewes and 80 rams and culminated in 1856 with 10,000 ewes and 100 rams. The sheep: cattle ratio marks the change to the former from the latter as the linchpin of the agricultural economy. Cash flow started in 1850 when 429 hides raised 10 shillings and 6 pence each in Montevideo. A contract to supply Sullivan with 700 tamed cattle at 30 shillings each and 16 horses was completed within two months of signature. Whittington bought 300 tamed cattle for local consumption at 40-50 shillings a head (Anon, 1850b; Miller, 1979; 1984).

The Lafone venture was not a success. By 1849 (before the Government contract was signed) the brothers were negotiating with London creditors to launch a joint stock company named "The Royal Falkland Land, Cattle, Seal and Fishery Company" (Figure 5)⁸. Alexander had primary contact with creditors but he was economical with the truth. A letter to William Boutcher, one of the financiers, stated "the riches all being in the cattle, all the produce of which can be exported to advantage [and] there is not a shadow of doubt of our being able to subdue the whole [...] rapidly [and] the first and principal difficulties are overcome, I consider that we have already 3,000 head tamed". Other misleading statements included the "increase of livestock will be great". Regarding £10,000 he proposed to use to buy rights to cattle, he had "every reason for believing that they may be estimated at 80,000 head or upwards [...] of a large size, they produce first-rate hides, good beef and plenty of tallow [and] the contract for supplying the Governor and colony with beef at 2d per pound will prove very beneficial". A postscript added that a 'saladero' and two large steaming vats had been erected (Miller, 1979).

⁸ A copy of the prospectus is in: *Cause: Lafone v Falkland Islands Company (1855 L.50) Printed prospectuses of Royal Falkland Land, Cattle, Seal and Whale Fishery Company* (Kew: National Archives Source J 90/826).

THE ROYAL FALKLAND	
LAND, CATTLE, SEAL AND WHALE FISHERY COMPANY.	
Application will be made for the Incorporation of the Company.	
CAPITAL £100,000., in 1000 SHARES of £100. each.	
outlay, &c., &c.	£30,000
In payment to Government of the remainder of purchase-money	15,000
Surplus for general purposes	5,000
	£50,000
The Property purchased may, at a moderate estimate, be thus stated :	
Land—800,000 acres—at an average of 3s. per Acre (the Government upset price being 8s.)	£120,000
Existing Buildings, Plant, Tamed Cattle, Trained Horses, &c. &c.	10,000
Wild Cattle—80,000—(estimated number 100,000 to 200,000) at 20s.	80,000
Wild Horses, Pigs, and other Animals	2,000
	£212,000

* Applications, post paid, addressed to the Solicitors to the Promoters—Messrs. RHODES, LANE & RHODES, 61, Gracechurch Street, City, will meet with prompt attention.

Figure 5: Falklands Islands Company prospectus and call for subscriptions

The final prospectus produced to entice investment was even more optimistic than Lafone's letter to Boutcher. Assets were valued at £212,000 including £120,000 for 800,000 acres (by then known to be at least one-third too much) at 3 shillings per acre; £80,000 for cattle at 20 shillings each but with a note that the real number was 100,000-200,000 of which about 15,000 were in Lafonia with 3,000 wild horses; and £12,000 for other stock and infrastructure built by the Lafones. Cattle were lauded as "a magnificent breed, various in colour, but alike in form and proportions" and the "beef is fine-grained, firm and exceedingly well flavoured [and] the hides are superior to those shipped from Buenos Aires". On receiving its Royal Charter on 10 January 1852, the lengthy title was redacted to The Falkland Islands Company Limited (hereafter FIC).

Samuel Lafone became a director and his brother-in-law John Pownall Dale was appointed the first manager in the islands. The *Record* was chartered and sailed from Liverpool on 19 June 1852 with Mr Hicks (FIC Storekeeper), shepherds and artisans and their families on board. A report to the Board noted "the total number of persons sent out by the Directors is forty-five; the number of Cheviot sheep forty-six, together with one Galloway bull, and six shepherd dogs". In the severe winter of 1852 Dale wrote to the Directors that the state of the livestock at Hope Place was "by no means encouraging" and that mortality among tame and wild cattle had been high. The Packes lost half their stock, Whittington one quarter and the whole island about one-third. More positively, John Markham Dean (then aboard the SS *Great Britain*) wrote that sheep numbers continued to increase, they were in excellent condition, that the Company's Port Louis area had 250 sheep and some cattle and that there were 30,000 to 40,000 cattle on East Falkland (Miller, 1977; 1980; Philpott, 2009; Anon, n.d.).

FIC's Third Annual Report was scathing about management in Montevideo and the Falklands. Information had been frequently demanded and repeatedly promised but no accounts were rendered, no inventories provided and cattle numbers on FIC lands had been greatly exaggerated (!). Dale was dismissed in 1853 and replaced by Thomas Havers. Lafone himself was replaced as his accounts were in arrears. In thirty months FIC received £264 from Lafone and 4,000 hides were processed, far from the 20,000 of the business plan. Havers strongly promoted sheep as they cost little to keep, carcasses were equal to cattle in value and wool paid the rent. Havers, however, was no better than Dale or Lafone and was replaced in 1858 by James Lane (FIGA, 1855; Miller, 1980).

In 1858, Governor Moore thought that even if FIC was allowed to hunt on West Falkland, cattle would not be exterminated as it was uneconomic to hunt below a threshold of 300-400 head. Moore believed that cattle on West Falkland may number 3,000, being the issue of 11 bulls and 54 cows landed by Lowcay in 1840. By 1858 most wild cattle on East Falkland had been killed and Lane informed the FIC Directors not to expect more than 3,000 hides per year. Lane also wanted to make better use of cattle by salting their meat and finding markets for it (FIGA, 1857; 1858).

In 1857, FIC moved its main base from Hope Place to Darwin. The Lafone contract for the Stanley beef supply, which FIC had taken over, expired in 1860 but the Company was given an absolute grant of Lafonia and sole rights to its cattle. Cattle outside Lafonia reverted to Government which issued a Public Notice that anyone hunting, wounding, capturing or destroying wild cattle outside Lafonia without written permission would be fined. Government land lessees were required to report every six months all cattle taken in and to brand and register them (Anon, n.d.).

In 1854, the Patagonian Missionary Society established a station on Keppel Island. In addition to theological instruction several Indians from Tierra del Fuego were trained in agricultural and livestock skills. By 1877 there were about 500 cattle and 2,800 sheep on Keppel. The island was sold to Dean Brothers in 1911. It was sold again to Lionel Fell of Wiltshire, England in 1989⁹. The island then had about 100 nondescript (effectively feral) cattle on it but later returns show 46 head of undifferentiated cattle (i.e., not classed by sex or age) in 1992 and 87 in 1995. No cattle were sold during the 1990s but all were removed in 1997 with most providing the foundation for the National Beef Herd (see later sections) Young, 1905; Anon, n.d.).

A comprehensive wild cattle count was made in 1859 by General Arthur Bailey, Colony Surveyor, covering the north of East Falkland and thus excluding Lafonia. The total in eight "blocks" was 5,921 head. Bailey estimated that in rough terrain around Choiseul Sound there were possibly up to another 500 cattle. Only eleven horses were seen. Herds generally comprised 15-20 head and calves were very numerous. Pasture was abundant and it was surmised that numbers were rapidly increasing in areas formerly "the chief seats of the operations of Mr Lafone and the Company". The FIC manager saw 300 cattle around Many branch Harbour on West Falkland and others at Port Howard and concluded that numbers were also increasing there. Company Manager Lane made a similar effort to assess stocks in Lafonia in 1861. He saw herds of 20-30 head with 5-6 bulls but only 2-3 calves and attributed such few calves to there being so many bulls. The road to improvement – a rapid recovery in numbers – was to cull older bulls and castrate younger ones. He nonetheless hoped to ship 2,500 bull hides, requiring one ton of salt per 50 hides (Miller, 1982).

Lane's final report noted a 'rodeo' of tame cattle, the get of imported Scotch bulls, in excess of 600 head, an increase over 14 months of 151 in spite of 56 adults and 4 calves having been killed in that period. Frederick Cobb took over as FIC island manager in August 1867 and held the post for 24 years. He preferred sheep, whose numbers he increased, to cattle. In his 1871 report, however, he noted the condition of the tame herds as uniformly satisfactory and an increase from 3,615 to 4,607 head. He added that they must be made profitable as butchery sales paid little more than herdsmen's wages. It would therefore be absurd to increase numbers beyond the capabilities of the existing staff when they already had several hundred fine oxen that they knew not what to do with. He hoped that the salt beef he had despatched would contribute to a solution. Hunting for hides continued, supervised by Christopher Smith as 'capitaz', whilst Smith's Brother David was chief herdsman of the tame cattle (Miller, 1982).

⁹ Dean & Sons (the sons were those of John Markham Dean – George and Charles) was a trading company that in the early 1880s was larger than FIC – Dean was an astute operator outwitting FIC managers in every trade and probably contributing to their rapid turnover: Dean Bros were among the first to farm on West Falkland and occupied all of Pebble Island. The trading business was sold to FIC in 1888 but farming operations were retained. Ironically, William Markham Dean (son of Charles) was Chairman of FIC from 1938 to 1953. In an exchange of e-mails with the author of this paper in 2009 Mr Fell admitted having no knowledge of farming and had installed a manager on Keppel but showed little awareness of events there or of inter-island stock transfers. Keppel is now a Nature Reserve managed by Falklands Conservation but still owned by Fell.

Consequent on construction of the 'saladero', abattoir and salting house at Hope Place, wild cattle on Crown Land were reduced to 300 by 1873. In 1880, Cobb proposed eliminating FIC's 5,000 tame cattle as they required 11 herdsmen but were little more than vermin. The Directors, paradoxically, wanted an increase to 15,000. The digester of a tallow factory built at Goose Green in 1875 exploded in 1885, killing the engineer. This was the end of tame cattle for Cobb – Lafonia's wild cattle had been exterminated in 1883 – and they were replaced by sheep (Strange, 1973; Miler, 1982; 1983).

Live animals as well as their products were exported. In the early 1870s a Frenchman, Ernest Rouquaud, who farmed near to William Halliday (a Scots shepherd but an early emigrant from the Falklands to the mainland) on Rio Santa Cruz in Argentina imported a small herd from the Falklands. The venture failed, however, as the semi wild animals plus a milking cow given to Rouquaud by the Falklands' Governor soon lost themselves on the pampas (Mainwaring, 1983).

West Falkland had been largely ignored since the British return but in 1866 James Lovegrove Waldron established a sheep farm at Port Howard. The only cattle there descended from the landings of 1840 but they had fared badly compared to East Falkland, partly through depredations by whalers and sealers. There were cattle on some outlying islands before the 1830s, notably Pebble Island. Johnny Evans was the first to shoot feral cattle there when the Dean Brothers introduced sheep in 1866. Full settlement of West Falkland began in 1867. By 1869, the island and its outliers had been leased to eight settlers who arrived with shepherds, servants, livestock, implements, houses and stores. By 1871, FIC was supplying them with sheep, obviating the need for imports from the South American mainland. Governor D'Arcy was enthusiastic about sheep but less so about cattle: "It now begins to dawn upon the settlers that the Islands are better adapted for sheep than for cattle ... henceforth I imagine but few cattle will be raised, merely sufficient to feed the people on the farms". In 1877, however, Governor Callaghan was surprised in a country with "such a large number of cattle" that milk and butter should be so scarce. Most butter and cheese was imported and more preserved than fresh milk was used but there seemed to be no "reason why these articles should not have been produced in the Colony". In 1878 exports of cattle products (hides £5,170, tallow £4,874, bones and horns £8) were only a fraction of sheep products (wool £35,732\$, skins £2,040) (Anon, n.d.; Wigglesworth, 1992; Williams, 2012).¹⁰

In the early twentieth century most farms were managed by employees of absentee owners, carried 60-70 cattle of which 12-15 were cows and had several thousand sheep. Rearing calves was an art: if they were caught at two days it was easy but if found at 2-3 weeks they could be very vicious for extended periods. Young cattle were tethered and at six weeks were weaned and grazed in separate paddocks before joining the main herd. Women did the milking, made butter and preserved milk for winter, when cows were turned loose. The work of hired families in keeping herds free from wild cattle was hardly recognized by owners (Smith, 2003).

5. The Beginnings of "Better Breeds"

The early twentieth century was a period that saw attempts at genuine genetic improvement of the local cattle by introduction of recognized British breeds. In 1917, for example, Packe Brothers imported Highfield Favourite, a North Devon bull from a high performing herd in the breed which is probably the only live Devon animal sent to the Falklands (DCBS, 1917). New Zealand delegated Hugh Munro, "one of [their] most experienced officials and a leading authority on breeding" to investigate the Falklands livestock sector and sent Mr R. W. Carter as Chief Inspector of Stock for a 5-year period. These New Zealanders were the first in a series of advisors that, with Australians, have continued to the present. On completion of his 8-month tour, Munro's recommendations were that an Experimental Farm be established and that small units of stud sheep and cattle be kept to improve the Colony's stock (Munro, 1924). In April 1926 the Experimental Farm imported some Aberdeen Angus, two Ayrshire heifers and a Clydesdale stallion from Scotland but these were sold by auction in 1928 when the farm closed (Anon, n.d.). Later imports included a Dairy Shorthorn bull in about 1927 (Davies *et al.*, 1971) and a Red Poll bull in 1962.¹¹

¹⁰ Some information here is from the Blue Book for 1871 and the Blue Book 1878: Colonial Office Blue Books were annual reports of Governors, sent from London as blanks but with standard headings and sections, for completion each year for submission to the Colonial Secretary.

¹¹ Information on the Red Poll bull is from Lyn Buckland whose father accompanied the animal from England.

The economic worth of cattle in the Falklands in the later twentieth century is eloquently demonstrated in "The Sheep and Cattle Industries of the Falklands". This 1971 report commences "The fluctuating fortunes of the sheep farming industry ..." and cattle, except cursorily, appear first on page 17. Cattle occupy seven pages of the 152-page report, three of which relate solely to disease. The report emphasizes the little consideration given to cattle as a commercial enterprise, their being primarily kept to provide household milk and butter and, on a few farms, for improving pastures and "sweeping up" after sheep. Husbandry practices were minimal. Herds comprised an agglomeration of breeds wherein Welsh Black, Hereford, Red Poll, Ayrshire, Friesian, Shorthorn and Highland types played a part (Figure 6).¹² If a breeding objective was acknowledged by farmers it was for a dual purpose type. The study team, prompted by Government's Development Committee, imported twenty doses of British Friesian semen and inseminated ten animals, of which four were thought to be in calf three months later. It was said the experiment proved the feasibility of using AI. The recommendation – because of difficulties in transporting semen by a combination of air and sea, loss of liquid nitrogen and the chancy nature of cows being in heat when the semen arrived -- was that the technique be used sparingly, such as for producing pedigree bull calf (Davies *et al.*, 1971).

In January 1978, partly in response to the 1971 report but also resulting from Farmers' Week discussions in 1976, 370 semen doses from the UK's Milk Marketing Board were imported by sea. Ayrshire, Devon, Lincoln Red, South Devon, Sussex, Welsh Black, Luig and Simmental were represented but only the Ayrshire was a true dairy breed. Farmers synchronized cows themselves to minimize logistical problems (flight schedules, unserviceable aircraft, and absence of farmers or cows) but difficulties arose with lack of equipment and liquid nitrogen. Some 134 cows were inseminated twice, 13 were inseminated twice with suspected dead semen, 4 straws were used to test viability, 3 were lost on farms and 70 were spoiled when the nitrogen evaporated.



Figure 6: A typical family farm cattle herd of mixed breeds

Conception, at 32 per cent, was considered acceptable given the geographic dispersion, poor farmer knowledge and cows in low condition or pregnant when inseminated. Optimism at the low success was because any half-breeds produced were still much cheaper than their having to be imported. A suggestion that future AI programmes should give more attention to breed choice is a lesson yet to be fully learned) (Challacombe, 2001).

¹² Note the mention of several cattle breeds for which no previous information on importers, dates and numbers is extant.

There were 8,092 domestic and semi domestic cattle on the islands in 1981. In spite of intense hunting and genuine culling some 50 wild cattle still remained close to Volunteer Lagoon in 1983, this persistence being helped by winter turn out of tame cattle to fend for them – some stayed out. Many cattle were killed during the 1982 Anglo-Argentine conflict including those at the dairy supplying Stanley with milk. The dairy was subsequently partially restocked from elsewhere on the islands. The Ayrshire continued as the favoured dairy type and one bull imported in 1980 survived the Argentine invasion. After the conflict, the Ayrshire Cattle Society offered 12 heifers and 2 bulls at a very reduced rate and these, plus calves born on board, arrived at Stanley on 28 October 1983. Operation Noah's Ark sent a further Ayrshire bull and 30 pregnant cows in 1986¹³. These had been under quarantine in the UK but this was at the height of the Bovine Spongiform Encephalopathy (BSE) crisis and one case of BSE from this consignment was recorded in 1989. Suspected infection in others resulted in their being “culled” whilst the remainder were quarantined locally. In 2007 only 14 cows produced milk at the dairy but there were plans to increase this to over one hundred (Whitley, 1983; FIDC, 1984; 1985).

Introduction of BSE was a problem not only because of collateral damage in slaughter of contact animals but also because of potential effects on the islands' overall disease status. The islands are relatively free of cattle diseases. There are some deficiency diseases, especially magnesium and calcium, but local cattle seem to have adjusted to low levels of phosphorus and calcium and there are rarely overt deficiency symptoms. Sheep “pine” – cobalt deficiency – is not seen in cattle and there have been no cases of copper or molybdenum deficiency although levels are low in pastures. There is no evidence of *Brucella* infections (causing abortions in cattle and undulant fever in man). Mastitis is a periodic problem but of low incidence. Tuberculosis (TB) was reported in 1911 and 1914 at a level of 2 per cent. The imported Shorthorn bull died of TB in 1927 and his progeny were slaughtered. All TB reactors in the Stanley Dairy in 1936 were slaughtered. These actions probably eradicated bovine TB on the islands: the 1971 team did not see it and no clinical evidence was found in 1976-1983. There is no record of most bacterial diseases although enteritis caused by *Escherichia coli* occurs infrequently in calves (which is not surprising in view of generally poor farm hygiene). The islands are free of foot and mouth and other major viral diseases but there are low infection levels of pseudo cowpox and some cattle are transiently affected by warts. Internal parasites are of minor occurrence. Sucking lice *Linognathus vituli* is common in spring and on animals in poor condition. There were early cases of ringworm but there are no recent records. Hydatid disease appears to be the major cattle health problem although its incidence varies on a single farm as “house” cattle are often infected whereas “field” cattle are not. Dogs are intermediate hosts of hydatid disease which can be transmitted to humans if sufficient preventive care is not taken (Gibbs, 1946, Fletcher, 1953; Rippon, 1954; Fern, 1956; Davies *et al.* 1971; Whitley, 1983).

6. The National Beef Herd and Biotechnology

The Department of Agriculture (DoA) provides support to the approximately 300 people who live in “camp” (the Falkland word for farm areas). In 2008 the country's 88 farms occupied 2.81 million acres of mainly permanent (and natural) pasture. Average farm size was 31,926 acres in a range of 675 to 378,510 hectares. Livestock numbers were 505,534 sheep, 5,525 cattle, 583 goats and 96 pigs. Average sheep numbers per farm were 5,745 in the range nil to 78,607. Cattle numbers varied from nil to 739. DOA had concentrated on fine wool and its complementary mutton production. Cattle were considered a source of household dairy products and for opportunistic harvesting to provide beef to relieve the monotonous mutton diet. There was little management and slaughtered cattle were generally at least four years old. Less than 14 percent of cattle were “dairy” (a proportion of these being only notionally milch cows) and 22 per cent of these were on the Stanley Dairy farm (DOA, 2008a).¹⁴ A National Beef Herd (NBH) was established in 1997, reflecting the Department of Agriculture's renewed interest in beef production. AI was re-introduced in 2001. A series of meetings discussed progress in the NBH and the beef industry generally. Limited achievement due to poor AI results was noted. Import of bulls as an alternative was mooted but was rejected by the Director of Agriculture.

¹³ Information on imports of cattle through the Ayrshire Cattle Society is in a letter from the Secretary, Ayrshire Cattle Society to the author dated 15 August 2009.

¹⁴ The largest farm (and three other very large farms) and greatest numbers of livestock belong to the government-owned Falklands Landholdings Corporation: all other 84 farms are privately (usually family) owned. Data from “Farming Statistics”, compiled from Annual Stock Returns, <http://www.agriculture.gov.fk/2007-2008.pdf>.

The main recommendation was to improve AI performance including employing an experienced technician. A standard – but somewhat complicated – synchronization programme was decided upon but this was upset by the technician's delayed arrival and was partially carried out by local veterinarians. Initial interest from 19 farms resulted in 760 cows being prepared and more than 600 (about 25 per cent of all female bovines in the country and about 25 per cent of all inseminations being in the NBH) were inseminated. Breeds used were Aberdeen Angus, Poll Shorthorn, Poll Hereford, Murray Grey, South Devon, Red Poll and Ayrshire. Notable in this round of genetic modification is the overwhelming appearance of the Angus (six of 13 bulls and 55 per cent of the semen), introduction of Murray Greys and a change to New Zealand/Australian sources from earlier UK connections (DOA, 2006; 2008b).

The current NBH comprises high grade Angus females that are mated to bulls produced locally through embryo transfer, the first embryos being imported from two Australian studs. Australia as a source of breeding stock and technical assistance (recent Senior Agricultural Advisors have been Australians employed on local contracts) is predicated on the similarity of low input extensive production systems and a purported ability of Angus to thrive under harsh conditions. AI is still seen as a main route to improvement. In 1997/1998 some 605 bovine straws were imported with another 600 straws imported in 1998/1999, all from Australia. In 2004/2005 a further 76 straws were imported from Australia and New Zealand. Because of the scattered nature of the farms and poor communication and transport infrastructure the NBH is by far the biggest user of semen. Bulls bred in the NBH have been sold or hired to farmers since 1998. DoA provides limited support for breeds other than Angus through banks of embryos (Shorthorn, South Devon, Charolais x Murray Grey) and semen (Red Poll, South Devon, Belted Galloway, Hereford, Shorthorn, Jersey, Devon). AI on private farms is operated mainly through induced ovulation of cows by owners followed by insemination by a government veterinarian (DOA, 1999; 2006; 2008b). Private farmers at odds with the official policy have imported their own live animals including a shipment of Herefords for Cape Dolphin private farm from Chile in 2005 (Figure 7).



Figure 7: Hereford cattle in transit to Cape Dolphin private farm from Chile in 2008

7. “Natural Production” and the Future of Beef Marketing

Wool from the huge national sheep flock provides the main agricultural income on private farms. The much smaller cattle population continues to produce milk and meat for farm consumption. Port Edgar farm was the first on the archipelago to achieve organic status in 2001. By November 2008, ten farms covering 37 per cent of the farming area were registered with, or were converting to, organic status under Biological Farmers of Australia standards.

“Natural” production is promoted outside the organic movement. Livestock are typically reared extensively, without herding and on natural pastures with no or little fertilizer use. Concentrate feeding is unusual, hormones and antibiotics are not used as growth promoters and drugs are rarely employed to treat disease. Since 1982, a shift from large foreign-owned farms managed by paid employees to smaller family-owned properties has been encouraged. Reliance on wool as the sole commodity has exposed the inefficiencies of the traditional farming system. Economic and social pressure is exerted on farmers to diversify to reduce reliance on Government subsidies but the annual agricultural revenue of less than £1 million is a tiny fraction of the £23 million from offshore fishing licences: agriculture was allocated only £1.1 million or 2.5 per cent of Government expenditure of £43.9 million in 2005/6.¹⁵ A European Union (EU) accredited export abattoir is now operational, opportunities exist to supply the increasing numbers of cruise ships and there are possibilities to service niche markets with sheep and cattle meat. EU Accreditation will encourage more efficient production and higher off take.¹⁶ It needs to be noted, however, that in 2007 only 348 cattle (5.6 per cent “off take” from the national herd) were slaughtered at the abattoir, mostly for the Stanley market. The 10-year plan envisages 470 cattle slaughtered by 2018 (Thompson and Miller, 2000; DOA, 2003; 2008a; 2008b).

The UK’s livestock genetic resources 2002 report to the UN – as an Overseas Territory, Falklands UN-related affairs are handled by the UK – notes that cattle breeds on the Falklands are Ayrshire dairy cows, Red Poll, Aberdeen Angus, Hereford, South Devon, Lincoln and Belted Galloway. It emphasizes the low-input system. The report states exports based on high health status and meat produced without use concentrates, artificial fertilizers and animal medicines and therefore free from additives, antibiotics and other residues commonly found in intensive farming systems will be developed. The market potential in view of food scares experienced in Europe and North America is good (DEFRA, 2002).

An export study of 2005 noted that cattle genetics were very mixed and contained a large dairy influence. Lack of quality orientation accounted largely for imports of Uruguayan beef for the catering trade. Estimates of national carcass availability were about 500, weighing about 250 kg achieved at about 3-4 years of age and of low international grading standards. It was recommended (seemingly superfluously) that the islands concentrate on extensive suckler beef and that breeds such as Luining -- a composite of Shorthorn and Highland breeds developed in Scotland -- or Simmental should be used for crossing on local stock (but it is difficult to see the Luining’s comparative advantage over current breeds or how the large Simmental could be finished on the meagre feed resources). In 2009, DoA staff were working with farmers supplying beef to the abattoir, to help improve breeding stock and to provide a consistent quality product for the domestic market. It was recognized that significant export markets were some years away but a solid genetic base was needed in preparation for that. Concurrently DOA used up embryos and semen remaining from earlier improvement programmes.¹⁷

¹⁵ <http://www.falklands.gov.fk//Economy.html> (accessed 30 November 2012). Oil will possibly provide most future income but exploration and extraction will continue to influence territorial disputes with Argentina:

¹⁶ The abattoir of the Falkland Islands Meat Company (FIMCo, built with EU funding) is the only Falklands plant with export status under Approval Number FK01 as a Slaughterhouse, Cutting Plant and Cold Store for Bovinae, Capra hircus and Aries ovis with validity from 8 June 2008: see https://sanco.ec.europa.eu/traces/output/RM_FK_en.pdf (accessed 30 November 2013). Details on accession requirements to EU market are in Anon, Report on a Routine Mission to the Falkland Islands 3-7 March 1998, 5. http://ec.europa.eu/food/fs/inspections/vi/reports/falkland_islands/vi_rep_fali_1338-1998_en.pdf (accessed 18 July 18, 2012). EU market access is under Council Decision 79/542/EEC for authorization for Member States to import meat from specified countries. To be compliant a national identification and traceability system must be in place but an EU inspection in February 2011 found the Falklands’ system inadequate for EU requirements: action is being taken to ensure compliance, see Executive Council Paper No 193/11 of 25 August 2011, Livestock and Meat Products (Identification and Movement of Cattle) Regulations 2010: National arrangements for cattle identification and traceability.

¹⁷Falklands Agricultural Advisory Committee Report (21/02/09), <http://www.falklandnews.com/public/story.cfm?get=5310&source=3>.

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References

- Ainslie, D. P. L. (1980). Admiral Grey's Diary – Extracts. *Falkland Islands Journal*, 1980, 4-9.
- Anon. (N.d.). A history of sheep farming in the Falkland Islands. Stanley: Department of Agriculture.
- Anon. (1850a). The renovated settlement of the Falkland Islands. *United Service Journal and Naval and Military Magazine*, 1850, 44-60.
- Anon. (1850b). Some account of the Falkland Islands, to which is added a Preliminary Sketch for the Formation of a Company to be called the Royal Falkland Land, Cattle, Seal and Whale Fishery Company. London.
- Cawkell, M. (1983). *The Falkland Story 1592-1982*. Oswestry, Anthony Nelson.
- Challacombe, J. (2001). *Falkland Islands Beef Industry AI Programme 2001*. Stanley: Department of Agriculture.
- Darwin, C. R. (1852). Letter 1477, Darwin to Syms Covington, 14 March 1852. [Online] Available: <http://www.darwinproject.ac.uk/darwinletters/calendar/entry-1477.html> (July 14, 2012).
- Darwin, C. R. (1906). *The Voyage of the "Beagle"*. London: J. M. Dent (Everyman Edition, reprinted 1983).
- David, A. C. F. (1977). Lieutenant Lowcay and H.M. Ketch Sparrow. *Falkland Islands Journal*, 1977, 9-20.
- Davies, T. H., Dickson, I. A., McCrea, C. T., Mead, H and Williams, W. W. (1971). *The sheep and cattle industries of the Falkland Islands*. London: Overseas Development Administration.
- DCBS. (1917). *Davy's Devon Herd Book, Volume 40*. Iddesleigh, UK: Devon Cattle Breeders' Society.
- DEFRA. (2002). *UK Country Report on Farm Animal Genetic Resources: The UK's Official Contribution to the First Report on the State of the World's Animal Genetic Resources*. London: Department for Environment, Food and Rural Affairs.
- Destefani, L. H. (1982). *The Malvinas, the South Georgias and the South Sandwich Islands, the conflict with Britain*. Buenos Aires: Edipress.
- DOA. (1999). *Biennial Report 1997-1999*. Stanley: Department of Agriculture.
- DOA. (2003). *Business Plan, 2003-2012*. Stanley: Department of Agriculture.
- DOA. (2006). *Biennial Report 2004-2006*. Stanley: Department of Agriculture.
- DOA. (2008a). *Agriculture in the Falkland Islands*. Stanley: Department of Agriculture.
- DOA. (2008b). *Biennial Report 2006-2008*. Stanley: Department of Agriculture.
- Dodds, J. (1897). *Records of the Scottish Settlers in the River Plate and their Churches*. Buenos Aires.
- Fern, E. T. (1956). *Falkland Islands Government Department of Agriculture Report for the Years 1955 and 1956*. Stanley: Government Secretariat).
- FIDC. (1984). *Annual Report 1984*. Stanley: Falkland Islands Development Corporation.
- FIDC. (1985). *Annual Report 1985*. Stanley: Falkland Islands Development Corporation.
- FIG. (2012). *The History of the Falkland Islands*. [Online] Available: <http://www.history.horizon.co.fk/> (July 7, 2012).
- FIGA. (1842a). File B1 (36), 12 October 1842. Stanley: Falkland Islands Government Archives.
- FIGA. (1842b). File B1 (48), 21 December 1842. Stanley: Falkland Islands Government Archives.
- FIGA. (1843a). File B1 (5) Correspondence, 1843. Stanley: Falkland Islands Government Archives.
- FIGA. (1843b). File D1 (50), 7 January 1843. Stanley: Falkland Islands Government Archives.
- FIGA. (1843c). File A1 (28) 3 October 1843. Stanley: Falkland Islands Government Archives.
- FIGA. (1843d). File D1 (64) Moody to John Lewis Malle. Stanley: Falkland Islands Government Archives.
- FIGA. (1843e). File H2 (108), Letter Frederick de Brosses to Moody 1 February 1843. Stanley: Falkland Islands Government Archives.
- FIGA. (1844). File D1 (189), 1 April 1844. Stanley: Falkland Islands Government Archives.

- FIGA. (1845a). File B3 (130), Moody to Lord Stanley, 15 November 1845. Stanley: Falkland Islands Government Archives.
- FIGA. (1845b). File B2 (111-113). Stanley: Falkland Islands Government Archives.
- FIGA. (1847a). File B4, Despatch 16, 9 March 1847. Stanley: Falkland Islands Government Archives.
- FIGA. (1847b). File H6, Letter Samuel Lafone (Montevideo) to Moody, 23 December 1847. Stanley: Falkland Islands Government Archives.
- FIGA (1848a). Despatch 22, 19 June 1848. Stanley: Falkland Islands Government Archives.
- FIGA. (1848b). File H7, Letters 1848 -- Sculley to Rennie 15 July, Williams to Sculley 25 July, Williams to Rennie 24 August, Sculley to Rennie 4 September, Williams to Rennie 22 October, Lafone to Rennie 7 December.
- FIGA. (1855). Havers Land Report Falkland Islands Company 1855. Stanley: Falkland Islands Government Archives.
- FIGA. (1857). File B10, 155, Despatch 14 by Moore 1857. Stanley: Falkland Islands Government Archives.
- FIGA. (1858). File H1, unpaginated, Despatch 8 by Lane 11 December 1858. Stanley: Falkland Islands Government Archives.
- Fletcher, R. (1953). Report on meat inspection at Ajax Bay. Stanley: Government Secretariat.
- Freedman, L. (2005). *The Official History of the Falklands Campaign: The Origins of the Falklands Conflict*. London: Routledge.
- Gibbs, J. G. (1946). Report on the work of the Department of Agriculture 1937-1946. Stanley: Governor's Library.
- Gibran, D. K. (1998). *The Falklands War: Britain versus the past in the South Atlantic*. London: McFarland.
- Helsby, T. (1833). Narrative of the Port Louis murders. Stanley: Government Archives.
- Lowcay, R. (1839). Letter to Commodore W Smyth, 18 September 1839: CO 78/3. Kew: Public Record Office
- Mainwaring, M. J. (1983). *From the Falklands to Patagonia*. London: Allison and Busby Limited.
- Martin, R. M. (1843). *History of the Colonies of the British Empire in the West Indies, South America, North America, Asia, Austral-Asia, Africa and Europe comprising the [.....] of Each Colony with the Charters and Engraved Seals. From the Official Records of the Colonial Office*. London: Wm H. Allan and Co. and George Routledge.
- Miller, S. (1979). The beginnings of The Falkland Islands Company, 1850-1851. *Falkland Islands Journal*, 1979, 8-21.
- Miller, S. (1980). The history of the Falkland Islands Company, from W.M. Dean's History. *Falkland Islands Journal*, 1980, 10-19.
- Miller, S. (1982). The history of the Falkland Islands Company: the further continuation of the history with their fourth Colonial Manager. *Falkland Islands Journal*, 1982, 32-44.
- Miller, S. (1983). The history of the Falkland Islands Company: the fifth instalment of the History, from the initial recordings of the late Mr W. M. Dean, of the Company, now, in 1983, in its 132nd year of existence. *Falkland Islands Journal*, 1983, 28-36.
- Miller S. (1984). The History of the Falklands Islands Company. *Falkland Islands Journal*, 1984, 43-50.
- MLC. (2005). *Falkland Islands Beef Study - the prospects of beef exports from the Falkland Islands*. Milton Keynes: Meat and Livestock Commission.
- Morrell, Jr., B. (1832) *A Narrative of Four Voyages, to the South Sea, North and South Pacific Ocean, Chinese Sea, Ethiopic and Southern Atlantic Ocean, Indian and Antarctic Ocean From the Year 1822 to 1831 Comprising Critical Surveys of Coasts and Islands, with Sailing Directions and An Account of Some New and Valuable Discoveries, Including the Massacre Islands, Where Thirteen of the Author's Crew Were Massacred and Eaten by Cannibals to Which is Prefixed a Brief Sketch of the Author's Early Life*. New York: J & J Harper.
- Munro, H. (1924). Report of an investigation into the conditions and practice of sheep farming in the Falkland Islands. Stanley: Government Printer.
- Pernety, (Dom) A-J. (1769). *Journal historique d'un voyage fait aux Iles Malouines en 1763 et 1764 pour les reconnoître et y former un établissement et de deux voyages au Détroit de Magellan avec une Relation sur les Patagons*, Tome I. Berlin: E. de Bourdeaux. [Online] Available: <http://gallica.bnf.fr/ark:/12148/bpt6k82173k.pdf> (July 12, 2012).
- Philpott, R. A. (1996). An archaeological survey of Port Egmont, the first British settlement in the Falkland Islands. *Post-Medieval Archaeology*, 30, 1-62.
- Philpott, R. A. (2007). *The Archaeology of the Falkland Islands 1: The Early Falkland Islands Company Settlements: An Archaeological Survey*. Liverpool: National Museums Liverpool.

- Philpott, R. A. (2009). Keppel: a South American Missionary Society settlement in the Falkland Islands, 1855-1911. Liverpool: National Museums Liverpool.
- Rippon, S. R. (1954). Report on meat inspection at Ajax Bay. Stanley: Government Secretariat.
- Rubin, J. (2008). Antarctica Travel Guide. Melbourne: Lonely Planet.
- Smith, J. S. (2003). 80 years on: recollections of camp life. Falkland Islands Newsletter No.85, November 2003.
- Spruce, J. (1992). Corrals and Gauchos, some of the people and places involved in the cattle industry. Bangor: Peregrine Publishing.
- Strange, I. (1973). Introduction of stock to the Falkland Islands. *Falkland Islands Journal*, 1973, 11-14.
- Sullivan, B. J. (1843) Letter 675 - Sullivan to Darwin, 10 May 1843. [Online] Available: <http://www.darwinproject.ac.uk/darwinletters/calendar/entry-675.html> (July 14, 2012).
- Sullivan, H. N. (1896). Life and Letters of the Late Admiral Sir Bartholomew James Sullivan, K.C.B. 1810-1890. Edited by His Son Henry Norton Sullivan. London: John Murray.
- Tatham, D. (1993). The Governor's Year: Moody at Port Louis. Stanley: Falkland Islands Museum.
- Thompson, R. P. and Miller, S. M. (2000). Sheep and cattle production from natural Falkland Islands pastures. *Asian-Australasian Journal of Animal Science*, 13 Supplement B, 39-42.
- Tyssen. (1840). Letter to Wood, 29 February 1840: CO 78/3. Kew: Public Record Office.
- Wheeler, T. (2004). The Falklands & South Georgia Island. Melbourne: Lonely Planet.
- Whitley, R. S. (1983). Veterinary Research and Disease Control in the Falkland Islands 1976-1983. Stanley: Grassland Trials Unit and Agricultural Research Centre.
- Wigglesworth A. (1992). Falkland People. London: Peter Owen.
- Williams, S. (2012). "The death of Thomas Callahan" In: *Running the Show*. London: Penguin. 191-201.
- Young, R. (1905). "Chapter VI. Opening of Mission Stations on the Islands," In: *From Cape Horn to Panama: A Narrative of Missionary Enterprise among the Neglected Races of South America by the South American Missionary Society*. London: South American Missionary Society.