

An Agricultural Tour of Ireland

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A firsthand look at Ireland's agriculture shows that half of Irish land is used as pasture. These pasture lands are dominated by small family farms where the farmers raise dairy cattle, beef cattle, and sheep.

Ireland's geography is well suited for pasture. The country is located on about the same north latitude (51.5° to 55.5°) as southern Canada and is in a temperate, maritime climatic zone. Rainfall averaging about 40 inches is distributed evenly throughout the year except for a slight winter increase. The amount of rainfall is usually sufficient for plant growth. Average temperatures are about 18 °C (64° F) in July and 6° C (43° F) in January; prolonged cold spells are rare, permitting a long growing season for forage. Much of the land is hilly with steep slopes and numerous rock outcrops; frequently, farm boundary lines in the hills are marked with fences made of rocks.

We observed Ireland's agriculture after attending the 1977 International Meeting in Dublin on Animal Production from Temperate Grassland. This article presents a digest of the information we obtained on Irish pasture and beef, dairy, and sheep industries.

Pastures

Pasture can be separated into two types—hills and lowlands. Hill farm pastures are usually on sloping land and are generally stony. One hill farm we visited in Wicklow County had relatively level pastures although the elevation was 900 feet. The farmer purchased the hill land in mid-1971 and began rehabilitation the next year by the common method of hand cleaning. At the time of purchase, this hill farm was quite run down and heavily infested with noxious plants *Ulex europaeus* (a shrub commonly called "gorse") and *Pteridium aquilinum* (bracken fern, a plant poisonous for cattle). Native herbage included mainly *Festuca rubra*, *Agrostis* spp., and *Anthoxanthum odoratum*. The farmer burned the



Map of Ireland showing locations visited and dairy, beef, and sheep producing areas.

brush, used three renovation treatments (disc harrow), picked up stones by hand for rock fences, and used heavy grazing by sheep to remove bracken fern. The renovated pastures were sown with a mixture of cocksfoot (orchard grass, *Dactylis glomerata*), ryegrass (*Lolium perenne*), and clover (*Trifolium repens*). Pastures were fertilized with 200 lb per acre of 0-10-20 N,P,K, and dressed with nitrogen in February and March.

The farmer also grew cocksfoot for silage. Cocksfoot was generally cut in May and July and grazed after the last cut. Silage fertilization before the first cut consisted of 300 lb per acre 0-7-30 N, P,K, and 300 lb nitrogen. Before the second cut, 300 lb 18-6-12 were added.

Annual rainfall on the hill farm averages 55 inches. The land plus renovation cost 320£ (\$560) per acre in mid-1971; in 1977 the farm was valued at 2,000£ (\$3,500) per acre.

We also visited a farm in the lowland pastures of southeastern Ireland. It has an average rainfall of about 30 inches. Grass-legume pastures of ryegrass and clover were fertilized with lime every 5 years (20 percent each year) and 300 lb per acre of 0-10-20 N,P,K in November. The farmer added 150 lb of 27.5 percent nitrogen (600 lb per acre total) in February and monthly during the growing season. Manure slurry was



Johnstown Castle Research Center conducts fertilizer studies.

applied on silage land during winter.

Research at Johnstown Castle Research Center in Wexford was focused on the fertilizer value of manures in pasture-and-silage management. Additional research looked at pollution risks, such as the problems of high variability in manure compositions. For better pastureland, the Center recommended adding 3,500 gallons per acre of good manure slurry 6 to 8 weeks prior to silage harvest. Cattle slurry is not suitable for grazed pastures because of the risk of spreading disease. Pig slurry at about half the rate for silage can be used, but the pasturelands should not be grazed for at least 4 weeks after the slurry's application.

Plant breeding was studied at the Oakpark Research Center in Carlow. Research was conducted on tall fescue, ryegrass, and clovers, weed control in grasslands, diseases of grasses and clovers, silage harvesting, and forage evaluations through cattle grazing trials. A soil survey unit located at Oakpark was responsible for mapping and classifying soils in the surrounding counties.

Dairying

Dairying is conducted in every part of Ireland, but it is concentrated in the South, with 70 percent coming from Munster Province. Since 1965, milk production has increased by one-third. Dairy cows, which are mainly Frie-



Gorse (*Ulex europaeus*), a noxious shrub shown in the foreground, is cleared for pasture development.

sian, number about 1.4 million and are almost all dual purpose. Only about 20 percent of the dairy farmers have herds of 20 cows or more. Average annual milk production per cow is low—less than 700 gallons—while record Friesian cows average nearly 1,200 gallons per cow. Eighty percent of the milk goes into manufacturing, mainly of butter and cheese but also of milk powder, casein, butter oil, and a variety of other products. The remaining 20 percent is consumed as whole milk.



Friesian cows dominate Irish cattle herds.

We visited a dairy cooperative near Waterford in southeastern Ireland where average annual milk yields were 615 gallons per cow from about 50,000 cows. However, on a nearby farm, yields averaged 926 gallons per cow from 62 cows. Cows on this farm grazed on 75 acres of pasture from March to November. Peak milk production on the farm was reached in April, while most other farms reached peak flows in late May or June.

We also visited a creamery milk production operation near Enniscorthy in southeastern Ireland. The farm had 160 acres in grass of which 95 acres produced hay and silage and the rest was grazed only. The cows gave about 4.4 gallons per day with a yearly average of 900 gallons per cow. Livestock were housed in November and pastured in late February or early March. The cows strip-grazed the pastures initially and were later placed in paddocks. Pastures were grazed for one day and then rested for 21 days. Cows calved from mid-January to mid-March. Heifer replacements were reared from calves fed calf-nuts (18 percent crude protein), milk replacer, and hay. These heifers were first bred in May or June to calve as 2-year-olds.

For intensive research in dairying, the Moorepark Research Center at Fermoy was established. During our visit the Center was maintaining about 1,000 cows, 280 heifers, and 280 other cattle. Milk output averaged 1,100 gallons per cow annually with one stocked per acre. Dairy research is aimed at providing a wide range of high quality dairy products and further developing grasslands to produce milk at low cost.

Beef

Beef cattle is Ireland's biggest single industry, although it has a much lower economic status than dairying. Income from beef is about 40 percent of the income from dairying. To

encourage beef production, the Irish government directed a beef incentives program from 1968 to 1976, which subsidized farmers depending upon the productivity of their lands. The yearly average incentive provided about 12.5£ (\$22); the 1968 value would be about 30£ (\$53) on the 1977 standard. The government continues to improve overall farm efficiency through technological and scientific advances and through attempts to make farmers' incomes comparable with industrial workers' incomes.

Ninety percent of the cowherds in Ireland are Friesian or Friesian crosses. About 10 percent of the herds come from dual purpose Shorthorn or half breeds that are mainly Hereford and Angus. In recent years the Irish have introduced Charolais, Fleckvich, Limosene, and other breeds.

About 85 percent calf crops were estimated as average for Irish cowherds. Sixty percent of the breeding is by artificial insemination. Forty percent of the breeding by artificial insemination provides for Hereford and Angus crosses.



Experimental crossbred cattle graze at the Irish breeding station near Dublin.

Most cow-calf herds grazed in western Ireland from April through October. Cows generally calved in April, and by November, calf-weaning weights were about 400 lb. Calves were usually sold at weaning and were overwintered by their second owner on hay or silage. By March the calves had maintained their weight or gained only slightly. Calves were sold to a third owner in the spring for higher prices than in the fall, so a profit was usually made. The third owner generally pastured the yearling calves on ryegrass from April through October. In the fall the calves weighed 650 to 700 lb and were again overwintered on hay or silage. By spring, at the age of 2 years, the calves weighed 750 to 800 lb. From April through October they were again pastured on ryegrass. Calves were sold and slaughtered when they reached weights of 1,050 to 1,100 lb.

Usually calves were bought and sold four times from birth to slaughter; however, some Irish farmers bought 10-day-old, 100 lb, Friesian bull calves in February and kept them until slaughtered 2 years later. These farmers fed calves indoors with 1 lb per day milk replacer for 30 days and 3.5 lb per day calf-nuts for 70 days. From April to November calves were pastured on ryegrass and some rolled barley. The rest of the year calves were fed silage. Calves weighed 500 lb at 9 months and 650 to 700 lb at 13 months. Average daily gains were 1.25 lb from February through May, 1.75 lb from June through October, and 1.3 lb overwinter. During the second year, daily gains were 2.25 lb March through June, 1 lb July

through October, and 2 lb November through March. Cattle were sold from January through April at 23 to 26 months of age and weighing 1,050 lb. Buying price in 1977 was around 67£ (\$117) per hundred weight (cwt), while the selling price was 33£ (\$58) per cwt or 347£ (\$607) per head.

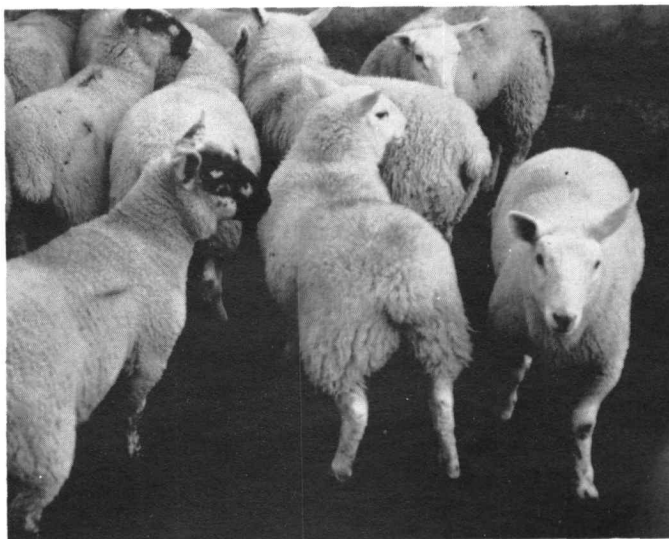
Most exported beef goes to England, although 25 to 30 percent is sold to nine countries on the European continent, mainly to Belgium and France. Many young calves are exported to Italy.

Beef cattle research is conducted at the Grange Research Station at Dunsany, about 20 miles west of Dublin. This research program involves grazing systems, artificial insemination, heat synchronization for breeding, milk replacer use, feed quality including silage and hay, and implants with metabolic steroids, such as "wild grow."

Sheep

Sheep were generally raised on farms, but some sheep in the southwest mountains grazed the open range during summer. Sheep in the hills and mountains were mainly the white-faced Wicklow Cheviot and the Scottish Blackface. Sheep in the lowlands were primarily Galway, Border Leicester, Suffolk, and their crosses. Lowland sheep enterprises were often combined with cattle, crops, or both.

Crossbreeding is practical for increased lamb production. Lambing generally occurred from January through April, but use of breeds and their crosses that mature early or late gave a fairly constant supply of lambs throughout the year.



Wicklow Cheviot ewes or their crosses are important sheep in the Irish hill country.

A hill farmer used a Wicklow Cheviot foundation ewe for double artificial insemination (AI) from Texel rams. Suffolk rams were used for cleanup breeding after the double AI. From about March until November, the farmer grazed ewes on pastures of cocksfoot, ryegrass, and clover. In winter, sheep were fed silage and were kept in barns with slatted floors and a few overhead roofs. Before lambing, ewes were given an additional ration of oats. Lambing occurred between March 1 and April 15. Mature ewes averaged 160 percent lamb crops, but because of grey crows and ravens, the hill farmer lost about 200 lambs yearly from a herd of 1,500. The lambs sold for 20-25£ (\$35-44) in 1977. Their wool is widely used in Irish tweeds, rugs, blankets and carpets. Annual production of Irish wool was over 15 million pounds.

Research at an experiment station near Galway in western

Ireland was aimed at increasing lambing rates per ewe. Another goal of sheep research was to satisfy export markets by producing carcasses with the necessary weight, finish, and leanness.

Ireland's Agricultural Future

Our tour showed the progress made in the beef, dairy, and sheep industries since Ireland joined the "European Economic Community." The European Economic Community (France, Belgium, Luxembourg, Netherlands, Germany, Italy, United Kingdom, Ireland, Denmark) has provided considerable support for farm incomes, protected farmers from price variability in international commodity markets, and encouraged prosperity. It has also provided programs on

modernization, farming retirement, and socio-economic guidance.

Our tour showed the small family farms that have dominated this country's past and the research centers that hold the key to its future. We were impressed with the openness and friendliness of the Irish people. The rural scene in Ireland reminded us of small farming communities in America. Part-time help from neighboring farms and part-time laborers added to the spirit of cooperation. Today, many farmers are members of cooperatives, which provide greater efficiency in agriculture and give better service and commodity stability for members and customers. From these organizations, we saw the value of farmer cooperation in achieving better farming, better business, and better living. ●

Net Economic Costs of the Proposed Transfer of Utah's Federal Lands to State Ownership



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Note from the Authors: Although our data is specific to the state of Utah, we think the information will be of interest to most SRM members.

In September, 1979, Utah Governor Scott Matheson commissioned a Utah State University study to estimate the potential economic impacts of transferring Utah federal lands to state ownership. The Governor's request was in response to a bill that had been introduced in the U.S. Senate by Senator Orrin Hatch (R., Utah), and in anticipation of a bill to be introduced in the Utah Legislature by State Senator Ivan Matheson.

Senator Hatch's bill proposes transfer to state ownership of all federal lands west of the 100th Meridian except national parks, monuments, wildlife refuges, and military and Indian reservations. In Utah, passage of the Hatch Bill would add about 8 million acres of Forest Service (FS) lands and 22 million acres of Bureau of Land Management (BLM) lands to the 3.8 million acres currently owned by the state, an increase of nearly 800 percent. State Senator Matheson's

bill, passed in the 1980 budget session of the Utah legislature, proposes the transfer of only BLM lands.

Transfer of Utah FS or BLM lands to state ownership would bring changes in both state revenues and state costs. Revenues currently collected by FS and BLM (mineral lease fees, grazing fees, timber sales, recreation permits, etc.) would instead be received by the state. However, as landlord receiving *all* revenues from federal lands within its borders, Utah would also forgo its current state "revenue share" of federal lease and use fees. Loss of its "public land state" status would also bring the loss of a portion of Utah's federal highway matching funds and if FS lands were included in the ownership transfer, all forest highway funds from the federal aid to highways program would cease. Additionally, state "takeover" of federal lands would bring an end to federal payments to counties in lieu of property taxes. Finally, if Utah successfully assumed ownership of these lands, the state would have to provide the capital equipment and operating budgets required for management of its new holdings.

Based on data obtained from BLM and FS records, the possible economic impacts of a federal lands transfer to state ownership were analyzed in terms of three alternatives: (1) that after transfer, returns, expenditures, and levels of

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Editor's Note: This is the fifth and last of a series on the Sagebrush Rebellion.