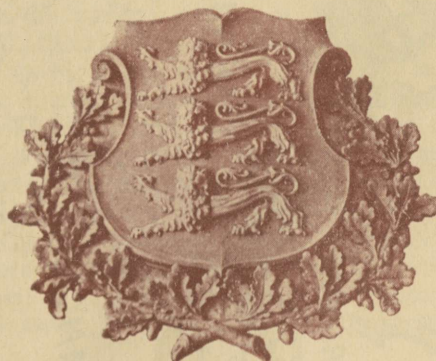
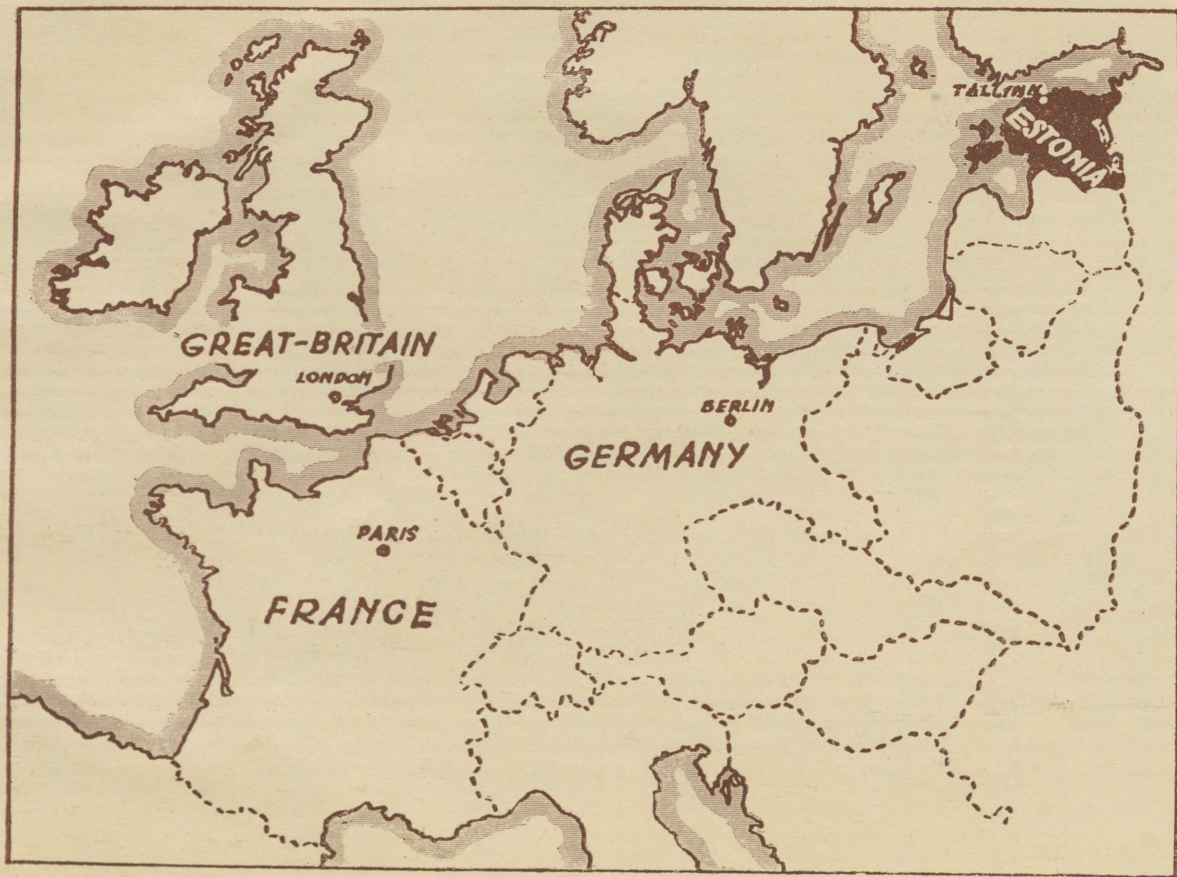


Est. A-16317

ESTONIAN DAIRY INDUSTRY



MINISTRY OF AGRICULTURE
TALLINN 1937



TARTU ÜLIKOOLI
RAAMATUKOGU
v 29134524

General Information about Estonia.

Geography and Population.

The Republic of Estonia (native name: Eesti) is situated on the east coast of the Baltic sea, bordered in the north by the Gulf of Finland, in the east by the U.S.S.R. and Lake Peipus (Peipsi), in the south by the Republic of Latvia, and in the west by the Gulf of Riga and the Baltic sea. With a total area of 47,558.7 square kilometres Estonia is larger than Holland, Denmark, Belgium, or Switzerland.

According to the general census of March 1, 1934, Estonia had a population of 1,126,413, or 24.9 inhabitants per square km. The overwhelming majority of the population (88.2%) is Estonian. Russians (living, primarily, along the Russian frontier) represent 8.2%, Germans (mostly in towns) 1.5%, and other nationalities (Swedes, Letts, and Jews) 2.1% of the total population. Estonian is spoken by 93.4% of all the inhabitants. In respect to religious faith, Lutherans number 874,000, and Greek-Orthodox 213,000. Of the total population, 71.1% live in the country and 28.9% in towns, of which there are nineteen. As the towns are generally of small size (11 towns having less than 10,000 inhabitants) the urban population is keeping in close contact with the rural classes. Farming is the principal occupation.

Climate and Soil.

The Estonian climate is moderately warm, partly maritime and partly continental, with an average temperature of + 5,° C. and an average atmospheric precipitation of 566 mm. The warmest month is July (+ 18,1° C.), and the coldest, February (—6,7° C.). During at least four months of the year the average temperature exceeds + 10° C. The early summer months (especially June) are comparatively dry, most of the moisture falling in late summer and autumn. Owing to the

Pictures on the page 4: 1. View of Tallinn.

2. The Dom hill in Tallinn.

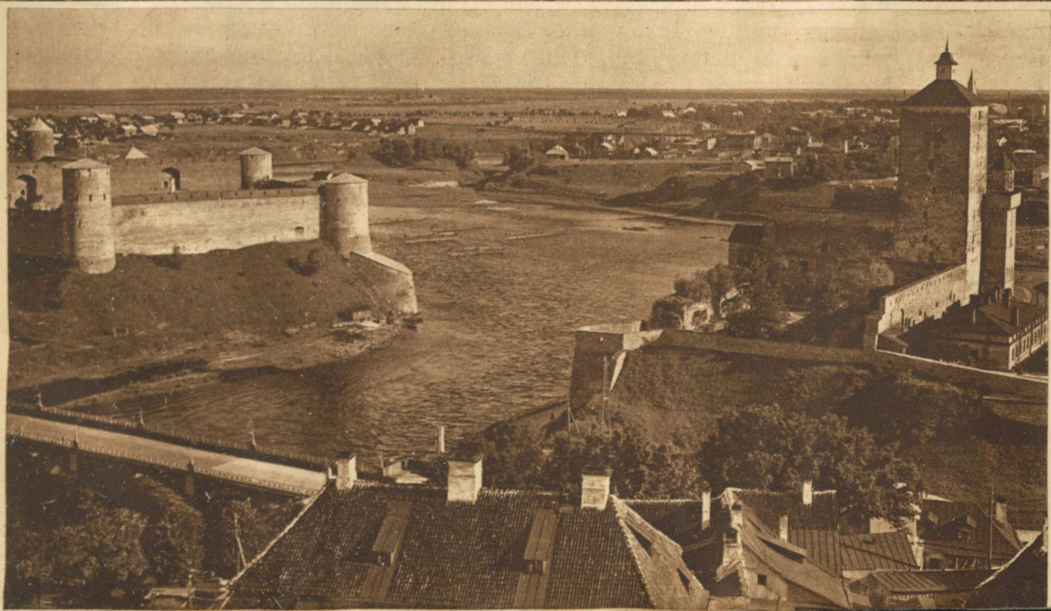
3. The old castle on the Dom.

Pictures on the page 5: 1. The Place of the Towers.

2. The Theatre „Estonia” in Tallinn.

3. The mediæval Swedish Hermann fortress and the Russian Ivangorod fortress on the banks of the river Narva.





temperature and atmospheric conditions, the Estonian climate is more suitable for the cultivation of fodder crops than for corn growing.

The formation of the soil, in spite of the small area of the country, shows considerable differences. Moraine soil predominates, but its distribution is uneven. In northern Estonia it appears only in very thin layer, so that in places the underlying fundamental limestone strata appear on the surface. In middle and south Estonia the moraine layers are thicker, and deeper and heavier soils are met with. However, in North Estonia the soil is generally richer in humus than in the southern part of the country, and also contains more carbonates. The large lime contents in the soil, particularly in north Estonia, favours the cultivation of papilionaceous fodder crops on the extensive natural meadows in that region. Broadly speaking, all Estonian soils are very suitable for the growth of fodders, while grain cultivation, even on better soils, yields really good results only with the aid of intensive manuring and proper methods of tillage.

It follows from the abovesaid that in Estonia meteorological and geomorphic conditions are in favour of cattle-raising rather than of grain cultivation.

Historical Outline.

Archeological investigations have proved that the Estonians have been living on their present territory as a free and independent people for about, 2,000 years. In ancient times the Estonian land was divided into provinces or counties governed by chiefs or elders elected by the people. As early as in the 13th century the Estonians had their own government which was, however, overthrown by foreign invaders. The Knights of the Sword invading the country from the west conquered several provinces for the purpose of Christianisation. At the same time the Danes succeeded in conquering the northern part of the country, until in 1343 after heavy fighting, the whole land was occupied by the German Order of Knights and the Danes. In 1346 Waldemar II King of Denmark sold the portion occupied by him to the Order, whereby the entire country came under the latter's rule. In 1583 north Estonia and in 1625 south Estonia were conquered by the Swedes whose rule lasted until 1710 when Estonia was definitely conquered by the Russian Czar Peter the Great, and annexed to Russia. In 1917 when Russian Czarist State collapsed as a consequence of the Great War and the ensuing revolution, the Estonian nation was ultimately able, after sanguinary battles to free itself from alien domain and to establish an independent national State.

General Agricultural Conditions.

Estonia is preeminently an agricultural country, the chief occupation of the people, as mentioned above, being farming. The total agricultural output (1928—30 average) forms 70%, industrial output 25%, and the transport service only 5% of the aggregate production of these three branches of economic activity. Of the local industrial

branches, the oil-shale industry, which has considerably expanded of late years, deserves particular mention.

Estonia is a typical land of small agricultural holdings. The average size of a farm is 26.2 hectares, and holdings of 50 hectares and over constitute only 5% of the total number of farms. This peculiar structure dates from the radical land reform carried out in the early years of independence. Under this reform the large land holdings were divided and redistributed among the landless farming population, while the forests owned by the former great landed proprietors became, for the most part, the property of the State. The total wooded area in Estonia comes to 20% of the total area of the country. Of the aggregate farming area, fields, gardens, and orchards occupy 33.4%, meadows 29.4%, pastures 22.9%, forests 5.2%, buildings and roads 2.1%, marshes and fens 4.9%, and other lands 2.1%.

Until the present little attention has been paid in Estonia to the improvement of grasslands, owing to which their yield is as yet comparatively low. There are, however, good prospects for raising the productivity of the meadows and pastures, and in this way it would be possible to increase very considerably the fodder crop produce to provide cheap cattle feed for the dairy industry of the country.

The distribution of the arable area in Estonia is shown by the following figures (percentages):

Food grain (rye, wheat, and pulse)	16.9
Feed grain (barley, oats, and mixed grains)	32.6
Field hay	20.3
Potatoes and other root-crops	6.8
Flax and other crops	3.2
Fallows	16.5

As seen by the above table, the greater portion of the arable area is under fodder crops. Moreover, taking into consideration that over 50% of the farming area is occupied by grasslands, it appears that the vegetable production of Estonia is in a great measure predestined for cattle-farming. In fact, cattle-raising, and in particular dairy-farming, represents the principal branch of Estonian agricultural production.

Dairy Farming.

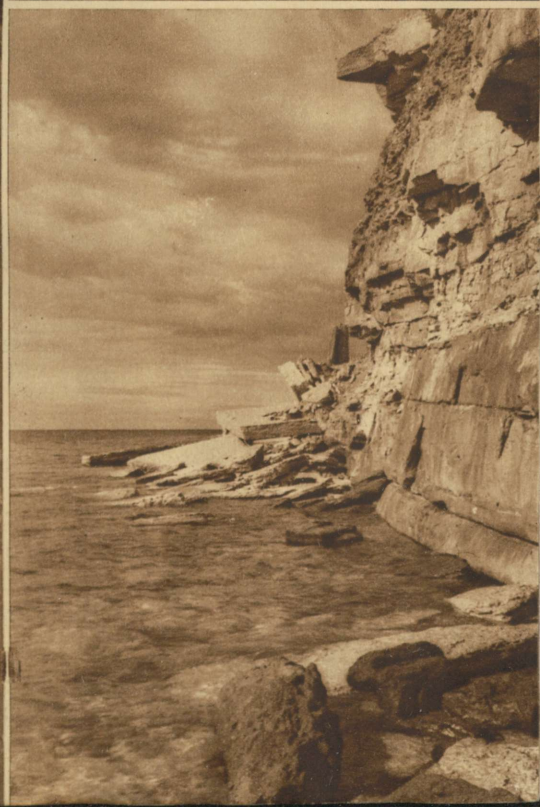
General Conditions.

Although cattle-rasing has been carried on for a very long period in Estonia, it was not before the fifties of the last century that milk production took the leading rank in cattle-farming, which it has retained ever since. Estonia has very good prospects for her further existence

Pictures on the page 8: 1. Narva waterfall and Cotton manufactory at Narva.
2. The tower „Tall Hermann“ in Tallinn.
3. An old portal at Narva.

Pictures on the page 9: 1. Landscape in south Estonia.
2. The Keila-Joa waterfall.
3. Stone cliffs on the north coast.





as a purely dairy-farming country, which is greatly favoured by extensive natural grasslands (the percentage is one of the largest in the world), her climate suiting vegetable growth, and her geographical situation facilitating the marketing of dairy produce. Lastly, the hardy and considerate mind of the Estonian people, which is characteristic of the Finno-Ugric race, and the comparatively high educational level of the country (there are no illiterates among the Estonians) are also favourable to the development of dairy-farming.

At present, over one-half (52.6%) of the total monetary income of farms is derived from dairy-farming, in which, roundly, one-third of the total farm capital is invested. Considering the fact that the productive capacity of the natural grasslands and the arable area is by far not yet fully utilized, Estonia is able to extend further her dairy-farming activities and raise the output of milk very appreciably.

Number of Cows, and Breeds.

In 1936 the number of dairy cattle in Estonia was estimated at 731,120 head, including 398,750 milk cows. This works out at roughly 4.5 head per farm, 95 head per 100 inhabitants, and 67 head per 100 hectares of arable land. Dairy-farming is carried on at a fairly uniform rate all over the country, western Estonia and the islands being less productive regions. Prior to the Great War (1914) there were 482,600 head of horned cattle on the present territory of Estonia, and in 1919 only 405,969. Since then the number of dairy cattle has steadily increased, save for isolated set-backs in certain years due to fodder crops and market conditions. A vigorous growth was seen, especially during the last few years.

The general principles upon which cattle-breeding is now practised in Estonia were established in the last century when the first few pure-bred cows were imported from Western Europe. More systematic and well-planned breed improvement work started after the declaration of independence when pedigree-books, control of production etc. were instituted and reorganised in accordance with the requirements of autonomous Estonia. Breeding activities are confined to three breeds, viz., Estonian Reds, Estonian Dutch-Friesians, and the Native breed. The former, the most numerous stock, was originally a crossbreed of the Danisch Red, the German Angler, and the local breed, and has developed, in respect to heredity and type, into a highly uniform and stable dairy stock. The second species is a native of Holland; a few animals have now and then been imported from East Prussia and elsewhere, and crossbreeding with the local stock was also undertaken in its time to a limited extent. At present, however, the Estonian Dutch-Friesian stock is entirely similar to the aboriginal breed in Holland. The native breed, which is least widely spread in Estonia, is a crossbreed of the local and the West Finnish breeds. The stock of pure-bred dairy cattle in Estonia is rapidly increasing; the proportion

Pictures on the page 11: 1. Small farm.

2-4. Farm on a Sunday.



of thoroughbred and animals of thoroughbred tupe is 12% to 15% of the total number of dairy cattle, and they are also finding a market abroad.

Breed and Milk Recording Societies, and Breeding Stations.

Breed-improvement work in Estonia is centered in the breed societies which are supported by subsidies from the State. There are separate societies for each breed. Their membership is made up of expert breeders and cattle-raisers taking an interest in the work. These societies are assisted by lower organisations, called cattle inspection societies, whose number in June 1937 was approximately 295. Roundly 13% of all the cows are at present kept under control by these societies. Besides, there are a number of local bull-stations and breeding-stables. The average number of matings per bull in 1936 was 68.7.

Veterinary Conditions.

In the early years of the Republic lung, mouth, and foot diseases were registered among dairy cattle. Both epidemics were stamped out by police measures by 1921 and have not reappeared since. Furthermore, in the first few years of independence, a large number of cows were tuberculous, the bulk (almost 100%) of the former estate herds being infected. At present the stocks on small holdings are almost entirely free from tuberculosis, while on the large farms the disease is being energetically dealt with. The success of this campaign, which is steadily widening, depends on local veterinary aid becoming more easily available and stock-farmers becoming more conscious of the danger.

Abortion (abortus Bang), the germs having been carried to this country from abroad, was formerly widely spread among the estate herds as well as among the farm stock. At present this disease is met with on only a few larger farming establishments as a heritage of the former manor estates. In dealing with this epidemic, special measures are applied in Estonia, such as the marking of sick cows and compulsory destruction of infected animals, by which means the plague has been almost entirely suppressed. The remaining diseased animals, estimated at approximately 1000, will shortly be destroyed.

Of other diseases found in cattle only isolated cases of anthrax and mohysema gangrene have been registered.

Yield and Total Production of Milk.

The average milk yield of the controlled herds has very rapidly increased in independent Estonia, viz., from 1,899 kgs in 1922/23 to 2,621 kgs in 1935/36. Before the Great War (1912/13) the average yield of the farm herds, then numbering only 3,610 cows, was 1,922 kgs milk and 72 kgs butter-fat per annum. On the large estates, where mostly pure-bred cattle was maintained, the average annual yield of 20,335 cows amounted to 2,552 kgs milk and 84 kgs butter-fat per cow. These yields have now been considerably surpassed, as the following figures for 1935/36 show:

Breed	Yield of Milk Kgs	Yield of Butter-fat Kgs	Fat %
Estonian Dutch-Friesian Stock	3,596	126,6	3.52
Estonian Red Stock	3,179	120,4	3.79
Estonian Native Stock	2,804	114,4	4.08

The main consideration in developing the milk yield in Estonia is to raise the butter-fat content. To reach this goal, cows yielding the highest percentage of butter-fat are given preference at milking tests conducted under the selection system.

The total milk production in Estonia has increased comparatively rapidly mainly due to the numerical increase of the stock. Between 1922/23 and 1935/36 the total annual output of milk advanced from 395,000 tons to 803,000 tons.

Treatment of Milk, and Hygiene.

The efforts towards raising the quality of milk are assisted by farming and dairying experts, controlling officers, and other agricultural advisers. In addition, since 1936 special advisory functionaries are being appointed, who advise farmers, particularly those outside the cattle inspection societies, on questions relating to the improvement of the quality of milk. The measures adopted for that purpose include: proper feeding and regular cleansing of the animals, hygienic housing methods, and rational treatment of the milk during and after milking.

The improvement of milking and cleansing technics, which are generally on a comparatively high level, is encouraged by awarding prizes and premiums at milking contests arranged for that purpose. Proper treatment of the milk (cooling and preservation) after milking is also quite widely practised. A method which has contributed much to the improvement in quality of the milk is the system of payment to farmers for their milk, being done according to a fixed quality scale.

Production of Milk Products.

A large part of the milk output is turned into exportable butter and cheese. In 1936 the dairies A turned 355,000,000 kgs. of milk into products for export. The chief dairy products are: export butter made from soured cream, various kinds of cheese (chiefly of the „Swiss” type), and raw casein for the manufacture of artificial horn. Of the total dairy production in 1936, export butter accounted for 94%, cheese for 3.2%, casein for 2.7%, and the remainder of minor articles, such as milk powder, condensed milk, and cream, whose share, however, has been upward in recent years.

Pictures on the page 14: 1—4. Cultivation of virgin land.

Middle: Figure of praying woman carved in wood.

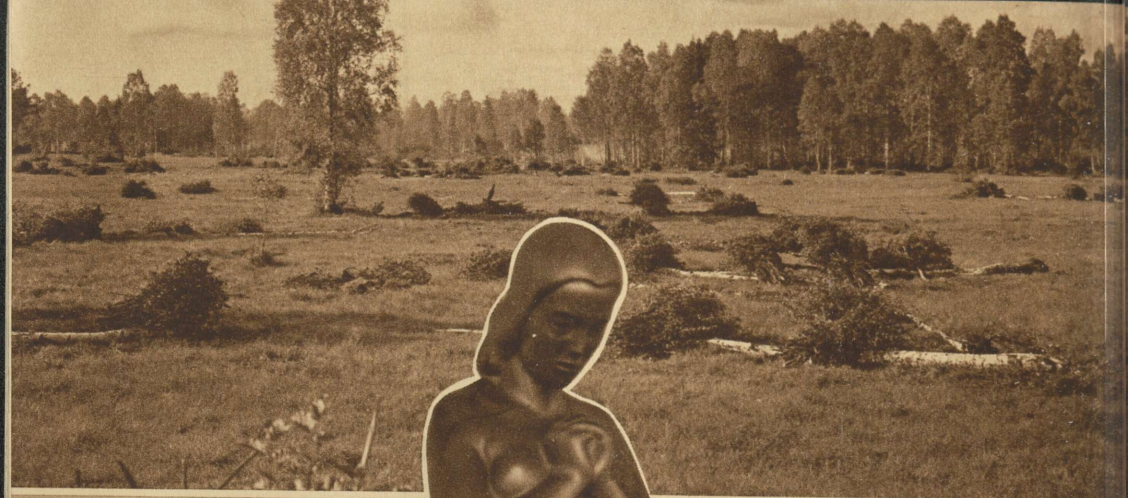
Pictures on the page 15: 1. Small farm in mid Estonia.

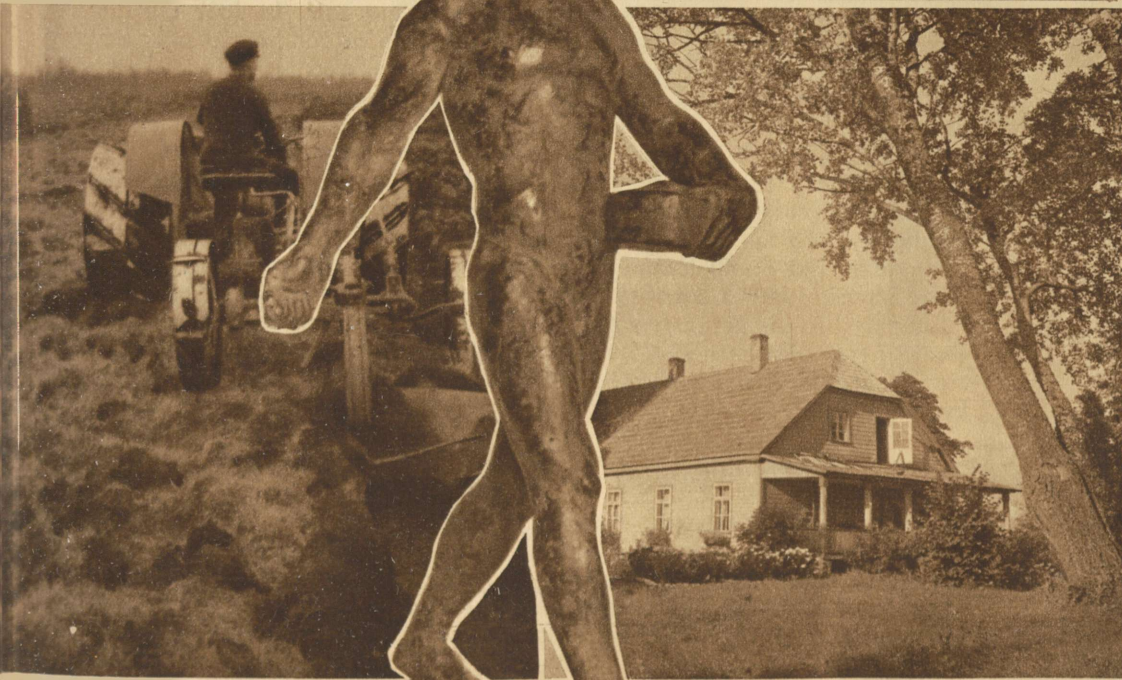
2. Cultivation of marshes.

3. Farmhouse on virgin land.

4. Mowing.

Middle: Figure of sower: in bronze by the artist F. Sannamees.





The Dairy Industry.

There are 300 dairies in Estonia, of which about 265 are in permanent operation and are chiefly engaged in the production of export products. The overwhelming majority of the dairy industries are established on a purely cooperative basis. Thus in 1936 as much as 97.9% of the butter produced for export was turned out by the cooperative organizations and only 2.1% by private enterprises. Furthermore, there are 489 creameries which are attached to 164 dairies and are working as auxiliary industries for the separation of cream. At 136 dairies milk to be worked up is collected in the same establishment where the finished articles are produced.

The industries manufacturing dairy products for export comprise 250 dairies with 475 creameries, and 15 cheese-dairies. The remaining industries are catering only to the domestic market. In 1937 the first modernly equipped factory for the manufacture of condensed milk and milk powder for export was opened at Säreveere, and in the same year the exportation of cream and rich milk was started. Broadly speaking, however, the Estonian dairy industry is to be regarded as an export butter manufacturing industry.

The dairy industry is comparatively evenly distributed over the whole area of the country. The highest developed regions of dairy production are the districts of Järva, Viljandi, Tartu and Valga, located in middle and South Estonia. In the less productive regions of north-west Estonia, where cattle-raising is contending with considerable, difficulties and in the south-eastern province of Põlva with a predominantly Russian population, the development of the dairy industry is considerably restricted and its share in the total production is comparatively insignificant.

Buildings and Equipment of the Industry.

The dairy industry in Estonia was established, for the most part, during two periods, namely from 1910—1914 and 1922—1926. The buildings of the dairies have been so constructed as to comply with all requirements for the manufacture of high-grade butter for export. A large number of the buildings erected before the War have been either reconstructed and adapted to present-day requirements, or entirely replaced by new and up-to-date buildings.

In the dairies and their surroundings exemplary cleanliness and order are strictly observed, under permanent Government inspection performed by the sanitary personnel and the officers of the dairy Export Control Station.

The dairies are equipped with up-to-date machinery and are all using mechanical power. Under the regulations in force all cream has to be turned into export butter as well as all skimmed milk is to be pasteurized.

Most of the separators in use are of well-known makes, including a large number of the latest models, hermetic and half-hermetic. Pasteurization is done by mechanical pasteurizers heated by steam or

hot water. When the plant is reconstructed, plate-pasteurizers of the latest type are installed. The ripening of cream is done in up-to-date cream-tubs fitted with coding devices. Butter is made exclusively in churns combined with built-in pressing-rollers. In recent years in many dairies whose equipment has been modernized, the latest models, with three pairs of rollers, have been introduced.

Treatment of Milk, and Manufacturing Technique.

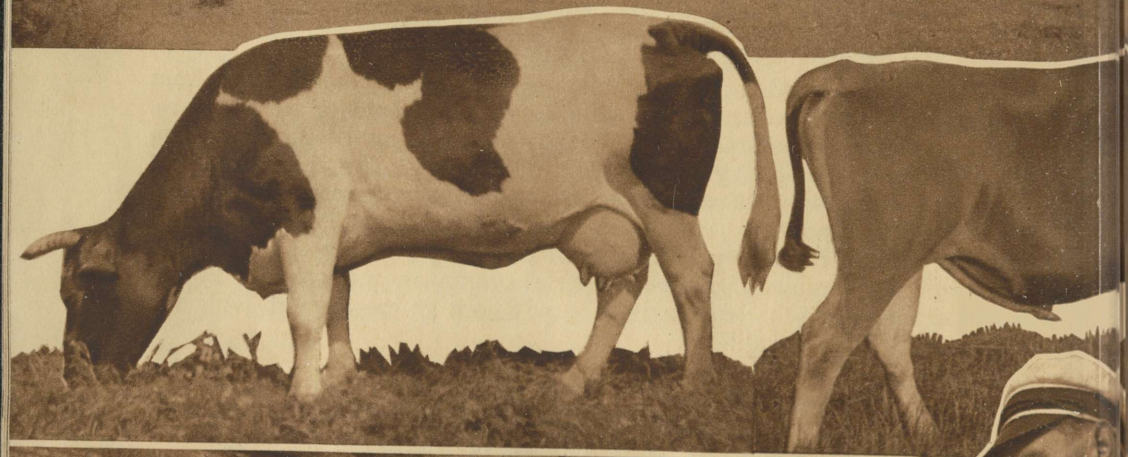
The milk destined to be turned into export butter is collected, tested for quality, and separated at the dairies or at the creameries attached to them. Cream from farms is not collected at all. Every day the milk from each supplying farm is immediately examined by quick tests for taste, smell, and other properties. At least twice a month every dairy, manufacturing export products, is obliged to subject the milk from each producer to the sediment and reductase tests. The differences in price according to the different quality classes have been fixed in the respective legal regulations.

The cream used for the production of butter is cooled down from $+5^{\circ}\text{C.}$ to $+8^{\circ}\text{C.}$, according to the season and outdoor temperature, and is ripened by means of *streptoexus lactis* germs prepared by the laboratories of the Dairy Export Control Station. The ripening takes place according to a slow process and to a low temperature, which, as found by experiment, produces butter of sufficient flavour, and of markedly better durability than that obtained by rapid ripening at high temperatures. Naturally, the treatment of cream, manufacture of butter, and cleansing of the mechanical equipment is performed with the utmost care and cleanliness.

Management of Dairies.

Managers of dairies producing exportable produce in Estonia may only be persons of long professional experience who have been trained at a special school and possess the required degree. A Chamber of Dairy specialists with the rights of a body corporate has been established to represent the interests and watch over the professional ethics of its members, Young persons who have completed their course at a dairy school and thus possess the required theoretical qualification are appointed as assistant managers. After acquiring the necessary practical experience and passing an examination, these persons obtain their degree and the right to manage a dairy.

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- Pictures on the page 18—19: 1. Barns for cattle on a farm.
2. Farmhouse in south Estonia.
3—5. Estonian black and white breed; Estonian country breed; Estonian red breed.
6. Delivery of milk at the dairies.
7. Making a milk test.
8. Dairy in south Estonia.





Dairy Instruction.

Persons wishing to become managers of dairies and creameries are trained at the dairy school attached to the Dairy Institute at Õisu. Only persons are admitted who have completed a full six years' course at an elementary school and who have been employed as apprentices at an export dairy for at least two years. There are two years' courses for managers of dairies and one year courses for managers of creameries. The curriculum includes both practical and theoretical instruction. After finishing the dairy school the aspirants must undergo additional practical training for three years at an acknowledged dairy. In all, seven years' training is thus required to obtain the above-mentioned qualification.

Organisation of Advisory Work.

To assist the technical managers of dairies and generally to promote the development of dairy farming, a dense network of advisory organisations has been created all over the country. These activities are concentrated in the central societies of district dairy associations, which employ specially trained secretary-advisers. In addition to their paramount duty of technical and practical advisory work in dairy matters, the advisers arrange butter-making tests and competitions for organisational work in dairy management in their respective districts. They also control and supervise the work of the dairy advisers who are especially engaged in raising the quality of milk, and that of the qualified mechanics.

The central societies referred to above are represented at the Central Union of Dairy Associations. This body is to be regarded as the actual centre of dairy advice work in Estonia. In common with all other special agricultural societies, the Central Union is subordinate, to the Chamber of Agriculture whose expert adviser on dairy matters simultaneously fills the post of secretary-general to the Central Union of Dairy Associations.

Experimental and Test Work,

The supreme control and coordination of experimental and test work is entrusted to the Ministry of Agriculture. It is carried on at the Dairy Institute at Õisu by the local experimental dairy station with departments for butter and cheese testing, at the dairy-farming section of the Faculty of Agriculture and the technical experimental station of the Tartu University, and in the laboratories of the Dairy Export Control Station. Experiments are chiefly conducted, with a view to the solution of practical questions relating to the production and properties of milk, depending on local conditions and peculiarities, the investigation of technical details, the study of the effect of well-water and other auxiliary materials, the investigation of the condition and influence of the butter making installation, as well as the examination of certain general theoretical questions (N. King's theoretical researches have found international acknowledgement).

Marketing of Produce.

A part (in 1936 11%) of the butter turned out by dairies producing export butter is sold, chiefly on retail, by the production centers to the suppliers of milk. By far the greater portion of the output is sold to the cooperative export association „Võieksport“ for shipment abroad. Butter destined for export is packed, in conformity with the legal provisions in force, in standardized casks and cases of a net weight of 50.8 kgs or 25.4 kgs, provided with the mark of origin, a radiating lighthouse bearing the inscription „Estonian Butter“, the registered number of the manufacturing dairy, and with the export control mark printed on tissue paper and placed inside the package. Butter packed for exportation as described above is kept in the dairies in coldstorage until delivery which is effected usually 2—3 times a week. The transportation of the butter from the dairies to coldstorage or „Võieksport“ in Tallinn is done chiefly by rail, only a small part being conveyed by coastal vessels and lorries. On the railways butter is carried exclusively in refrigerator cars.

Upon arrival at coldstorage the products are examined by officers of the Government Dairy Export Control Station; first-grade butter found fit for export is put in coldstorage pending shipment. The latter takes place without exception by regular liners equipped with refrigerator installations and coldstorage. The boats leave Tallinn once or twice a week for England and Germany.

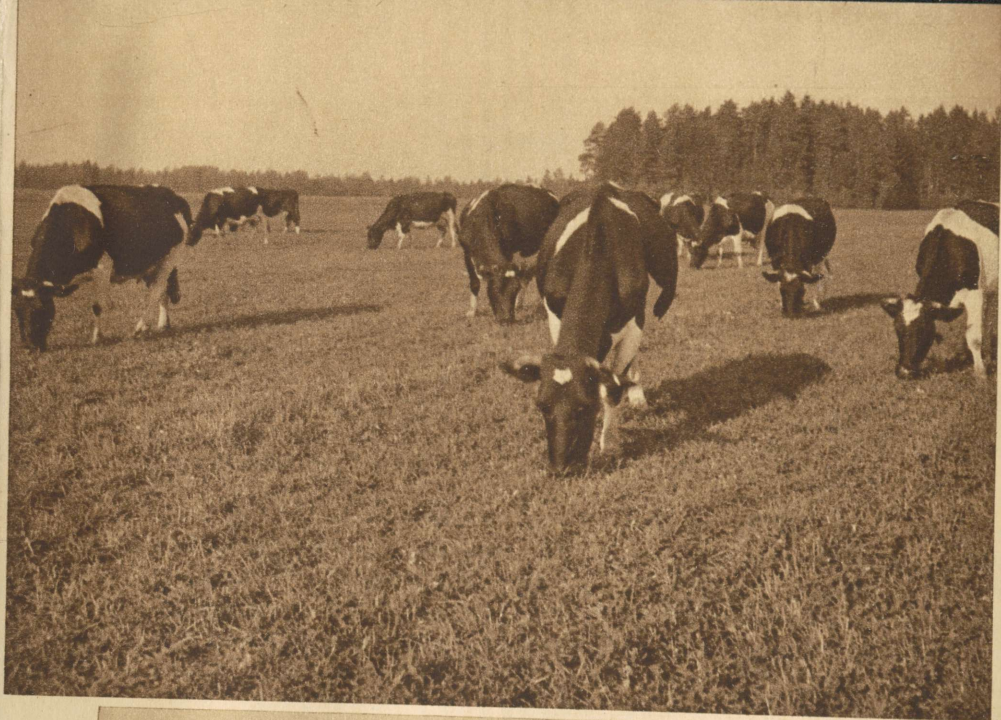
Butter of the third quality, which is not acceptable for export, butter with excessive water content or unsuitably packed, as well as all second grade products and even a part of those of the first grade of a less uniform quality, are sold by „Võieksport“ on the local market. In 1936, 91% of the total quantity purchased for export was shipped abroad. Of the remaining 9% disposed of at home, one-half consisted of first-grade butter fit for export. Of the aggregate output of the dairies during the last two calendar years, 80.3% was sold on the foreign market, and the remaining 19.7%, on the inland market.

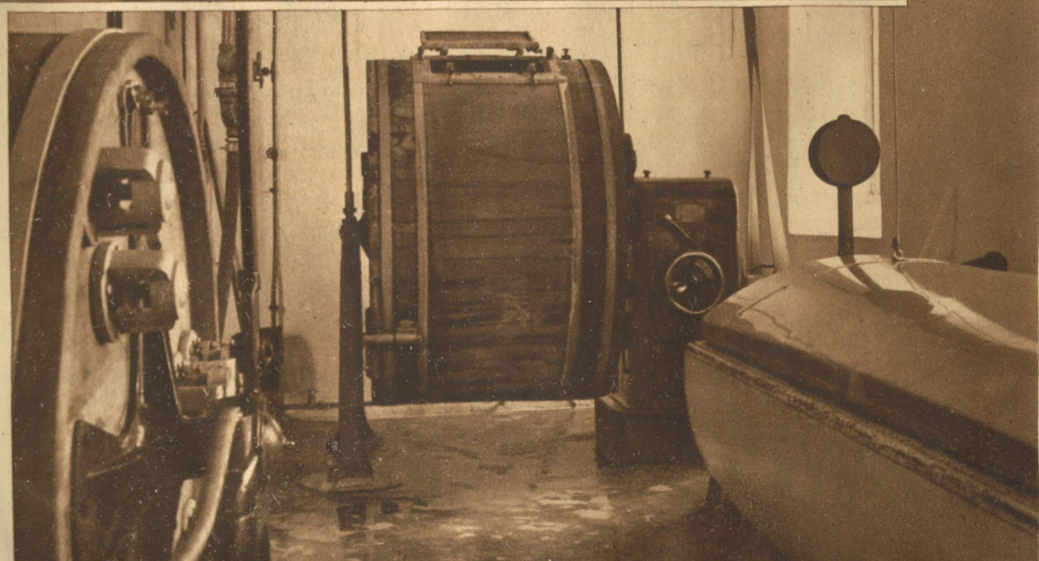
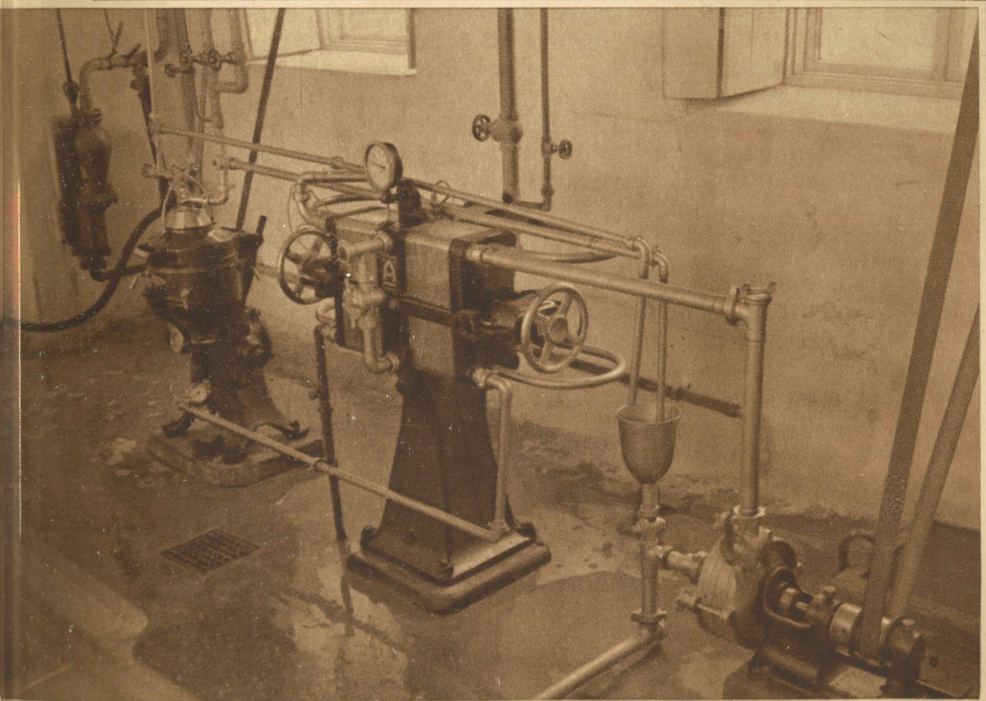
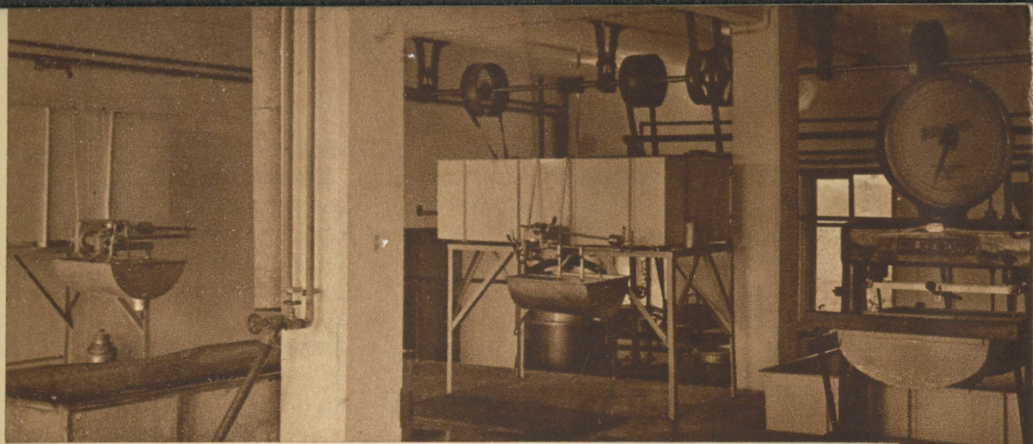
Export Control.

Before shipment, all dairy products destined for export are subjected to legally prescribed preliminary control, which is carried out officially by the Dairy Export Control Station of the Ministry of Agriculture. Actually, however, the control commences on the farms supplying milk to industries manufacturing dairy products for export. These farms are subject to permanent sanitary and veterinary supervision, whereby all establishments afflicted by, or suspected of, disease are barred out.

Pictures on the page 22: 1. Black and white breed in the meadows.
2. Red-breed grazing.
3. Estonian country cattle.

Pictures on the page 23: 1. Interior of condensed milk factory.
2. Condensed milk factory at Säreveere.
3. Interior of a cheese-house.





The dairies producing export products are, moreover, under obligation to supervise the production and treatment, and examine the quality of the milk on the supplying farms. The dairies must comply in construction and equipment as well as cleanliness and manufacturing technique to the respective legal requirements, the due observance of which is supervised by the Dairy Export Control Station. Those dairies fulfilling the requirements are registered at the Dairy Export Control Station. This entitles them to use the export control marks of the Station and to manufacture dairy products for export. The registered dairies and affiliated creameries are inspected by the Control Station 2—3 times a year and if necessary, even more frequently. At these inspections, a careful scrutiny is made of the condition of the buildings and equipment, the quality of the milk collected, manufacturing techniques, the qualifications of the manager and staff of the dairy, general cleanliness and order, fitness of the well-water and other materials used, and the storage rooms. When shortcomings are detected, quick redress is demanded, or the defaulting dairy is struck off the register of dairies producing for export. Moreover, the storage and transportation of the finished products until their ultimate dispatch from the Tallinn harbour are subject to supervision by the Control Station.

In addition to the various stages of preliminary control referred to above, the goods destined for export are subjected to minute examination of quality and laboratory analysis. Quality tests are undertaken, on the average, of every sixth cask of butter destined for export, and in the same manner chemical analysis is carried out to determine the water content. In addition, the goods are examined for proper packing and standard weight and are analysed for standard properties, salt content, the required degree of pasteurization, and bacteria.

Thus, all butter exported from Estonia is subjected to strict control, and the number and frequency of the control tests made is even greater than in many other butter exporting countries.

There are two grades of butter admissible for export, viz., grade I marked „Finest”, and grade II marked „Fine”. First grade butter manufactured for special orders is marked with a special stamp of „Contract Dairy”. Actually, since 1934 only the first grade butter is exported.

Besides the tests carried out as described above, under the export control system, samples of butter from all dairies manufacturing for export are taken at least four times a year to be tested for durability. For this purpose, out of a consignment of export butter one cask is selected, without previous notice, and is kept for two weeks at a temperature of from + 10° C to + 14° C. and thereafter graded. The data obtained by these tests are used for determining the quality class of fresh butter. As a result of this system of control, Estonian butter is now ranking in quality with the best produced in the world, which is proved by the regular purchases of foreign importing firms, and by quality tests and competitions arranged in the importing countries.

The quality of cheese destined for export is effected by boring at least one hole on each side of every round of cheese of the „Swiss“ type. Cheese is divided, according to quality and the shape of the holes, into seven grades, of which the best, or first grade, is marked by a green control stamp, and the second by a red stamp; the third grade, which is classified as unsatisfactory in quality and is admitted for export only for the processing of tinned (molten) cheese, is marked in violet with a corresponding inscription.

Butter Export and Markets Abroad.

Exports of Estonian butter, although small in relation to the world market exchange, are of fairly great importance in the economic life of the country. Thus, the quantum of butter manufactured for export in 1936 represented 11,420 kgs per 1000 hectares of arable land, 136 kgs per farm, and 18.2 kgs per inhabitant actively engaged in agriculture. Taking the absolute figures, exports of butter reached their peak in 1931 with 14.5 million kgs. In the subsequent years of economic depression exports declined. Since 1935, however, marking the end of the crisis, there has been a renewed steady expansion of butter exports, which in 1936 attained a volume of 11 million kgs. The figures for the first six months of 1937 reveal a further advance of 30% upon the corresponding period of the previous year, which permits to anticipate a rise in the total for the year to some 14—15 million kgs again.

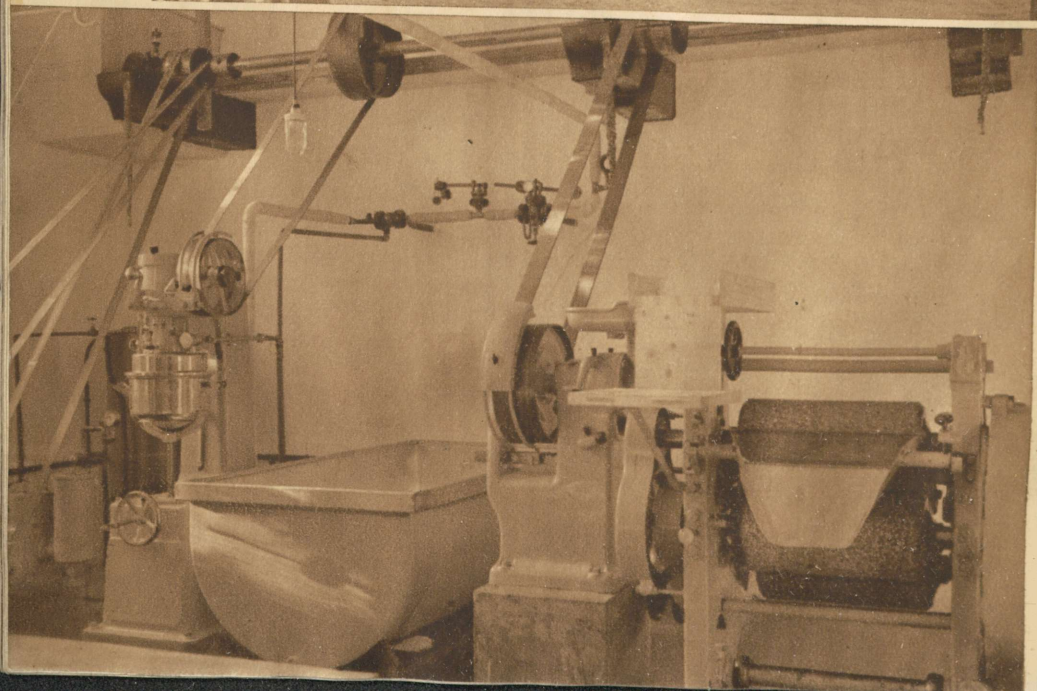
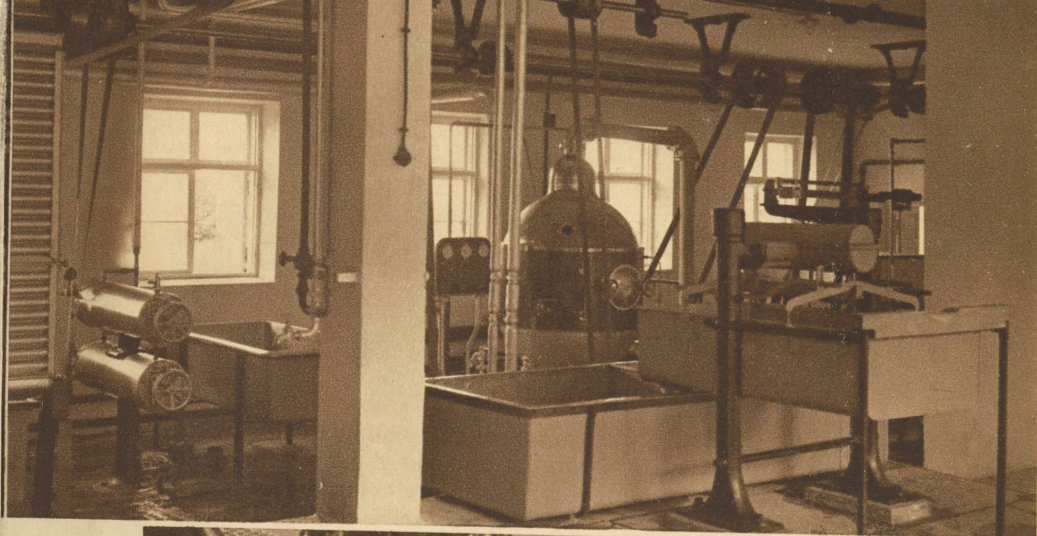
The most important foreign markets for Estonian butter are the United Kingdom and Germany, although smaller consignments have been exported to Switzerland, Czechoslovakia, United States, France, Belgium, North Africa, and the Levant.

Of the total butter exports during the past three years there was sold to:

United Kingdom	57.6%
Manchester	37.7%
London	19.9%
Germany	39.4%
Switzerland	0.8%
United States	0.6%
Other countries	1.6%

Early in 1936 monopoly of exporting butter from Estonia was given to a central cooperative selling organisation, the Central Union of Dairies „Võiekспорт“, which permits a more proper and regular supply to foreign markets as well as systematic work for the improvement of the quality of milk by introduction of graduated prices according to quality and awarding premiums to the most efficient dairies.

The Central Union of Dairies „Võiekспорт“ is a central institution organized on a cooperative basis. Membership to the Union is open to



all dairy establishments in Estonia. Actually, all dairies manufacturing goods for export, which comprise 93% of the total dairy production, are members of the Union. The work of the Union is controlled by the General Assembly of representatives of the member organisations, a Committee elected by the General Assembly, and a Board of Management elected by the Committee. The accounts are audited by a Committee of Auditors appointed by the General Assembly.

Adaptation of Dairy Exports to Foreign Market Requirements.

The Estonian dairy industry, the Government Export Control Station, the Central Union „Võieksporit“, and other organisations concerned with the production and exportation of dairy products maintain the view that a producing country must not urge upon the foreign buyer any fixed standard quality of its products but rather adapt the latter to the taste, requirements, and special wishes of the foreign market. Accordingly, the Estonian butter industry has adapted the quality of its produce, in colour, salt content etc., to the demands of the markets concerned.

The dairies producing export butter have been divided into four groups according to the special requirements of the different markets. Each dairy has been given instructions to this effect, and its production has been adapted accordingly. The dairies are obliged to keep to the instructions received and are not entitled to apply the production methods prescribed to dairies in any other group, otherwise the butter produced by them is not passed by the controlling authorities. By this measure a uniform quality of production has been arrived at within the individual groups, in accordance with special requirements of the different markets which are thus assured of obtaining goods of unchanging quality. This, no doubt, will ensure to Estonia permanent butter markets and regular customers abroad.

Quality of Estonian Butter.

The quality and durability of Estonian butter are good. About 95—97% of the entire quantity prepared for export in recent years has been passed by the controlling institution as first-grade faultless butter. The durability of the butter has also shown a constant improvement from year to year. Thus at the durability tests carried out in 1936, about 95% of the butter originating from individual provinces and about 80% of that produced by all the dairies, showed no change in quality, after having been kept for two weeks at a temperature of + 10° C. to + 14° C.

*Pictures on the page 28: 1. Machinery for the manufacture of artificial horn.
2. Artificial horn factory in Tallinn.*

*Pictures on the page 29: 1. A building of the Ōisu Dairy Institution.
2. Main building of the University at Tartu.
3. Woman carrying fruit; figure in bronze*





The adjoined table illustrates the rapid improvement in the quality of Estonian butter:

Year	Quality of Butter Inspected for Export (Percentages)			Quality of Butter Exported (Percentages)	
	I Grade	II Grade	Not Admitted for Export	I Grade	II Grade
1922	38.2	50.1	11.7	43.2	56.8
1926	55.3	41.3	3.4	57.9	42.1
1932	84.3	14.7	1.0	87.4	12.6
1936	95.7	4.1	0.2	100.0 *)	—

It should also be observed that the requirements in quality of butter produced for export have regularly become more rigorous from year to year.

Other Dairy Products.

Of other dairy products cheese is most important. In Russian times, when there was a wide market for Estonian dairy produce, cheese was the principal item. At the present time this important branch of the dairy industry, after a prolonged period of inactivity, is adapting itself to present conditions, and the output and export of cheese show constant increase, its quality improving. Primarily „Swiss“ cheese in rounds is produced, as well as a minor quantity of semi-soft cheese of the Edam type. The output of other kinds of cheese is insignificant.

Second place among the other dairy products is certainly accorded to rennet casein. The major part of the production of this article is worked into artificial horn, which is manufactured by Messrs. O. Kerson & Co., the largest factory of its kind in Europe, whose products, sold under the trade-mark „Lactonit“, are widely known abroad.

Condensed milk has been exported on a limited scale for some years. In 1937 a new, modernly-equipped factory for the production of condensed milk and milk powder was opened at Säreveere in central Estonia. If production of this factory is raised to full capacity, it is to be expected that exports of condensed milk will also show an increase.

Milk powder as a by-product, is manufactured, by five dairies. However, the major part of the production is consumed by the comparatively well-developed chocolate industry in Estonia, so that only a small quantity is exported.

As a novel branch, in 1937 the exportation of fresh milk and cream was begun. The produce is giving complete satisfaction to the importing firms.

*) In 1936, outside of butter not admitted for export and II grade butter, a quantity of 20,700 tons of I grade (faultless) butter was sold on the home market.

To sum up, the Estonian dairy industry is constantly expanding and diversifying its production. Moreover, the quality of the produce is showing a continuous and very considerable improvement. Thus Estonia has succeeded, during the short period of 15 years of systematic and well-planned development, in establishing her reputation as an acknowledged producer of high-quality dairy goods.

Some addresses.

- 1) P. K. Vöiekspor, Suur Karja 23, Tallinn, Estonia. — Sole exporter of Estonian butter and largest exporting firm for other dairy products.
- 2) Piimasaaduste Väljaveo Kontrolljaam, Uus Sadama 2, Tallinn, Estonia. — Central institution for Government Dairy Export Control.
- 3) Öisu piimanduse instituut, Öisu p-ag., Estonia. — Special dairy school, and experimental station.
- 4) Tartu Ülikooli piimanduse kabinett, Vene 28, Tartu, Estonia. — Center for dairy farming at the faculty of Agriculture of the Tartu University, and preparatory college for dairy experts of higher training.
- 5) Üleriiklik Piimaühingute Keskliit, Suur Karja 23, Tallinn, Estonia. — Central organization for advice in dairy farming.
- 6) Kunstsarve tehased O. Kerson & Co., Tulika 7, Tallinn, Estonia. — Artificial horn factory.

Pictures on the page 32: 1. Chemical laboratory of the control office of dairy products for export.

2—3. Valuation of butter before exportation.

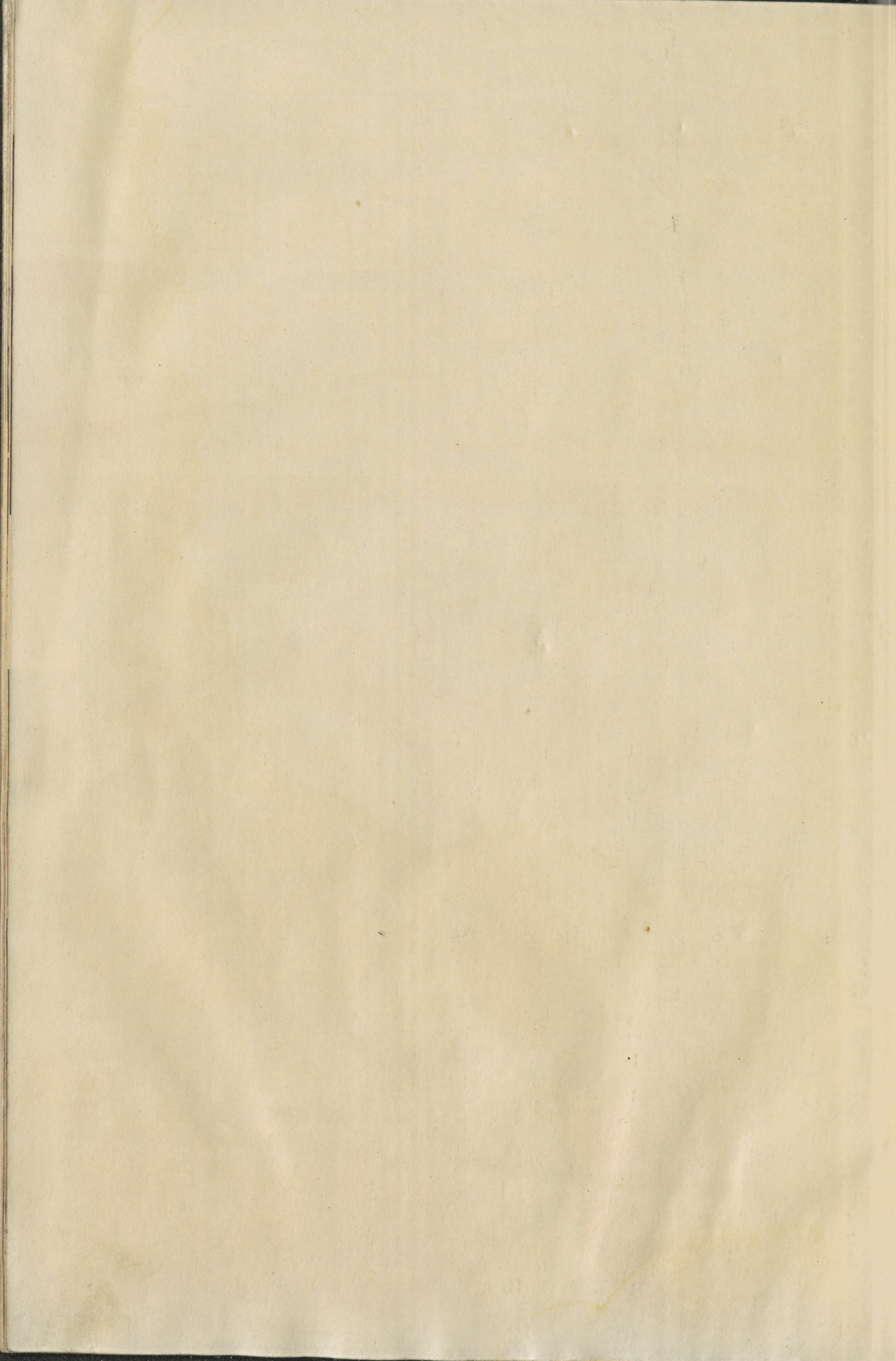
Pictures on the page 33. 1. Store of cheese in the cheese-house.

2. Butter store in the coldstore.

3. Loading butter on a ship.







Trade marks
of Estonian export dairy produce.

ESTONIAN
CONTROL STATION
FOR DAIRY PRODUCE.

Red export control stamp for various produce.



GOVERNMENT
CHEESE CONTROL

*Cheese control stamp.
Black on red background.*

ESTONIAN GOVERNMENT

FINEST

BUTTER CONTROL

Red control stamp indicating 1 grade Butter.

REG.No 177

REG.No 177

ESTONIAN



BUTTER

112 LBS

50.8 KG

Trade mark on Estonian Butter cask.

ESTICA
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