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REPORT

on a

MISSION TO ARGENTINA

from 25 November to 2 December 1970

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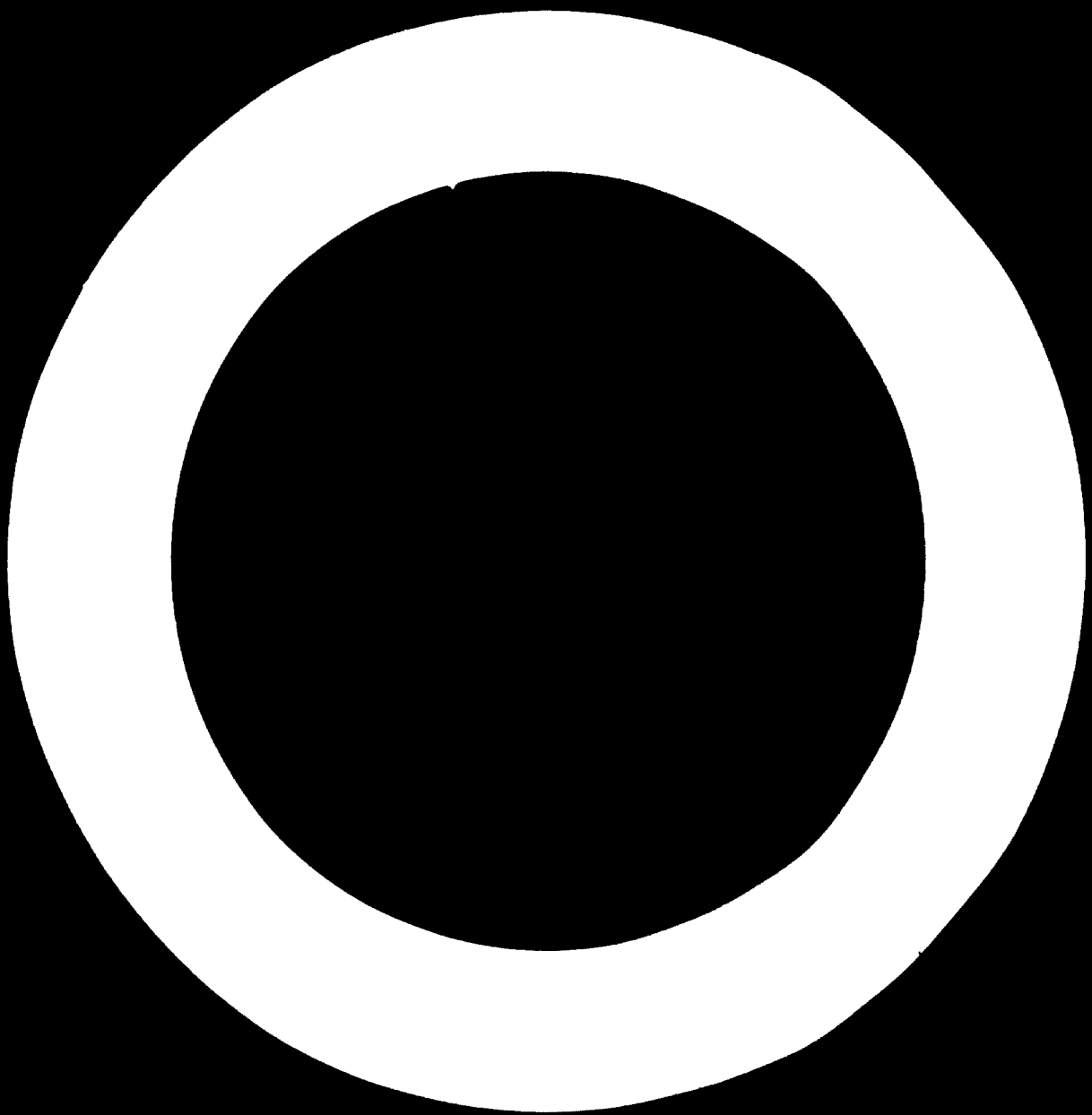
This paper has been prepared by
Mr. M. Mautner, Chief, Light Industries Section,
Industrial Technology Division, UNIDO, Vienna.

C O N T E N T S



I. INTRODUCTION

Upon his arrival in Argentina on 25 November 1970 the author of this report was met by Mr. W. Pflücker, UNIDO's Field Adviser in Argentina, who had been responsible for the preparation of the mission. He was particularly helpful in introducing the author to the various authorities and in familiarising him with all the problems that were to be tackled in the course of the mission.

On 26 November 1970 the author, accompanied by Mr. W. Pflücker, paid a visit to the headquarters of the National Institute of Industrial Technology (hereinafter referred to as INTI) where he made the acquaintance of Rear-Admiral F.A. Milia, Vice-President, Dr. G. Mendiveluza, Director General of Technology, Mr. M.E. Bancora, Executive Director, and Dr. M. Moizo, Consultant to the President. The author first met INTI-President Mr. de Carryl two days later who condoned the view that had been expressed in the previous discussions.

Following an introductory outline of INTI's programme of activities, Rear-Admiral Milia proposed a brief visit to the administration section and laboratory facilities attached to the organization's headquarters. Following the visit and discussions with the various chiefs in the research centre on the subject of their programme of activities, the author was presented with the work programme that had been drawn up for his visit to Argentina. The programme included travel to the western region of Argentina, including Mendoza, in order to acquaint the author with the particular plans, that INTI had prepared in the field of meat, vegetable and food processing. A brief stopover in La Plata had also been arranged to enable the author to follow up the technical assistance requirements of the Leather Research Centre (CITEC) located there.

1/ A brief description of the institute's operations is appended hereunto in Annex I.

On 27 November, the author accompanied by Dr. G. Mendiveluza left by air for Mendoza to visit the Fruit and Vegetable Research Centre (CITEF) attached to the University of Mendoza and several other plants and institutions.

Upon their return, they visited the Leather Research Centre in La Plata and made the acquaintance of the Director, Dr. H. Giovambattista, and his staff[2/]. Discussions were held and an endeavour made to establish the form of assistance to be provided for the very significant leather industry in Argentina.

After returning from La Plata the author had a series of meetings. The first of these was held with Mr. M. Albornoz, Resident Representative of UNDP, with whom the author spoke of his discussions and programme. Mr. M. Albornoz was able to make some very valuable suggestions. Meetings were then arranged with Mr. Bjerregard, the Director of the Meat Technology Research Centre, with Mr. A.F. Bonino, Director of the Fruit and Vegetable Technology Research Centre, and with Dr. M.C. Moizo, who is food processing consultant to the Presidency of INTI and particularly interested in food packaging matters. Discussions were also held with Mr. E. April, Chief of the Material Research Centre and many other leading personalities of INTI, the Ministry of Agriculture and Animal Husbandry and the Technical Assistance Authority attached directly to the office of the President of the Republic. Dr. G. Mendiveluza was present at the majority of these discussions in his capacity as representative of the President of INTI and as the officer-in-charge of INTI's programme of activities.

In the course of his final meeting, the author was able to summarise the discussions he had had throughout his trip. His findings were confirmed by the General-Manager of 'Sentenera', one of the major fruit and vegetable processors in Argentina and a subsidiary of the US concern, Continental Can Company, who expressed particular interest in the suggestions relating to the field of vegetable and food processing.

2/ A complete list of staff members is attached hereto in Annex II.

II. RECOMMENDATIONS

1. The author recommends that a draft request be made for a Special Fund project relating to the establishment of an INTI extension service centre providing servicing facilities to selected branches of the food industry, and for technical assistance to be offered through the services of one or two experts to aid the organization and implementation of the above project (see page 5).

2a. The author recommends that the request for a food developing programme expert ARG-078-A(SIS) be cancelled and replaced by a request for a market analyst (see page 7).

2b. The author recommends that a request for a technical and economic feasibility study (SIS) be initiated for the erection of a permanent, integrated meat-processing combine (see page 7).

3. The author recommends that a request be made for the services of an experienced meat-processing technologist to assist in the establishment of a meat consultancy service and to train local counterparts (see page 8).

4. The author recommends that a request be made for an in-plant training programme for meat-processing technicians to be held in Sweden, Denmark or Holland (see page 9).

5. The author recommends that a request for a technical and economic feasibility study be initiated for the establishment of a plant producing feedstuff concentrates (see page 9).

6. The author recommends that a request for a feasibility study including a market survey as the initial stage be initiated for the establishment of an integrated tomato processing plant (see page 10).

7. The author recommends that a draft request be made for a Special Fund project relating to the establishment of a shoe design and training centre with the appropriate pilot plant equipment providing training facilities for designers of shoes and the operatives of modern shoemaking machinery (see page 11).

8. The author recommends that a request be made for the services of an experienced leather technologist to advise on the establishment of an extension service to be attached to the Leather Research Centre in La Plata (see page 11).

9. The author recommends that a request for a feasibility study be initiated for the establishment of an integrated fish processing enterprise (see page 12).

10. The author recommends that a request be made for the services of a mechanical engineer, specialised in the design and production of Moyno pumps, to design a complete series of Moyno pumps and initiate their production (SIS) (see page 12).

11. The author recommends that a packaging expert (Mr. A. Soltan) be sent out to Argentina on a short term mission to advise on the establishment of a packaging centre (see page 13).

III. POTENTIAL TECHNICAL ASSISTANCE PROJECTS IN ARGENTINA

The following conclusions and suggestions met with the full approval of the author's counterparts in Argentina.

1. INTI pilot plant for food processing

Although Mr. R. di Reyna was indisposed and hence unable to discuss matters on the first and last days of the author's visit, the INTI pilot plant was debated at length. It was concluded that the pilot plant equipment requested by INTI [3] would not solve the problems currently being faced.

3/ A tentative draft and a covering letter are appended hereunto in Annex III.

After the visit to the pilot plant in Mendoza, it had become evident that a pilot plant could not be geared to the investigation of problems connected with the food industry in general.

The food processing industry is a highly complex undertaking, comprising some 50 different branches using over 500 different processes. It does not follow that equipment used in one process can be utilized in another. An added complication is the fact that the results obtained in pilot plants where batch processes are used are scarcely comparable to those obtained in commercial plants with their modern continuous processes.

Thus, it was decided to establish a pilot plant with continuous production on the lines of a commercially oriented extension service. In view of the immense number of food processes, it was decided that the pilot plant facilities to be installed in the INTI research centre in the Buenos Aires headquarters would be limited to three or four food processing lines which could be expected to make the greatest impact on Argentina's economy. The selection would be restricted to the branches where INTI would be expected to provide extension services, and where feasible, the equipment chosen would be multi-purpose. The scope of the pilot plant should be restricted further to the semi-products or finished products that had been scheduled for research in the near future.

The outcome of the discussion was an assurance given by the author to supply INTI with a draft request for assistance embodying the suggestions that had been made. The assistance to be given would not only include the provision of equipment related to two or three of the most important branches of the food industry, but UNIDO would also offer the services of one or two experts to investigate the organization and implementation of a commercially oriented extension service to the food industry within the framework of INTI. The draft for this SF project should propose the establishment of an extension service centre in which the pilot plant would simply rank as an additional servicing facility permitting the satisfactory completion of the tasks involved.

2. Meat processing industry

The meat processing industry, the most important food industry in Argentina, is stagnating alarmingly. The precariousness of the situation is outlined in the newspaper article attached to this report 4/. The supply of low-priced cattle fails to meet the requirements of the expanding domestic market and the export trade. Traditional cattle breeding methods, which have hitherto ensured a supply of beef, low both in price and quality, cannot be expanded further and attempts to restrict domestic consumption have met with very little success.

One solution to the problem would be the introduction of modern industrialized ranching methods and the fattening of young animals with the aid of balanced foodstuffs coupled with an intensification of the production of other low-priced meats (pork, poultry, etc.) to supply the domestic market.

At present, nobody is willing to enter upon such a risky undertaking as the price of the meat produced by such methods would far exceed that of traditional animal husbandry. The sole means of overcoming the crucial shakedown period would be to establish an integrated meat processing complex specialised in the production of first class beef, prime cuts and other meat products exclusively for export.

In 1964 Argentina exported only 538,050 tons (3.33%) of fresh and/or frozen meat as against 16,000,000 tons supplied to the domestic market. In 1963 Argentina was still canning 99,765 tons of meat; the production figures dropped to 65,162 tons the following year, and they can be assumed to be even less today. The newspaper article mentioned above speaks of the ineffectual measures taken to reduce domestic consumption by 30 per cent and reports that supplies to the municipal slaughterhouse in Buenos Aires have been halved, while two other 'frigorificos' have been forced to close owing to the shortage of supplies.

4/ Annex IV

The solution to this problem is perforce revolutionary as it entails the abandonment of the traditional approach: a step that can scarcely be taken by the existing authorities. The production of first class meat could be guaranteed upon the establishment of a permanent agro-industrial circuit that is fully independent of domestic market influences and purely export-oriented.

Thus, an attempt should be made to provide Argentina with technical assistance for two projects: a meat-market analysis and a feasibility study related to an agro-industrial meat processing combine.

a. Marketing study

The present situation on the beef market and future trends should be evaluated and the resources established as a preliminary step towards the assistance to be provided. The market assessment should not be restricted to purely financial issues and their qualification, but it should also investigate the technical aspects of quality and supply the technical data necessary for the reorganization of the meat processing plants to be incorporated in the meat processing combine 1/. A request in this vein should be submitted instead of ARG-078-A(SIS).

b. Feasibility study for the meat processing combine

Based on the above-mentioned market analysis, a comprehensive feasibility study for a permanent, integrated meat-processing combine should be established, comprising the following: holding pens, animal feedstuff plant, fattening and feeding facilities, remodelled slaughterhouse with meat processing plant and a specialised export sector for the plant's products and those of associated factories. A request should be submitted for assistance under SIS.

1/ The original tentative draft is appended hereunto in Annex V

3. Meat consultancy service in conjunction with CITECA (Centro de investigacion y technologia de Carnes)

Relationships between the various meat processing enterprises in Argentina are highly intricate. CITECA in its attempt to introduce modern meat technology as a means of improving meat processing standards should be encouraged to set up an extension service department. There is a pressing need for training as there are no vocational schools offering courses in meat processing. Better carcass dressing techniques should be introduced refrigeration efficiency is in need of improvement while the maintenance and repair of equipment, instrumentation control and efficiency are other fields in need of particular attention. Attention should also be paid to the improvement of air tight packaging techniques.

CITECA is in need of the services of an experienced meat-processing technologist to aid in the establishment of the meat consultancy service and to train local counterparts in the various techniques.

A request should be submitted for assistance under SIS.

4. In-plant training of meat processing technicians

CITECA also requires a continuous in-plant training programme extending over the next three years so as to familiarise a selected core of meat processing technicians familiar wit modern meat processing methods. The benefits would be inestimable: after their training, the members of the course would be able to offer the primo cuts and other sophisticated meat products rather than the traditional chilled or frozen carcasses, thus increasing the domestic industry's export potential.

A training course of this nature would also enable CITECA to break down the conservative attitude maintained by the meat industry in Argentina and pave the way for the modernisation and reorganisation of the industry at large.

A request should be made for an in-plant training programme to be held in Sweden, Denmark or Holland as the initial stage of the above programme.

5. Plant for the production of animal feedstuff concentrates

Argentina is in particular need of animal feedstuff concentrates for use in factories manufacturing feed on large scale or by farmers who would add the requisite quantities of carbohydrate, cellulose and protein. The concentrates would comprise mineral trace elements, antibiotics, different materials (urea) to compensate for protein shortage and various amino acids (methionine, lysine). Independence in this particular field would enable Argentina to increase and improve the output of meat. The growth rate of the cattle on the 'estancerias' would change rapidly and a supply of complementary nutritionally balanced feed in the dry season would be most beneficial.

A feasibility study (SIS) for a plant producing various feedstuff concentrates should be elaborated and submitted to the relevant institutions for execution.

6. Integrated tomato processing combine

Following discussions with INTI and in particular with the Centre for Vegetable and Fruit Processing in Mendoza and Mr. Takenaki, it was established that the southern part of the province of Mendoza was eminently suitable for the cultivation of tomatoes [6], thus opening up possibilities for the establishment of an export-oriented tomato processing industry.

6 Details relating to this are appended hereunto in Annexes VI and VII. The report summarised in Annex VII is available on request.

It was felt that an appropriate study should be made including such factors as the location of the plant, the supply of raw materials, processing and marketing.

An exhaustive marketing study should be made first to establish the types of products that could be profitably sold in the European and other international markets. Prices and seasonal fluctuations should also be ascertained, whereupon the investigation should confirm whether processing facilities can be provided capable of producing products corresponding to the qualities and prices previously established as being competitive.

Based on the above findings an optimum investment programme should be drawn up. The author told Mr. Mendivelusa that he would send him the appropriate terms of reference for such a study at the earliest possible convenience.

A request should be submitted for a feasibility study as described above under SIS.

7. Shoe training and design centre

Following a meeting with the Association of Shoe Producers, it was concluded that the establishment of a training centre offering courses in shoe design and the operation of shoemaking machinery would offer the best means of improving production standards, thereby aiding the export of Argentinian shoes.

It was decided to obtain the services of Mr. Birkhaug, the UNIDO expert attached to the National Productivity Centre in Montevideo to advise on the organisation of the centre and the definition of its objectives and aid in its implementation. Dr. Bokady, General Manager of the Productivity Centre, has granted Mr. Birkhaug leave to go to Buenos Aires to help draft the project and the trip will be financed by the Association of Shoe Producers. The author also agreed with Mr. Albornos, the Resident Representative, that the present regular technical assistance should be continued and that the services of Mr. Silvart, the UNIDO export promotion expert, should be extended for 6 to 12 months.

The above project will be entrusted to Mr. E. Nestvold of the Light Industries Section and in the light of the above a draft request should be made for a Special Fund project.

8. Extension Service for the Leather Research Institute in La Plata

Despite their laboratories and experience the author feels that the Centre for Leather Research Institute is not adequately oriented towards practical goals. In view of Argentina's current difficulties experienced in the change from exporting raw hides and skins and/or salted skins and hides to semi-processed leather, the author thinks that the Centre should seize this unique chance of co-operating more closely with industrial circles by setting up a special extension service. A request should be made for the services of an experienced leather technologist to be provided by UNIDO (SIS).

9. Fish processing industry

Despite her long coast line and the abundance of fish in her rivers, Argentina does not have a significant fish processing industry. Even though large international fleets operate just beyond Argentinian territorial waters, the author was unable to detect any particular interest in this field.

The continental shelf, no deeper than 1,000 metres and in most places 400-600 kilometres wide, runs parallel to the Argentinian coast. The cold Falkland current can be compared in its effect to the Peruvian current and unofficial reports speak of abundant quantities of fish suitable for fish meal.

There is every need for a long-range fish programme to assess local fish resources and the author appreciates the work done to date and the projects planned for the future.

However, the author feels that immediate action should be taken on the basis of the findings that are common knowledge in international fishing circles. The Argentinian authorities themselves seem to be well aware of the tremendous catches (100,000 tons annually) being made by foreign fleets some 200-300 kilometres from their coastline.

The author would propose that INTI co-operate with UNIDO on the completion of a feasibility study for an integrated fish processing enterprise. The consultant company entrusted with the task would investigate the feasibility of a deep sea fleet as well as the landing facilities, canning plant, fish reduction plant, cold storage, repair and maintenance shop for ships and diesel engines, spare part storage, etc.

A feasibility study of this nature would arouse the interest of the Argentinian government in a field that they have neglected to date. The Light Industries Section will prepare a draft relating to the feasibility study and the terms of reference which will then be transmitted to Dr. Mendiveluza.

10. Moyno pumps

Argentina's industry regularly imports thousands of Moyno pumps regularly which are used to pump viscous liquids and/or fine powders such as minced meats, vegetable oil, mineral oils, clay paste, chocolate, syrup, fruit pulps, animal fats, cement, sugar, etc.

INTI expressed interest in obtaining the services of a mechanical engineer, specialised in the design and manufacture of complete Moyno pumps in stainless steel and other materials, who would be able to design a complete series of Moyno pumps, to prepare the tools and equipment for a production plant and to initiate production. The suggested duration of the mission was 12 months.

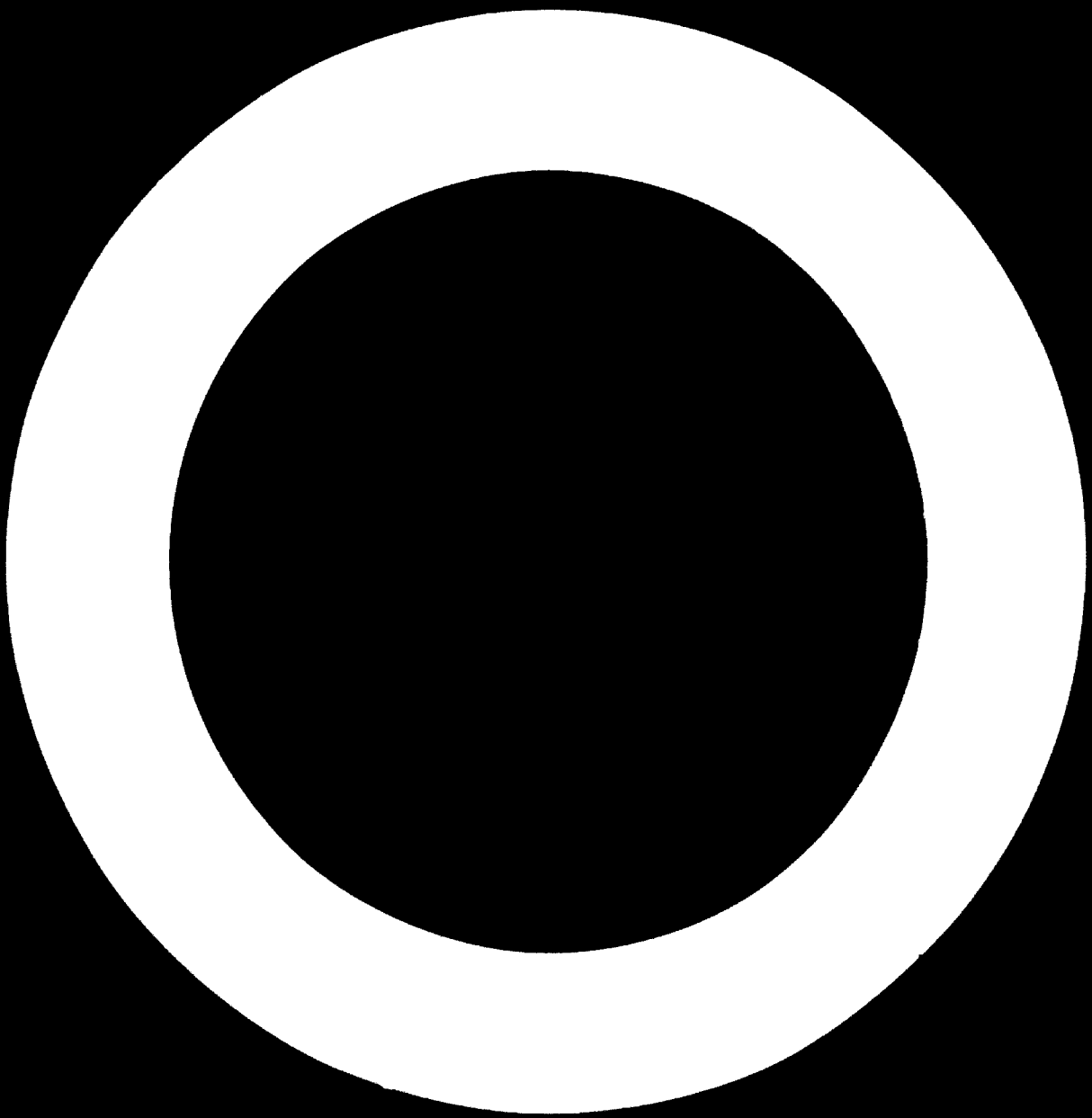
11. Packaging Centre

INTI is particularly interested in the establishment of a packaging centre as Argentinian exportation of food products depends to a very high degree on the technological quality of the packaging which is sub-standard at present.

The author proposes sending Mr. A. Soltan on a short-term mission to Argentina (mini' SP-project) where he will be ably supported by his counterpart, Dr M. Moiso, special consultant to the President of INTI.

IV. ACKNOWLEDGMENTS

The author wishes to acknowledge the services of Mr. W. Rücker who so excellently arranged his visit to Argentina. He is also highly appreciative of the discussions he had with officials of INTI and others in Argentina who so ably enlightened him on the problems facing the development of light industries in that country.



ANNEX I

NATIONAL INSTITUTE OF INDUSTRIAL TECHNOLOGY

INTI
Liberted 1235
Buenos Aires
ARGENTINA

WHAT INTI MEANS

The National Institute of Industrial Technology (INTI) is an organization which has been dettached from the State Secretariat for Industry. Created in 1958 in order to carry out technological research, it offers technical assistance to both official and private enterprises.

HOW INTI WORKS

INTI is headed by an Executive Board, composed of a President and eight members who are appointed by the Government from lists drawn up by the industrial associations, the State Secretariat for Industry and the Industrial Bank. The Board directs all the Institute's activities, administers its funds, represents it officially, grants scholarships for any technical and scientific studies that can be applied to industry, and together with manufacturers and technical entities it promotes the establishment of Research Centres.

INTI centres its activity around two main points of interest:

1- A group of Central Laboratories which assist the industry in three different fields:

. Chemistry, particularly analytical chemistry, in all its aspects.

. Physics, particularly industrial metrology.

. Testing of construction materials, metal or otherwise.

2- A network of organisms related to INTI, established by law as Research Centres, with the participation of industrial enterprises, universities and official entities, in order to carry out research programmes and offer such services as are required by the industry.

RESEARCH CENTRES

The Research Centres are an INTI characteristic which makes it different from other similar institutions. These Centres are organized so as to allow them a maximum of freedom within a common general plan - the INTI system. Taken individually they are not large entities,

but each one fulfills a specific mission, gaining new ground day by day.

The Centres are established through the initiative of private enterprises, societies, university institutes, official entities, or societies and small groups dependent on the former, when for reasons of general or national interest it becomes expedient to study certain aspects of industrial technology or to establish new services of technical assistance required by the industrial sectors. To this end INTI contributes the free use of its premises, equipment and laboratories, apart from financial backing which usually equals that of the other participating enterprises. The various parties reach an agreement concerning a definite work program. They also allot the Centre a certain time allowance to carry out its task, establish a management system and fix the amounts to be contributed by each and their financial participation in any goods, patents or other profits which might result from the common undertaking. Once the agreement has been signed, the program is put into operation by a Technical Director appointed by the parties, who also choose a Committee which oversees the work of the new institution with the consent of INTI, which in turn administers the Centre's funds in a special account and approves any plans concerning work-programs and budgets.

To guarantee the best course of action, INTI provides the Centres with the previous and periodical suggestions of an Advisory Committee, composed of nine members proposed by the various Academies (of Pure or Applied Science), the Professional Organizations and other well-known scientific entities. Many of the members of the Advisory Committee teach at the National Universities of Buenos Aires and La Plata, and are themselves interested in research or active as directors of other Research Centres.

At present INTI has about twenty functioningg Research Centres, which cover several branches of technology, and their activities include basic research on subjects closely related to industrial practice and industrial counselling on practical matters. For example, while the Research Centre of Fats and Oils (CIGA) systematically studies the by-products of oleostearic acid, which it obtains synthetically, the Research Centre for the Efficient Use of Fuel (CIPUEC), advises on the utilisation of fuels and organizes training courses for stokers at the various factories, symposiums, meetings, etc.

The following pages will give the reader a general idea of the INTI System Centres, grouped according to subject matter:

I. TECHNOLOGY OF CONSTRUCTION AND THE HUMAN HABITAT

R.C. of Building Technology (CITAC)

Keeps in touch with industrial sectors and refers any research concerning the application of materials and structures to the INTI laboratories. Offers its services for quality control of steel in factories, and of concrete at the building sites. Also tests weight loads on structures. At present the Centre is teaching modern techniques for the experimental analysis of structures.

R.C. of Building and Housing (Bouwcentrum Argentina)

Coordinates information related to building and housing techniques. Carries out research on related subjects and maintains a Permanent Building Exhibition in the Federal Capital. This Centre has been based on the Bouwcentrum in Rotterdam, which played such an important part in rebuilding Holland after the Second World War.

R.C. for Accoustical and Illuminating Engineering (Córdoba)(CIAL)

Investigates any problems caused by noise in general. Also carries out scientific research and technical measurements in laboratories with reverberation chambers, etc. There is also a mobile unit which appraises urban noises at the request of municipal or other entities. The Centre's laboratory is equipped to measure levels of illumination and perform other services.

Ambiental Engineering Research Centre (CIIA)

Investigates atmospheric contamination and advises on atmospheric conditions in factories and workshops, disposal of waste materials and other related subjects.

II. PRODUCTIVITY, WORK METHODOLOGY AND TRAINING, MANAGEMENT AND INDUSTRIAL DESIGN

R.C. for Techniques and Methods in Small and Medium Sized Industry (CIME)

Offers technical assistance to small and medium sized industry; cooperates in factory reorganization to further productivity. Advises on raw-material quality control, also of finished and semi-finished products and organizes courses on Management Techniques, Cost Finding, Methods and Incentives Systems, Mechanical Tests, Metallography, Non-destructive Tests, and others. For these tasks,

which are carried out by mobile units in Buenos Aires, Rosario and soon also in Córdoba, the Centre receives financial support form the Ford Foundation.

R. C. of Industrial Design (CIDI)

Teaches the principles and practices of industrial design by means of courses, seminars and exhibitions. The Centre has organised an international exhibition (at the General San Martín Theatre), held various seminars with well-known Argentine and foreign specialists (Tomás Maldonado, Ilmari Tapiovaará, Misha Black, and others) and organized three national contests of industrial design. It also maintains its own Design Centre (Maipú 171), as a permanent exhibition of industrial products, chosen for economy and formal and functional excellence. Since 1965 the CIDI is a member of the ICSID (International Council of Societies of Industrial Design).

R. C. for Mathematical Techniques Applied to Management (CITMADE)

Encourages the application of statistics and operative research, as well as the most advanced mathematical techniques, to solve management problems. This Centre offers its services to important private and official enterprises in everything related to production and storage. Carries out research on different aspects of production, optimal policies for purchasing material and stock level specification. The Centre also holds courses on the application of various techniques, particularly Critical Path Method.

III. NATURAL PRODUCTS AND FOOD

Fats and Oils R. C. (CIGA)

This Centre's main activity involves a lengthy task: research of any possible application of certain tung oil by-products which are synthetically obtained. Each one of these -some of them patented- is tested in specialised laboratories abroad. The Centre is one of the reference laboratories of the International Union for Pure and Applied Chemistry.

Fruit and Vegetables R. C. (Mendoza) (CITEF)

Established on the initiative of the canning and can-manufacturing industry, in order to improve production methods; carries out research on new fruit and vegetable varieties, as related to the various canning procedures. The Centre is in charge of the quality control of finished and semi-finished products, checking organoleptic and physicochemical characteristics.

Leather Technology R.C. (CITEC)

Assists the leather industry with technical problems. Carries out research on the tanning process in its pilot plant at Manuel Gonnet (Province of Buenos Aires), and also applies systematic quality tests. Holds periodical meeting. in order to discuss technical industrial problems.

Marine Biology R.C. (CIBIMA)

Carries out research on the industrial application of the algae collected at stations situated on the Patagonic coast. Organises international study courses on Marine Biology in Puerto Deseado with the support of the UNESCO. At present the Centre is completing an algeological survey of the whole Patagonic coast, from the Valdez Penfnsula to Lapataia. It also carries out basic research on Botany and Zoology in assistance of other institutions such as the National Council of Scientific and Technical Research, the Naval Hydrographic Service and the Oceanographic Committee.

Cellulose and Paper R.C. (CICELPA)

Carries out physical and chemical tests of fibres, pastes and papers, and investigates technical problems by request of manufacturers who are active in this particular field.

IV. MINING INDUSTRIES, MINING CONCENTRATION, AND METALLURGY

Cuyo R.C. for Minerals (CIMC)

Assists in research and advises manufacturers and mining producers of Mendoza, San Juan, San Luis and La Rioja. It has carried out important studies of mineral concentration, some of which offer practical solutions to local problems. In October of 1966 the Centre organized the First Meeting on Mineral Concentration which considered some subjects of great interest.

R.C. for Mineral Industries (CIDM)

Assists the mining, metallurgical and ceramic industries in carrying out a variety of mechanical tests, chemical analysis of minerals, physical, physicomechanical and thermical tests of silicates, pastes for ceramics, etc. The Centre's well-equipped laboratories investigate difficult and varied cases of mineral development and in the annex pilot plant, ores are processed on an industrial scale.

Metallurgical R. C. (Córdoba) (CIM)

Of great service to the local metallurgical industry. Its laboratories carry out research, mechanical tests, metallographical analysis and special tests at the College of Exact, Physical and Natural Sciences in Córdoba. It also undertakes basic research (fragile breaking theory) and applied research on the application of local minerals for the manufacture of casting and steel.

V. COMBUSTION TECHNOLOGY

R. C. for the Efficient Application of Fuel (CIPUEC)

Advises on thermic installations in factories and recommends reforms to improve fuel economy. Periodically inspects plants and thermic equipment.

VI. TECHNOLOGY OF ELASTOMERS AND PLASTICS

R. C. for Rubber Technology (CITIC)

Assists manufacturers in analysing raw materials and carrying out physical and mechanical tests of rubber products. Advises the industry regarding vulcanization, compounds, additives and other matters. Organizes courses and lectures for professionals in this field.

VII. DOCUMENTATION

Documentary R. C. (CID)

Assists in documentary investigation on technological subjects. It comprises the INTI library with its important collection of technical magazines -approximately 400- and its department of Photo-reproduction with a collection of micro-films. The Centre belongs to the FID (Fédération Internationale de la Documentation).

VIII. TEXTILES

Textile R. C. (CIT)

Recently established to assist in the technical and scientific development of

this industry. Its main purpose is to undertake analysis and tests of raw materials, finished and semifinished products, and to investigate and make known new products or new applications of existing products. It also intends to organize training courses for specialized technicians.

Other Centres have already fulfilled their task, as in the case of the Research Centre for Structural Standards for Concrete, (CINEH), entrusted with drawing up the Argentine Draft Regulation for Concrete, which was submitted to the competent authorities and has been widely publicized. Other Centres are being organized, some in different parts of the country similar to the CITEF in Mendoza specialized in Food Technology.

CENTRAL LABORATORIES

The Institute has its Head Office in Libertad 1235, Buenos Aires. The laboratories are situated on the thirty hectares belonging to the "Migueleto" establishment, on General Paz Avenue between Constituyentes and Alberellos. Here, buildings which were previously intended for military use, have been adapted and new pavillions built up to a total area of 17.742 square metres, of which 5.751 square metres are laboratory buildings (1.032 sq.m. under construction) 495 sq.m. for offices and libraries, 1.286 sq.m. for services and workshops, 2.932 sq.m. for warehouses with 4.246 sq.m. still available. Certain Research Centres have their own pavillions on the grounds, for instance that for Rubber or for Mineral Industries, while others make use of the Central Laboratories, like Marine Biology and Fats and Oils. This proximity encourages mutual cooperation and discussion of any technical problems with all available resources.

The Central Laboratories comprise the following sectors:

In Chemistry there are sections equipped with modern instruments for analysis, such as, gas cromatographs, Shandon electrocromatographs, spectrumphotometers for the infra-red, visible and ultraviolet, a Jarrel-Ash emission spectograph, a Phillips equipment for diffraction and fluorescence of X-Rays, a Methrom potentiograph and a Methrom polarograph. Its main activities are the analysis of metals, minerals and hydraulic agglomerants; verification of the qualities of chemical products, oil by-products, fats and oils, soap, food products, paints and varnishes; also the determination of physical and chemical characteristics. The Natural Products section investigates the possible industrialization of indigenous raw materials, such as local woods and seeds, and by-products of the food industry.

. Department of Metals. Apart from the common and special equipment for materials testing there are all the necessary instruments for Metallography, for testing automobile components, and for investigating any problems connected with vibration of structures and parts. It is also equipped to undertake the control of the finish and metallic coating of metallic parts ("chrome plating"), corrosion testing by salt spray or atmospheric elements (Weather-O-Meter).

. Department of Non-destructive. Equipped for non-destructive testing: magnetic tests, penetrating inks, ultrasounds and portable equipment for industrial radiography through X-Rays and radio-isotopes, including cesium 137, iridium 192 and cobalt 60. These permit the examination of a large variety of pieces used in construction and industry. Consequently weldings, foundry materials, machined pieces, etc., can be controlled to determine gaseous inclusions, heterogeneities, fissures and other imperfections which are not directly visible.

. Department of Physics. Includes laboratories for Photometry, Illuminating Engineering, and Colorimetry which carry out tests of illumination levels and physical measurement of colour; a Thermometrical Laboratory which gages optical pyrometers up to 2000° C; a Textile Laboratory which undertakes physical tests of fibres and tissues; also an important Metrology Sector which carries out precision measurements and calibration and includes a Mass Metrology Laboratory and a Dimensional Metrology Laboratory. The latter assists industry in verifying the elements of dimensional control applied in factories (all types of measuring tools and instruments) and in checking sensitive equipment which has to be periodi ally controlled. This laboratory also controls thread elements, templates, die pieces, sieves and other instruments which have to be controlled up to a thousandth part of a millimeter. An Interferometry Sector equipped with testers unique in this country, permits this control to be effected up to 0.02 micron precision. This department is now receiving direct technical assistance from the P. T. B. of Braunschweig (Germany).

. The Department of Building Materials is particularly concerned with the problems of the building industry, as related to the materials used. It counts with suitable installations and up-to-date instruments to deal with hydraulic agglomerants and aggregates and the dosification and control of concrete. It has equipment destructive and non-destructive for testing of concrete both in the laboratory and on the building site, which can be applied also to ceramic materials (bricks), refractory materials and wood. The specialists from this department sit in on certain IRAM Committees and any problems discussed in these meetings are

taken up by the laboratory as concerns criticism and development of testing methods.

- The Department of Structures has been completed in 1967. It has a load tester and an Amsler machine of 500 t, with a 5 m column, and instruments for mechanical and electrical extensometry, also a Jobin & Yvon Photoelasticimeter, NE Boitesux Pontichery model. This laboratory will be equipped to undertake all types of tests on structures on natural scale and on models.

- The Rubber Laboratory, belonging to the Rubber Research Centre, has all the necessary equipment for the investigation of raw materials. Its laboratory undertakes physicomechanical tests at the request of manufacturers.

- The Ore Dressing Laboratory of Mineral Industries Research Centre comprises:

1- A Mechanical Treatment Laboratory, where grinding, washing and concentration tests are undertaken and very modern equipment is used: magnetic concentrators (Carpco); flotation machines (Wemco); leaching sizing (Dorrco Sizer); spray drying (Niro Atomizer) and many others.

2-A chemical laboratory for chemical analysis and hydrometallurgic extraction on a bench scale.

3-A Pyrolytic Testing Department, which comprises:

. a Silicates Sector which covers a large variety of physical, physico-mechanical and hermic tests of sylicates and ceramic pastes; for this purpose it disposes of several furnaces of different types and temperature (up to 2.000°C) plastimeters, pyrometers, a differential thermal analyzer, thermobalance and dilatometer.

. a Metallurgical Sector which carries out roasting, calcination, sinterization and fusion tests.

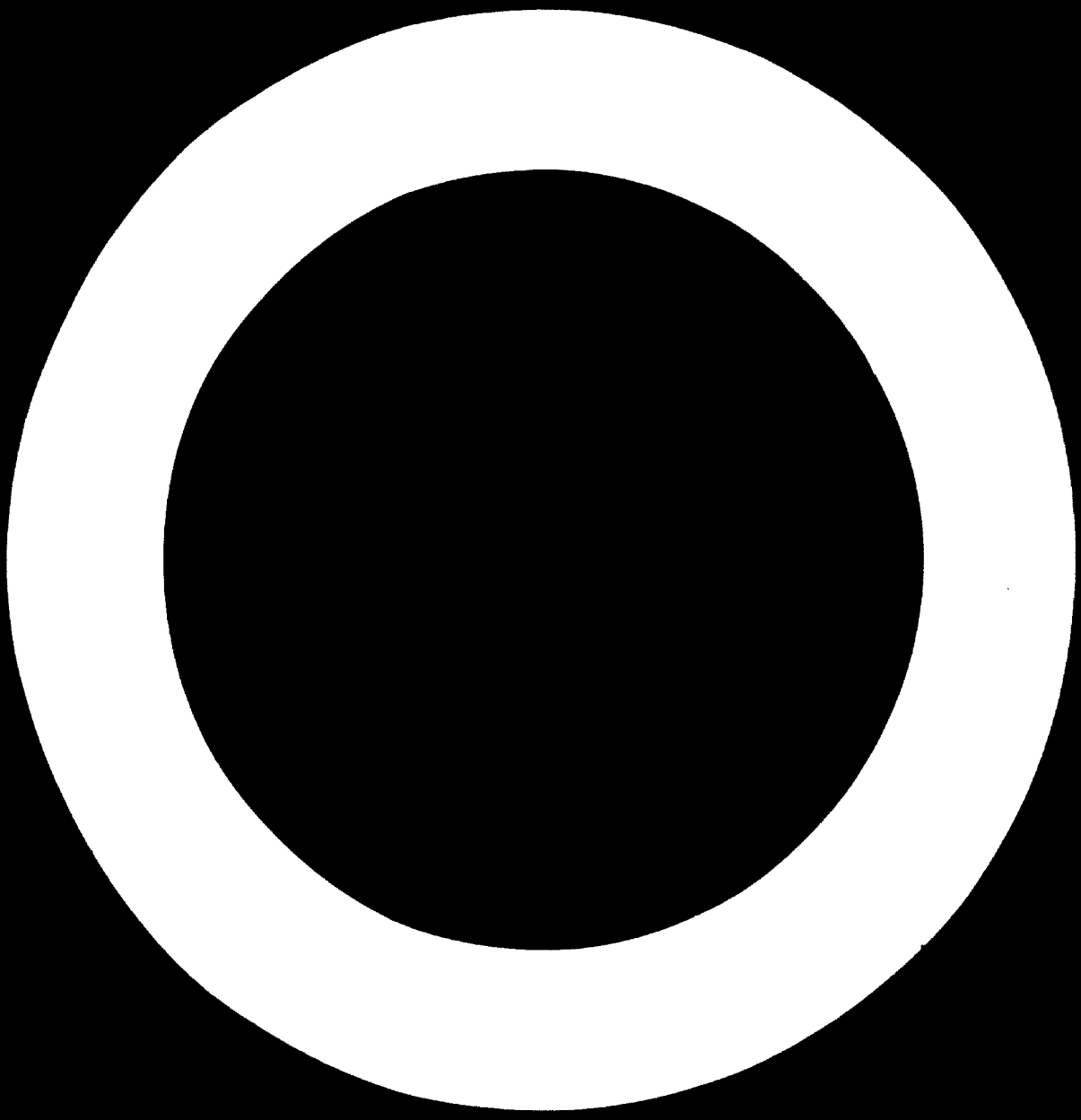
4-A Pilot Plant, equipped for the classic separation by humid and dry methods, where minerals are processed on a semi-industrial scale.

ANNEX II

Leather Research Institute (CITEC), La Plata

STAFF MEMBERS

Dr. Humberto Giovambattista
Dr. Alberto Sofía
Lic. Herman Lecour
Lic. Alberto Angelinetti
Lic. Víctor Vera
Lic. Jorge Vergara
Lic. Jorge Breán
Tec. Carlos Bernardi
Tec. Daniel Yglias
Tec. León Lasta
Tec. Nicolás Muratich
Tec. Juan Urrizmendi
Tec. Carlos Cantora
Tec. Raúl García
Sr. José Palomo
Sr. José Langoni
Sr. Arnoldo Gonsalía
Sr. Hugo Valenga
Sr. José Ramos



ANNEX III

cc: Messrs. [illegible]
Saint [illegible]
Politi[illegible]
Field Advisers [illegible]

Mr. Monta[illegible]

[illegible] Form

[illegible] 00 420 [illegible]

...IVED
...ug. 1970
...LIGHT

4 August 1970

Dear Mr. Quijano-Caballero,

On 31 July I sent you the following cablegram: "Re pilot plant for INTI Argentina have finally received tentative memorandum of their needs and specifications. Please advise when [illegible] can meet me Buenos Aires to continue negotiations with INTI. Tentatively suggest late August".

Now I am enclosing INTI's memorandum which I presume covers much of the information needed by the Food and Light Industries Section, and I would like to hear their comments as soon as possible to continue the discussions with INTI.

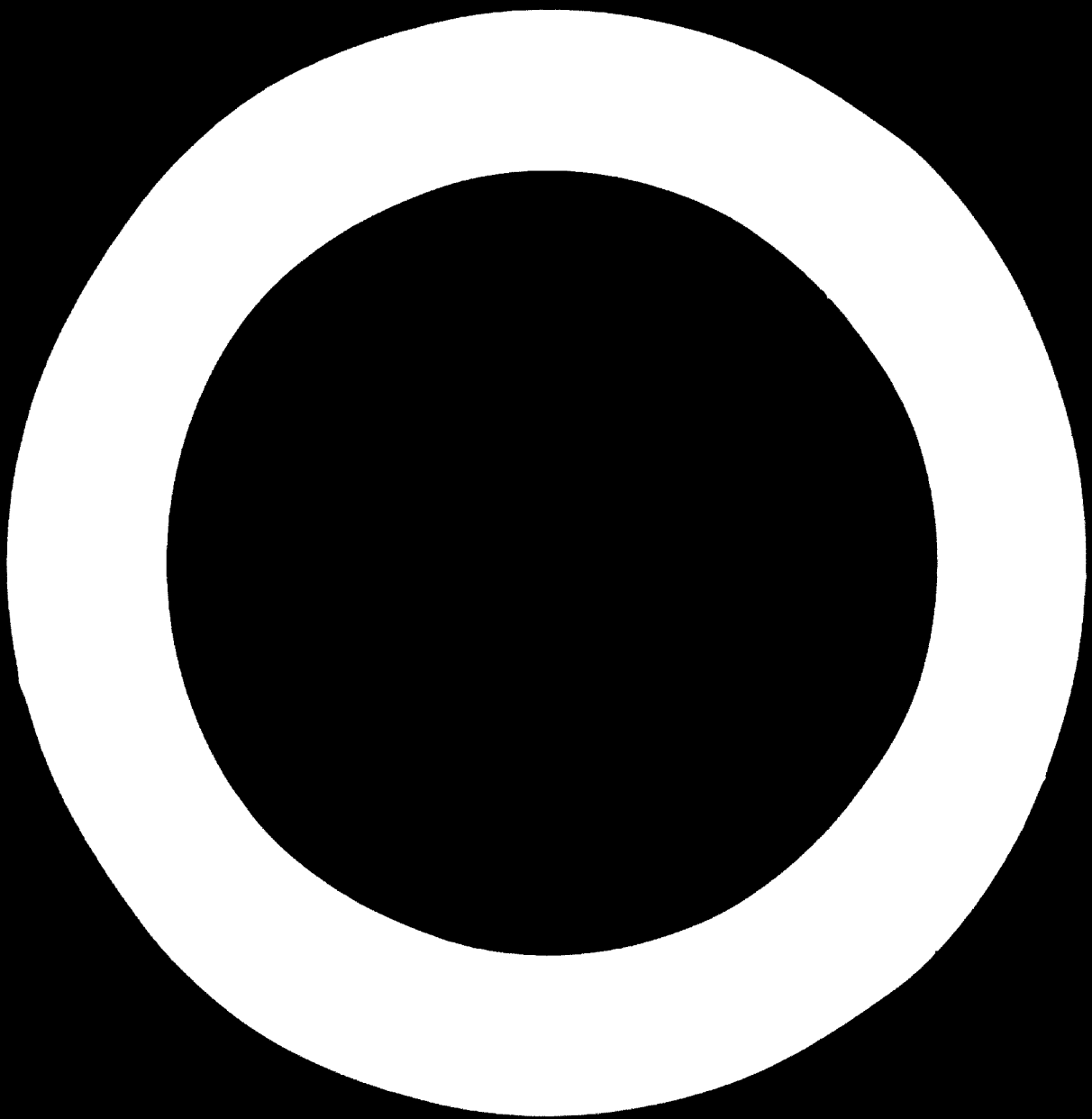
I should like to add that after many years we have finally arrived at a promising point in the negotiations and in view of the past experience I beg that further discussions be carried out only through me.

Yours sincerely,

Wilfredo Pflücker
Senior Industrial Field Adviser

Mr. Santiago Quijano-Caballero
Director
Technical Co-operation Division
UNIDO
P.O. Box 707
Vienna, Austria

[illegible]



ANNEX III

935

SECRETARIA DE ESTADO DE INDUSTRIA

INSTITUTO NACIONAL DE TECNOLOGIA INDUSTRIAL

BUENOS AIRES, 13 JUL 1970

SEÑOR PFLUCKER
COMISION ECONOMICA PARA AMERICA LATINA
CASILLA 179 D
SANTIAGO DE CHILE

Ref.: Equipos piloto de aplicación en industria alimentaria.

De nuestra consideración:

De acuerdo con lo manifestado por el Dr. Mendiveláz en la nota que le envía cumplo en adjuntar a usted una copia con los antecedentes que se vinculan a este problema.

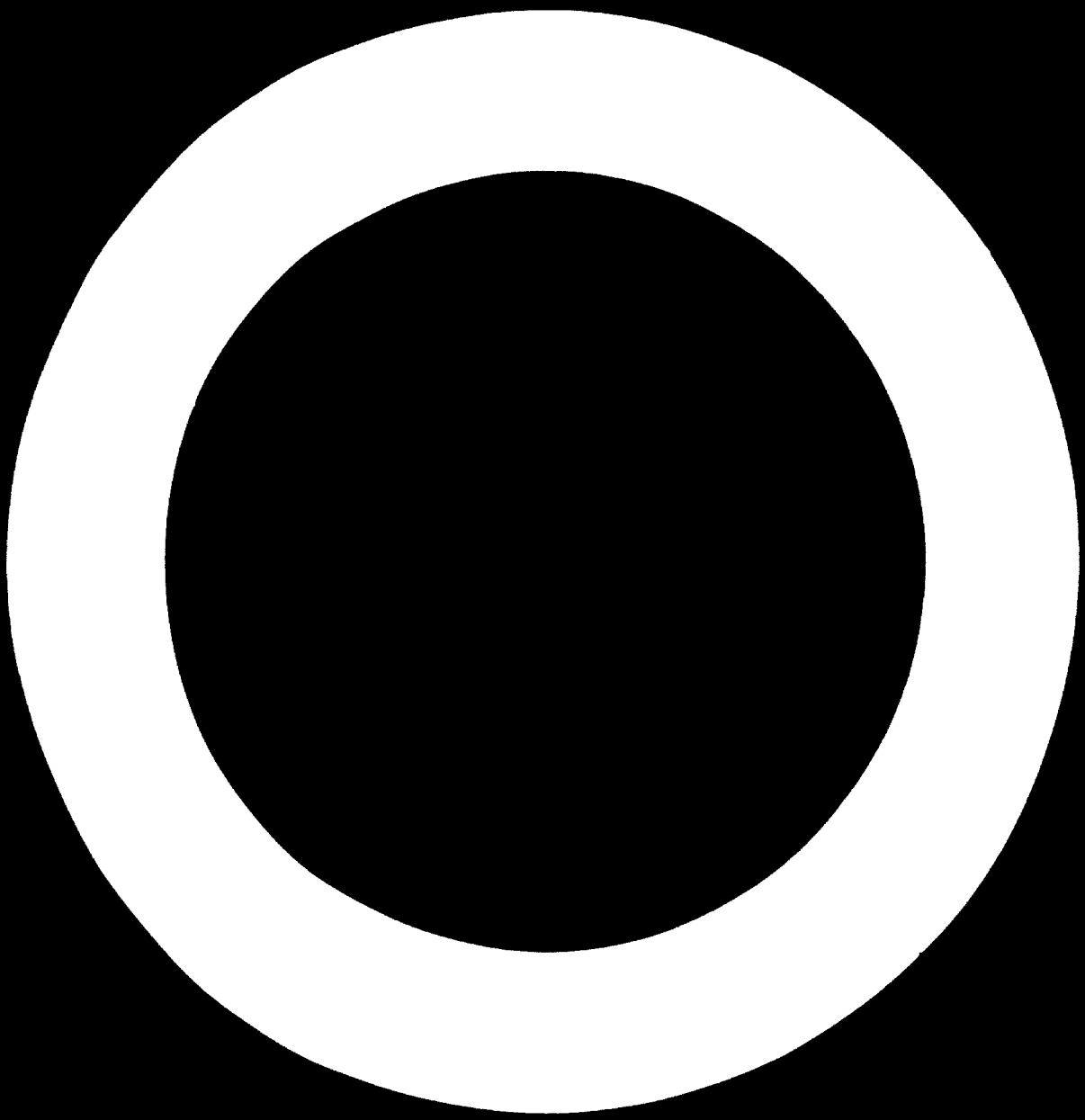
Sobre la base del "Informe sobre planta piloto para industria de alimentos para INTI" hemos procedido a actualizar nuestro enfoque sobre el tema, resultando de ello que:

I - Equipos: para nosotros es importante contar con un grupo de equipos de características operativas generales que nos permita la flexibilidad suficiente para usar los mismos en el apoyo de la actividad específica que desarrollan nuestros Centros que actúan en el campo alimentario.

CITIL (Centro de Investigación de Leche y Derivados).
CITECA (Centro de Investigación y Tecnología de Carnes).
CITEF (Centro de Investigación Tecnológica de Frutas y Hortalizas).

Los equipos podrían ensamblarse en líneas de producción conforme a los esquemas operacionales estudiados para cada caso.

El informe elevado oportunamente correspondía al área específica de evaporación y deshidratación y debería ampliarse con la incorporación de otros. Sin que constituya una lista definitiva se ha preparado la siguiente con carácter de tentativa ordenada conforme a operaciones básicas:



ANNEX III

SECRETARIA DE ESTADO DE INDUSTRIA

INSTITUTO NACIONAL DE TECNOLOGIA INDUSTRIAL

7.2.3. Sistema tambor rotativo a presión atmosférica o vacío.
7.3. Liofilización.
7.4. Colchón de espuma.
7.5. Alta frecuencia

II - **Servicios básicos.**

Si bien es cierto que disponemos de algunos servicios básicos para la actividad en esta área, es preciso crear una estructura eficiente y moderna que permita cubrir las necesidades a este nivel.

Los servicios a que hacemos referencia son:

1. Tratamiento de aguas.
2. Generador de vapor.
3. Generación de frío y cámaras frías.
4. Generación de vacío y aire comprimido.

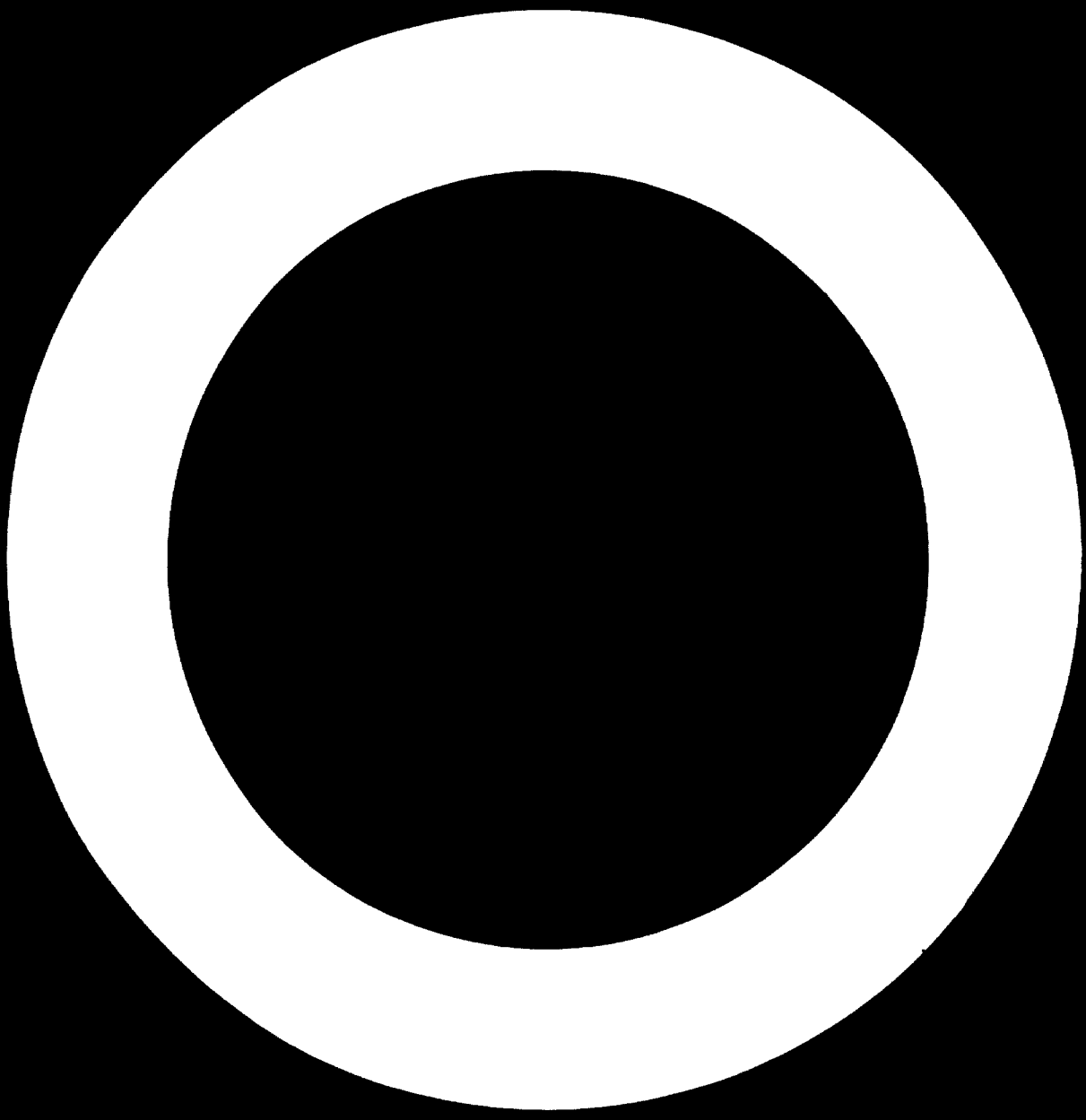
Lo expuesto permitirá a usted hacerse una idea de los requerimientos de la planta piloto versátil que juzgamos adecuada.

Sin otro particular quedamos a la espera de noticias suyas para fijar fecha y lugar para la entrevista pendiente con usted para llevar adelante este asunto.

Saludamos a usted atentamente.

Mario C. Mosso

Rodolfo D. Reyna



SECRETARIA DE ESTADO DE INDUSTRIA

INSTITUTO NACIONAL DE TECNOLOGIA INDUSTRIAL

1. Desintegración.

   1.1. Molino coloidal.
   1.2. Molino desintegrador.
   1.3. Cortadora 2 cuchillas cambiables.
   1.4. Refinadora.
   1.5. Homogeneizadora a presión.

2. Agregación.

   2.1. Equipo para obtener briquetas y "pelleta".
   2.2. Equipo para extruir.
   2.3. Equipo para obtener escamas "flakes".

3. Separación por vía húmeda.

   3.1. Filtro centrífugo.
   3.2. Filtro rotativo.
   3.3. Filtro a presión.

4. Separación por vía seca.

   4.1. Equipo de multiciclones.

5. Pasteurización de líquidos y pastas.

   5.1. Sistema a placas.
   5.2. Sistema a cuchilla rotativa (tipo votator).
   5.3. Sistema de actinización.

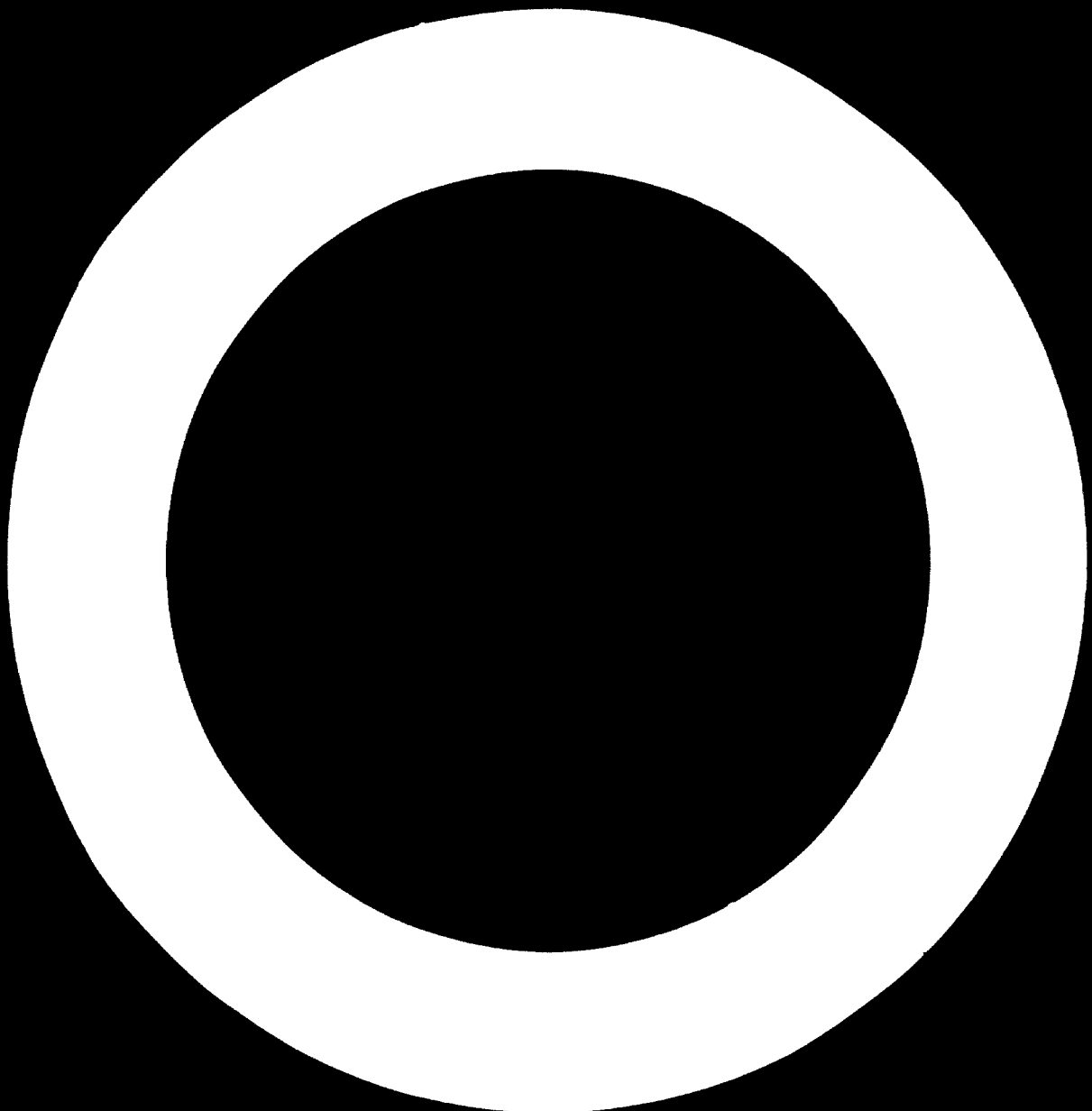
6. Concentración.

   6.1. Evaporador por película en rotación.
   6.2. Evaporador por película descendiente.
   6.3. Evaporador criogénico.

7. Desecación.

   7.1. De piezas o trozos grandes.
      7.1.1. Sistema de bandejas.
      7.1.2. Sistema cinta continua.
      7.1.3. Sistema rotativo.
      7.1.4. Sistema lecho fluido.

   7.2. Transformación en polvo o escamas.
      7.2.1. Sistema por pulverización centrífuga.
      7.2.2. Sistema por pulverización a presión.



ANNEX III

INFORME SOBRE PLANTA PILOTO PARA INDUSTRIA DE ALIMENTOS PARA INTI

Los alimentos naturales obtenidos de los reinos animal y vegetal sólo en parte son consumidos en estado fresco. Una gran porción de ellos necesita de procesos de transformación o conservación para permitir su almacenaje y transporte, así como su utilización fuera del tiempo o del área de su obtención.

Se considera que este tema reviste interés no sólo para el país como productor en pleno desarrollo y con un futuro muy amplio, sino también para los países compradores y como un aporte más para ayudar a buscar una solución para el grave problema de la necesidad de alimentos para la humanidad.

Esto ha producido, en estos momentos, un rápido movimiento en todos los ambientes, preparando así especialmente el rol de las industrias de los alimentos, la cual - todos coinciden en ello - ocupará uno de los principales puestos entre las industrias del país.

Dentro de los procesos de conservación de alimentos ocupan un lugar especial las técnicas de deshidratación. Dentro de este grupo de procesos INTI tiene especial interés en instalar una planta piloto muy versátil que permita los ensayos de deshidratación de un producto en equipos diferentes y en condiciones de trabajo muy variables, de modo de poder llegar a establecer con la mayor exactitud, los equipos y técnicas más apropiados para cada caso.

Una planta de ensayo de esas características sería de muy amplia aplicación. Los alimentos que pueden ser conservados por procesos de deshidratación, que los lleven al estado de jugos o pastas concentrados, polvos, o desecados hasta muy bajos tenores de humedad, constituyen una gama tan vasta que podría decirse que este tipo de procesos es prácticamente aplicable a cualquier alimento. El problema consiste en fijar en cada caso las características del proceso que sea técnica y económicamente más ventajoso.

No es posible, para cada industrial interesado en la selección de un proceso, realizar por sí el estudio, debido a la gran variedad y costo de las instalaciones necesarias. Una decisión tomada sin ese conocimiento previo puede conducir, y ha conducido en más de un caso, a graves errores y pérdidas.

El INTI desea contar con una planta que agrupe los sistemas ya conocidos y utilizados en el campo comercial, pero desea también equipo para los procesos en desarrollo de las técnicas más modernas.

Una instalación como la que se proyecta sería utilizada intensamente y, dado que los países vecinos tienen exactamente los mismos problemas con sus productos, sería posible y conveniente brindarles la oportunidad de usarla para resolver problemas concretos, para capacitar personal, etc.

Sin que ello signifique ninguna limitación ni constituya una lista definitiva, sino con idea de precisar mejor el campo de acción de esas plantas piloto, se ha confeccionado una nómina con algunos de los equipos que se estima podrían integrarla. Posteriormente, y una vez que se hayan formulado consultas a especialistas, establecido contactos con institutos que ya realizan esos procesos y efectuado visitas a sus plantas, podrá completarse esa lista con carácter definitivo.

ANNEX III

La lista de equipos correspondería a dos grupos:

1. Técnicas clásicas de uso ya extendido
2. Nuevas técnicas actualmente en estudio

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Dentro del grupo 1 se tendría:

1.1. Concentración hasta jugos o pastas

1.1.1. Evaporadores de varios sistemas

1.2. Transformación en polvos o escamas

1.2.1. Secado con pulverizadores centrífugos

1.2.2. Secado con pulverizador a presión

1.2.3. Secado en cilindros con o sin vacío

1.3. Secado en trozos grandes

1.3.1. Secaderos con bandejas

1.3.2. Secaderos cinta continua

1.3.3. Secaderos rotativos

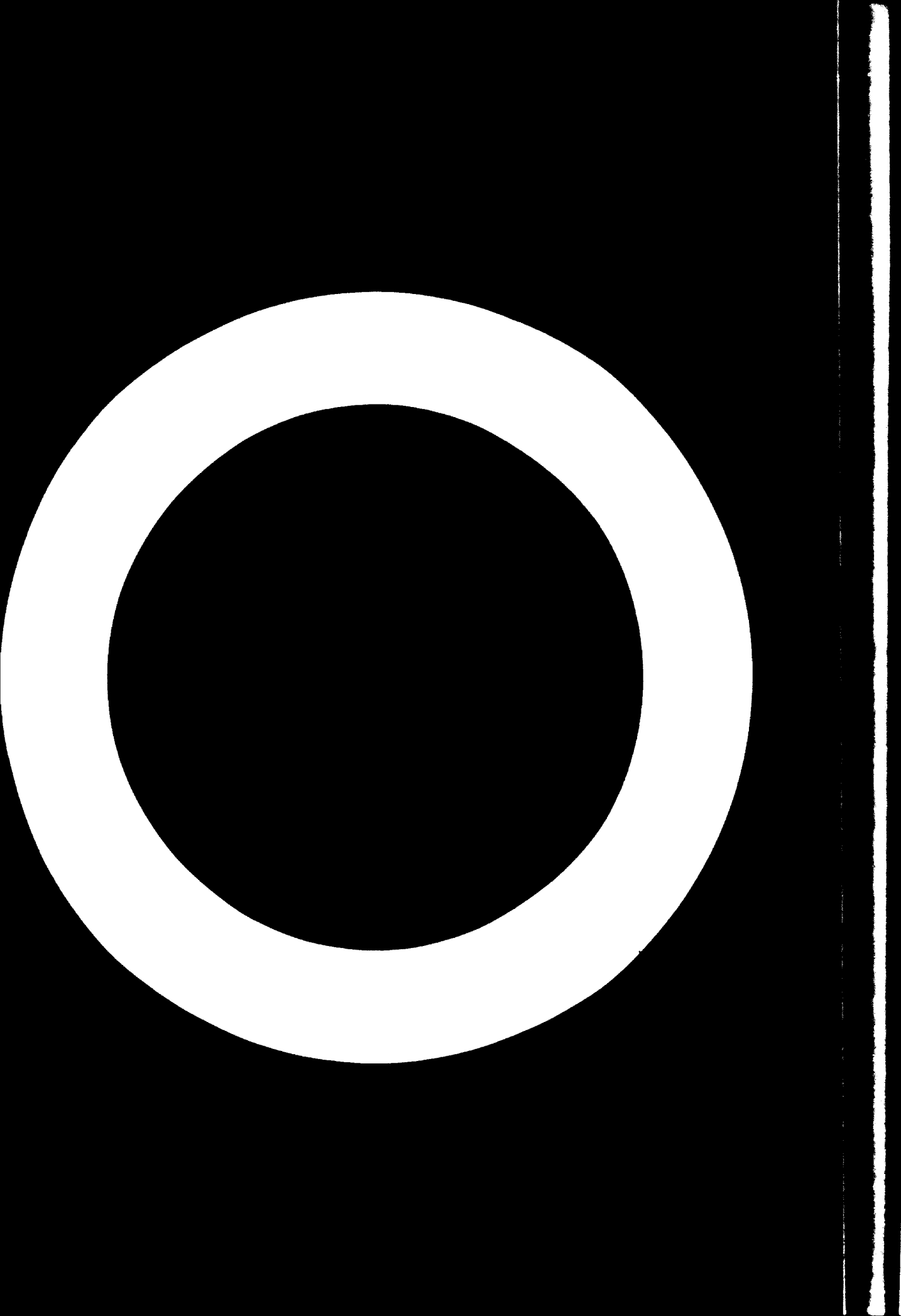
Dentro del grupo 2 se tendría:

2.1. Liofilización

2.1.1. Secado en cabina de espuma

2.1.2. Mezclas azeotrópicas

2.1.3. Secado por alta frecuencia



Verschärfung der Rindfleischkrise in Argentinien

Exporte bei steigenden Preisen nicht konkurrenzfähig

Buenos Aires. — Angesichts der Bedeutung, die die Rindfleischexporte für die argentinische Handelsbilanz besitzen, wird die seit Wochen schwelende Fleischkrise des Landes in der Privatwirtschaft mit wachsender Sorge verfolgt. Die von dem zurückgetretenen Wirtschaftsminister Moyano Llerena ergriffenen Maßnahmen zur Verringerung der Schlachtungen um 20% haben keine Lösung gebracht. Sie sollten dazu beitragen, den internen Verbrauch etwas einzudämmen und die Preise zu senken, um die Exportschlachthäuser wieder konkurrenzfähig zu machen.

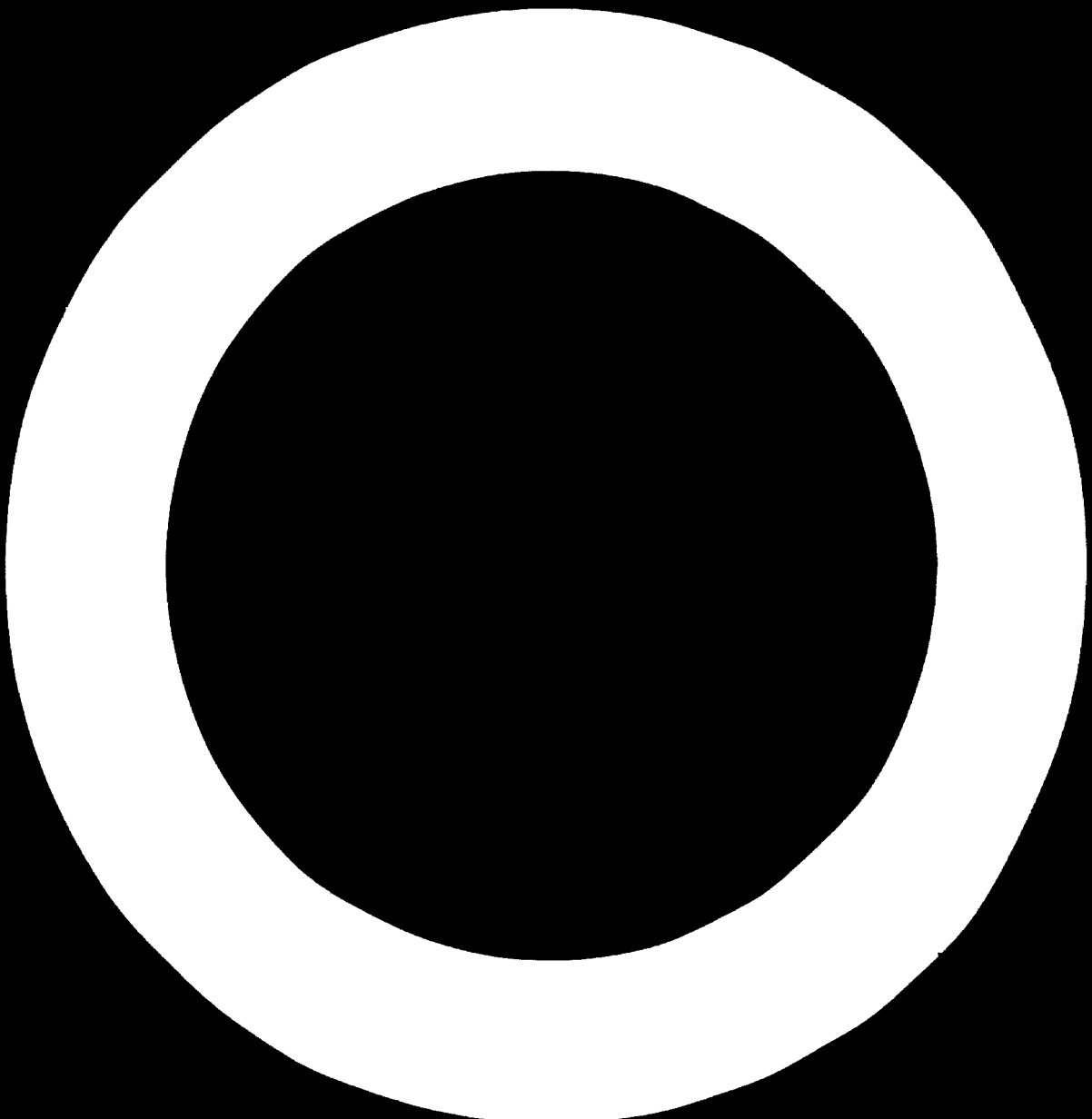
Als Folge der verringerten Schlachtungen sind jedoch die Anlieferungen bei dem städtischen Schlachthaus in Buenos Aires nicht um 20%, sondern um mehr als die Hälfte zurückgegangen, so daß die Preise weiter steigen und den Exportschlachthäusern kein Geschäft mehr möglich ist. Zwei Unternehmen sahen sich daher bereits veranlaßt — nachdem sie schon längere Zeit ohne Gewinn arbeiten —, ihre Betriebe vorläufig zu schließen; 6 000 bzw. [illegible] Arbeitskräfte wurden auf diese Weise entlassen. In den übrigen Betrieben wurden von seiten der Arbeiterschaft Proteststreiks durchgeführt, obwohl diese keinesfalls zur Lösung dieses schwierigen Problems beitragen.

Auch die argentinische Regierung ist jetzt ernstlich besorgt, weil bei der jüngsten Entwicklung die Gefahr besteht, einige der traditionellen Exportmärkte zu verlieren, deren Rückeroberung nach einer späteren Normalisierung des Marktes sehr schwierig oder unmöglich ist.

Von dem neuen Wirtschaftsminister Aldo Ferrer wird eine Lösung dieses Problems erwartet. Dazu wird es auch notwendig sein, eine Aufklärungsaktion zur Änderung der Konsumgewohnheiten der argentinischen Bevölkerung einzuleiten. Der „Durchschnittsargentinier" versteht unter Fleisch immer nur Rindfleisch, während von dem reichlich vorhandenen Angebot an Schweine- und Hammelfleisch, Geflügel und Fisch nur wenig Gebrauch gemacht wird.

Darüber hinaus wird sich der Minister um die Frage der wirklichen Entwicklung der Zuchtbestände kümmern müssen, über die in den letzten Jahren die Ansichten etwas auseinander gegangen sind. Bei einem Bestand von fast [illegible] Mill. Rindern betrugen die Schlachtungen im Jahre [illegible] Statistiken rd. 13,6 Mill. Rinder. Dabei haben die Schlachtungen von weiblichen Tieren zwar etwas über dem Durchschnitt der letzten Jahre gelegen, sind aber nach Ansicht von Experten nicht so hoch, daß sie als eine Verringerung des Bestandes aufgefaßt werden könnten. Fachkreise schätzen, daß im Jahre 1970 insgesamt 11 Mill. Rinder geschlachtet werden konnten, das wären etwa 20% weniger als im Vorjahr.

In den letzten Wochen waren die Anlieferungen allerdings stark zurückgegangen. Man vermutet jedoch, daß sie sich nach der Beendigung der Dürreperiode und der [illegible] Mästung der Tiere in Kürze auf dem zentralen Viehmarkt von Liniers wieder normalisiert, so daß dann auch erneut mit der Möglichkeit von Preissenkungen und einer normalen Versorgung der Exportschlachthäuser gerechnet werden kann. -BTA/NfA (e) [illegible]



CENTRO DE INVESTIGACION
Y TECNOLOGIA DE CARNES

Del Sistema de Centros del INTI
Libertad 1235 - Bs. Aires - Argentina (T. E. 44-6011)
Laboratorios en Miguelete - PHOSM (T. E. 755-6161)

In order properly to evaluate the long-range potential of the Argentine meat processing industry's export possibilities it is necessary to make a study that will cover the technology required to achieve them, including an evaluation of the production and supply of livestock required, as well as the more desirable lines of meat cuts, processed meats, fancy meats and meat-based products best suited to the various consumer markets.

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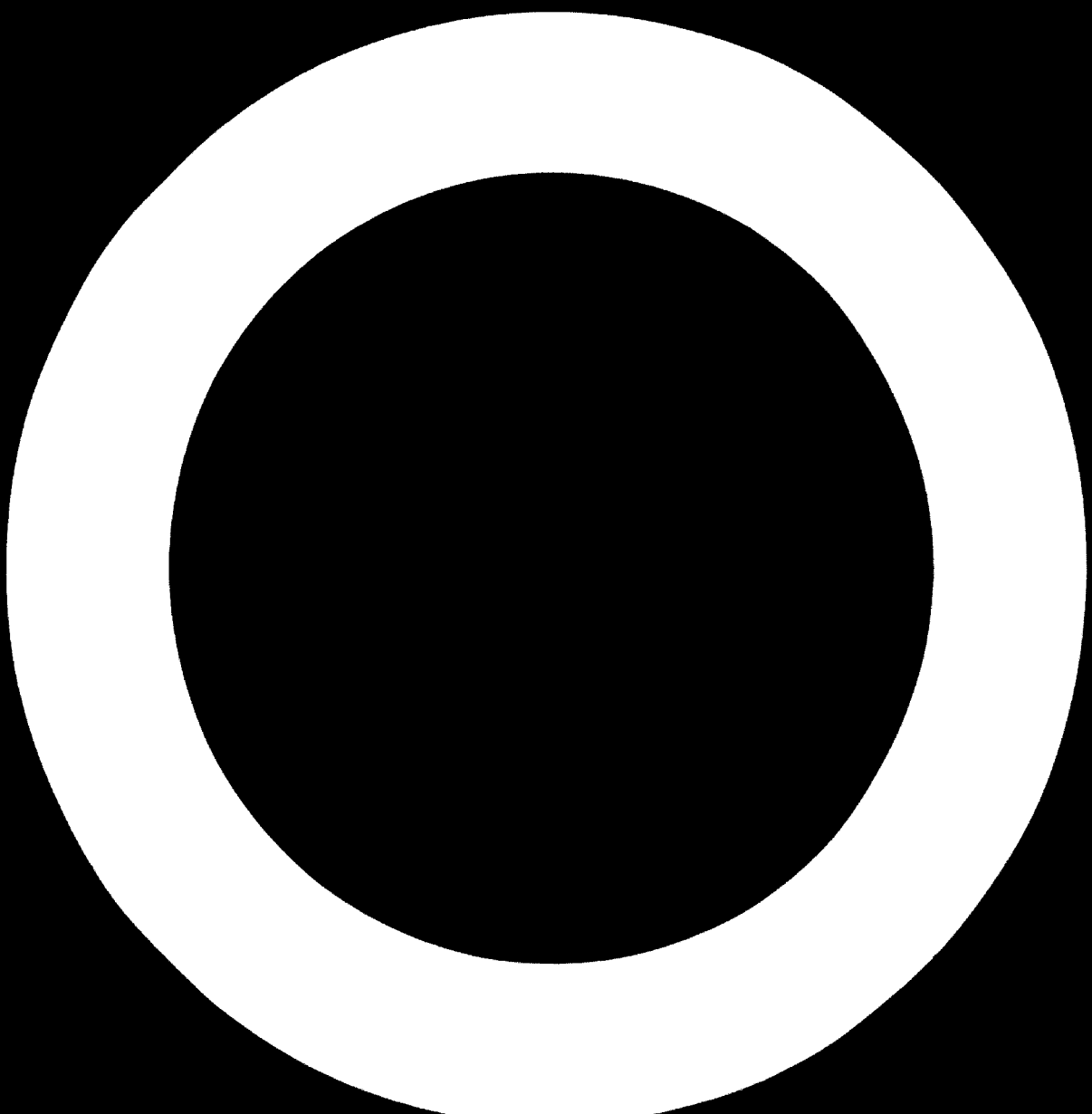

Circular [illegible]

[illegible]	SUPERFICIE CULTIVADA	PRODUCCION
[illegible]	[illegible]	[illegible]
1964/65 - 1968/69	21.740	339.260
1959/60 - 1963/64	22.435	326.620
[illegible]		
1964/65	24.100	394.000
1965/66	19.300	303.800
1966/67	21.900	333.600
1967/68	21.350	314.800
1968/69 (a)	22.050	352.100
1969/70 (a)	25.900	357.600

(a) Cifras provisionales.-

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ANEXO VI

CAMARA DE LA FRUTA
INDUSTRIALIZADA DE MENDOZA
Rioja 1550 - Esc. 5 - Mza.
Telef. 17373

C I R C U L A R Nº 688

Mendoza, de Agosto de 1970.-

ESTADISTICA

s/PRODUCCION TOTAL DE TOMATE - CAMPAÑA AGRICOLA 1969/70 - INFORMACION ENVIADA POR LA DIRECCION NACIONAL DE ECONOMIA Y SOCIOLOGIA RURAL DE LA SECRETARIA DE ESTADO DE AGRICULTURA Y GANADERIA DE LA NACION.-

- Tomate de época: 281.600 toneladas.-
- Tomate primicia: 76.000 toneladas.-

Total: 357.600 Toneladas.-

Con la finalización de la cosecha de tomate de época que alcanzó a 281.600 toneladas, se cierra la campaña agrícola 1969/70 que, conjuntamente con la de tomate de primicia que totalizó 76.000 toneladas, el volumen de la producción / total se eleva a 357.600 toneladas, cifra mayor aproximadamente en el 2% a la obtenida en el ciclo 1968/69, superando también en alrededor del 5% y 9% a los promedios del quinquenio y decenio últimos, respectivamente.-

Cabe destacar que, con la cosecha de los primeros lotes de tomate "primicia" de Salta y Jujuy, cuyo producto ya se comercializa en los centros de // consumo, se inicia la campaña correspondiente al nuevo ciclo agrícola 1970/71.-

PRODUCCION		VARIACION DE 1969/70 SOBRE AÑO 1968/69	
Año 1969/70	Año 1968/69	Absoluta	Relativa
	- En toneladas -		%
357.600	352.100	+ 5.500	+ 1,6

PRODUCCION		VARIACION DE 1969/70 SOBRE PROMEDIO 1964/65 - 1968/69	
Año 1969/70	Promedio 1964/65-1968/69	Absoluta	Relativa
	- En toneladas -		%
357.600	339.260	+ 18.340	+ 5,4

PRODUCCION		VARIACION DE 1969/70 SOBRE PROMEDIO 1959/60 - 1968/69	
Año 1969/70	Promedio 1959/60-1968/69	Absoluta	Relativa
	- En toneladas -		%
357.600	326.620	+ 30.980	+ 9,5

Circular Nº 688

Destácase como principal productora la provincia de Río Negro que aporta aproximadamente con el 24% sobre el total del país, siguiéndola en importancia Mendoza, Santiago del Estero, Salta y Buenos Aires, con los porcentajes señalados en el cuadro que se transcribe a continuación.

De la comparación entre los años 1969/70 y 1968/69, resultan las variaciones absolutas y relativas que más adelante se detallan, observándose una significativa disminución en el volúmen de la producción de Salta y Jujuy debido a las intensas heladas registradas los días 9, 10 y 11 de julio pasado, / que afectaron seriamente los cultivos, mermándose los rendimientos y perdiéndose importantes áreas de sembrados.-

PROVINCIA	PRODUCCION			VARIACION SOBRE 1968/69	
	Año 1969/70		Año 1968/69	Absoluta	Relativa
	Toneladas	%	Toneladas		%
TOTAL	357.600	100,0	352.100	+ 5.500	+ 1,6
Río Negro	87.000	24,3	85.900	+ 1.100	+ 1,3
Mendoza	66.100	18,5	55.400	+ 10.700	+ 19,3
Sgo. del Estero.	36.300	10,2	23.400	+ 12.900	+ 55,1
Salta	33.200	9,3	51.300	- 18.100	- 35,3
Buenos Aires ...	30.500	8,5	25.700	+ 4.800	+ 18,7
Tucumán	23.800	6,7	20.900	+ 2.900	+ 13,9
Jujuy	21.100	5,9	42.050	- 20.950	- 49,8
San Juan	19.500	5,4	13.700	+ 5.800	+ 42,3
Córdoba	14.100	3,9	6.200	+ 7.900	+ 127,4
Otras prov.	26.000	7,3	27,550	- 1.550	- 5,6

La producción de tomate "primicia" y de "época" su relación / con la obtenida en el período 1968/69, quedan expuestas en el cuadro que se consigna seguidamente.-

Se cultivaron 25.900 hectáreas, de las cuales se cosecharon / 19.900 hectáreas (76,8%) con un rendimiento promedio de 17.970 kilogramos por / hectárea.-

ESPECIE	PRODUCCION			VARIACION SOBRE 1968/69	
	Año 1969/70	%	Año 1968/69	Absoluta	Relativa
	Toneladas				%
Tomate Total	357.600	100,0	352.100	+ 5.500	+ 1,6
Tomate primicia..	76.000	21,3	111.800	- 35.800	- 32,0
Tomate temporada.	281.600	78,7	240.300	+ 41.300	+ 17,2

[illegible]
Mendoza - República Argentina

citef

CENTRO DE INVESTIGACION TECNOLOGICA DE FRUTAS Y HORTALIZAS

CHACRAS DE CORIA (Mza.), diciembre 29 de 1970.

Señor:
Dr. [illegible]
U N I D O
Rathausplatz 2
A-1010 - VIENA

Tengo el agrado de dirigirme a Usted, en primer lugar para agradecer la visita que nos hiciera y los interesantes conceptos que nos dejara en oportunidad de realizarse la "Mesa Redonda" con los profesionales de nuestro Centro; conceptos que mucho valoramos.

En cuanto a la posibilidad de poder concretar el plan de colaboración con UNIDO, he recibido el 23/XII/70 una nota del Dr. Mendivelzúa, en la que se informa que los trámites deberán ser realizados entre INTI, [illegible] y NACIONES UNIDAS. También se informa que Usted le enviará en la primera quincena de enero un anteproyecto sobre el tema. Por lo tanto nosotros deberemos esperar a que INTI nos informe cómo marchan las gestiones tendientes a llevar a la práctica el plan de colaboración para poder actuar. Adjunto le envío una síntesis estadística preparada por uno de nuestros Promotores, la "Cámara de la Fruta Industrializada de Mendoza", que estimo puede resultar de interés para Usted.

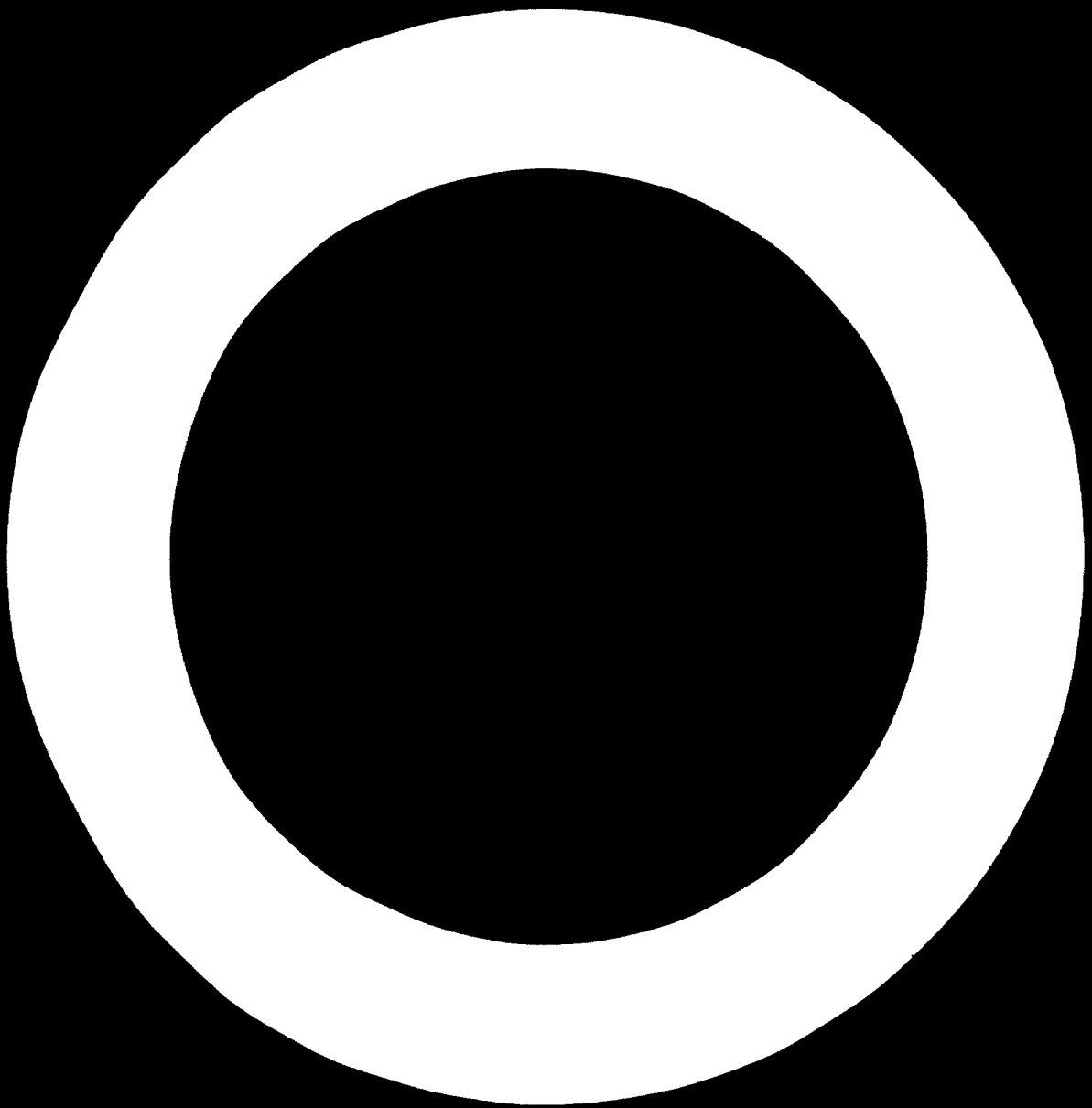
Reciba junto a su Familia, los más sinceros augurios de felicidad y próspero año nuevo; como así los más cordiales y distinguidos saludos.-

J. Bonino
[illegible]

ANEXO VII

ALGUNOS PROBLEMAS DE DESARROLLO DE LA INDUSTRIA ARGENTINA DE CONSERVACION DE ALIMENTOS EN ENVASES METALICOS

Disertación de la Ing. Enrique Ehrenhaus en la Primera Reunión de Programación Horticola del Instituto Nacional de Tecnología Industrial (I.N.T.I.), Buenos Aires, 21 a 22 Abril 1965.



ANNEX VII

R E S U M E N

La producción de frutas y verduras y su complementaria de envasamiento tienen serios problemas de estructura para los cuales no hay soluciones rápidas y milagrosas. De cuatro tipos son los que más la afectan:

a) Relaciones anárquicas entre productores e industriales, esencialmente en la venta y compra de materias primas. Irregularidad de los abastecimientos;

b) Problemas estrictamente técnicos: en particular los concernientes a mayores rendimientos en la producción de la materia prima y su manufactura. Paralelamente los referentes a la difusión de métodos regionales uniformes de cálculos de costos de ambos sectores y los de calidad de los productos;

c) Fragilidad financiero-comercial en que se desenvuelve actualmente la industria de conservas. Esto se traduce en apresuramiento y atomización de la oferta del producto terminado, así como incapacidad para mantener existencias apreciables de mercaderías durante períodos prolongados;

d) Disparidad existente entre las aspiraciones de muchas fábricas - en las actuales condiciones financieras - y las existencias reales de materias primas así como la capacidad de crecimiento que permite el mercado de consumo y los sistemas de distribución.

De la manera como estos problemas están entrelazados entre sí, así también lo están las soluciones que - aún de tomarse aisladas - representan parte de la solución total. Influirá positivamente en ésta la mayor comprensión de la interdependencia de productores de materias primas y envasadores. Por otra parte las medidas que lleven a la formación de unidades financieramente sanas podrán ayudar - según la experiencia extranjera - a superar esta crisis propia de la industria.

1. INTRODUCCION

Los alimentos son productos de vida limitada que empiezan a deteriorarse ya en el momento de la recolección, pesca o matanse. El hombre a través de los siglos ha aprendido a conocer y dominar algunas de estas fuerzas destructivas tan necesarias para el equilibrio general. En otras palabras, el hombre en su lucha por la supervivencia primero, y en la del dominio de la naturaleza después, ha acumulado conocimientos que forman en alimentos su tecnología para la conservación. Conoce ya como superar el desfasaje entre las curvas representativas de la recolección de alimentos y la del hambre humano; una desarrollada a través de los meses y la otra diaria. Conocer no implica aplicar y esto es el caso de la humanidad.

Actualmente existen numerosos métodos de conservación de alimentos, algunos aún en la etapa experimental o de escaso desarrollo comercial. Los más conocidos y aplicados - solos o combinados - son: esterilizado comercial por calor (Appert), deshidratado, salado, azucarado, fermentado y acidificado, congelado, con aditivos químicos y con radiaciones.

La conservación de frutas y hortalizas, explotación de tipo agrario-industrial, tiene la característica de ser una actividad que pasa generalmente de la materia prima original al producto manufacturado sin etapas intermedias semiterminadas.

2. GENERALIDADES

En nuestro país, en 1962, se calculaba en unos 282 los establecimientos dedicados a la conservación de verduras y frutas (1). Esta cifra incluye una mayoría de fábricas chicas, semifamiliares y un grupo reducido de unidades de tamaño mediano y grande. Tanto en la industria marginal e importante pueden distinguirse dos tipos: las especializadas y las diversificadas. Las primeras, altamente estacionales, manufacturan un número reducido de productos con un corto ciclo de trabajo que generalmente no pasa de los 90 días. Las segundas manufacturan una serie de alimentos tratando de utilizar sus equipos casi todo el año. La experiencia indica que - excepto los establecimientos fabricantes de especialidades - los primeros son los que técnica y económicamente responden a las exigencias del desarrollo actual.

Con respecto a los métodos de conservación desde el punto de vista comercial, en Argentina y la mayoría de los países, el más importante es el

tipo Appert. El grueso de las producciones en este sistema se efectúa en envases metálicos herméticos, generalmente de hojalata. Para dar una idea de su importancia y a título de orientación en Tablas 1 y 2 se dan valores comparativos aproximados del consumo "per capita" de hojalata y conservas Appert en Argentina con respecto a EE.UU. y algunos países europeos, así como su distribución por productos en Tablas 3 y 4. Puede observarse que ambos consumos (hojalata y conservas) para la Argentina son bajos y por analogía pensarse en la existencia de un elevado consumo potencial. Sin embargo, en nuestro país - las conservas tipo Appert aún dentro de las limitaciones de su desarrollo - representó en 1962 unos $5.000 millones en frutas y hortalizas y unos $1.355 millones en pescado y mariscos. El método que los sigue en importancia es el de deshidratación que ese mismo año representó $630 millones.

La industria que produce conservas en envases herméticos como ya señalamos, posee las características de ser estacional y con un corto ciclo de trabajo. Su período de comercialización normal es anual, lo cual las obliga a contar con recursos financieros elevados para poder cumplimentar las necesidades de la distribución y satisfacer su papel de ampliar y regular el mercado de alimentos. Por otra parte lo elevado de sus inversiones excluye la posibilidad de que básicamente sea una industria para manufacturar cosechas excepcionales. Al contrario, la garantía del abastecimiento de materias primas especiales para la industrialización es esencial, tanto, que entre productores e industriales existe una interdependencia de estructuras que hace necesario considerarlos como unidad frente al planteo de cualquier problema o solución. En otras palabras, el conjunto es una actividad agro-industrial indivisible.

Con el fin de dar claridad a esta exposición, nos referimos en especial a los problemas que afectan a la industria de conservación por esterilizado comercial (Appert) en la rama de hortalizas. Sin embargo, la mayoría - para no decir la totalidad - de los conceptos aquí esbozados tienen igual validez para la conservación de frutas. Tan es así que la casi totalidad de los establecimientos de Cuyo y Río Negro elaboran frutas y hortalizas.

Estos mismos industriales, conjuntamente con su contraparte agrícola, actualmente sufren una crisis que llevará casi seguramente a cambios profundos de estructura y que impondrá para su superación medidas a largo plazo que consideren incluso la necesidad de un equilibrio entre los desarrollos regionales.

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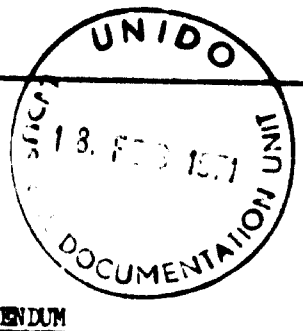


CORRIGENDUM

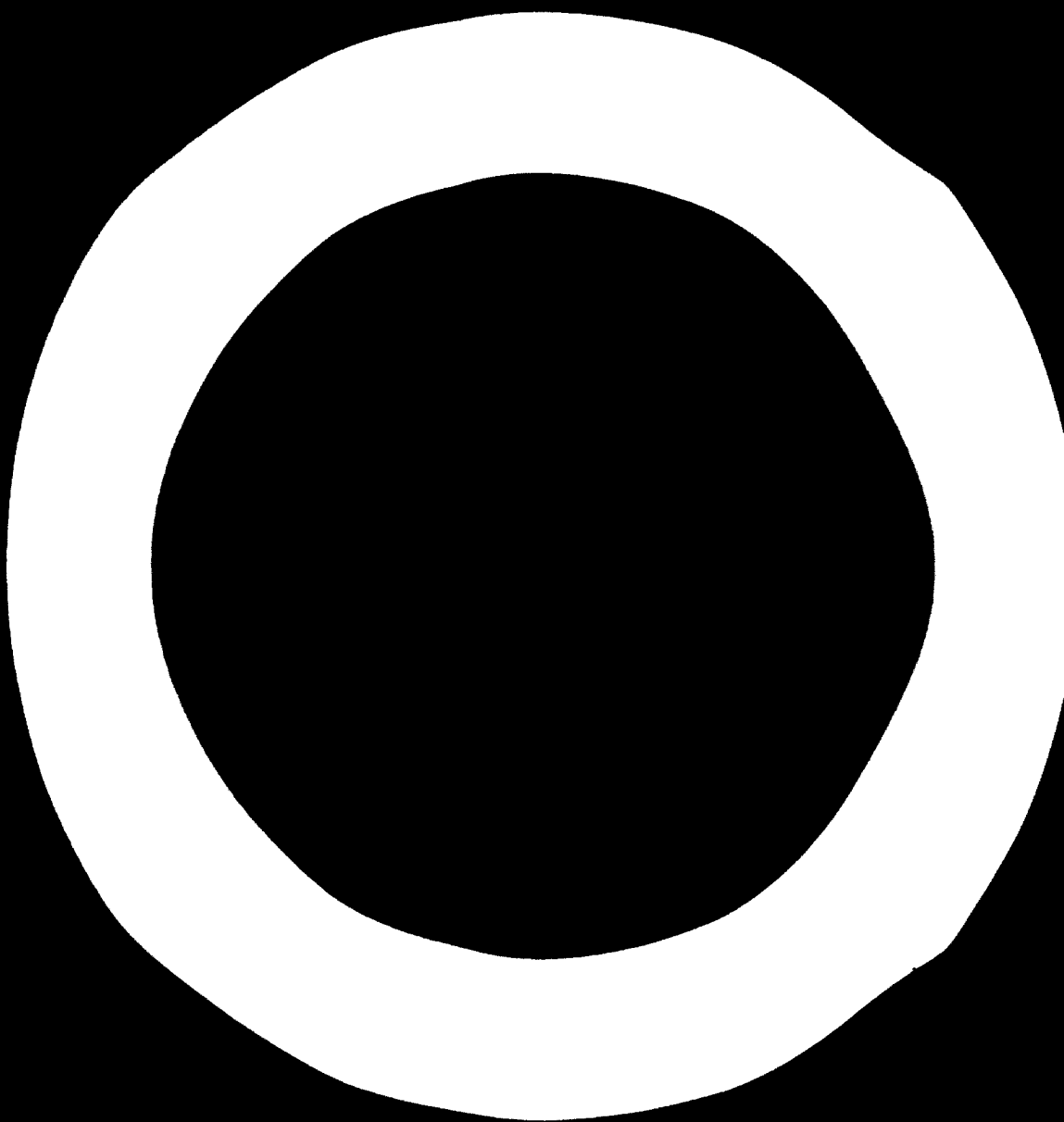
REPORT
on a
MISSION TO ARGENTINA

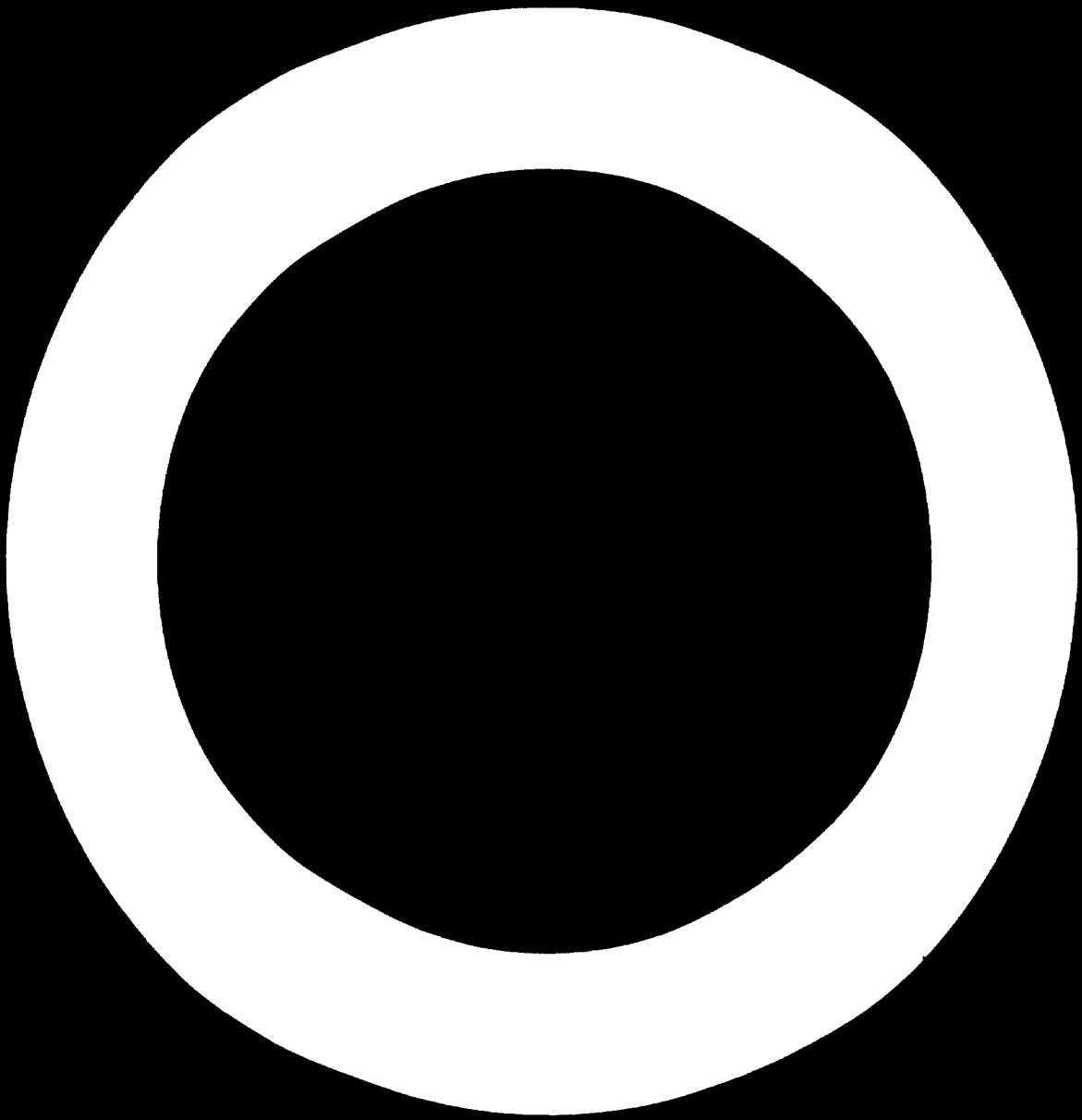
from 25 November to 2 December 1970

Page 6, para.4, line 2:

After 16,000,000 replace "tons" by "heads of cattle"

Corr.1





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Addendum 1

Supplementary Meat Statistics

id.71-793

ADDENDUM

Supplementary Meat Statistics

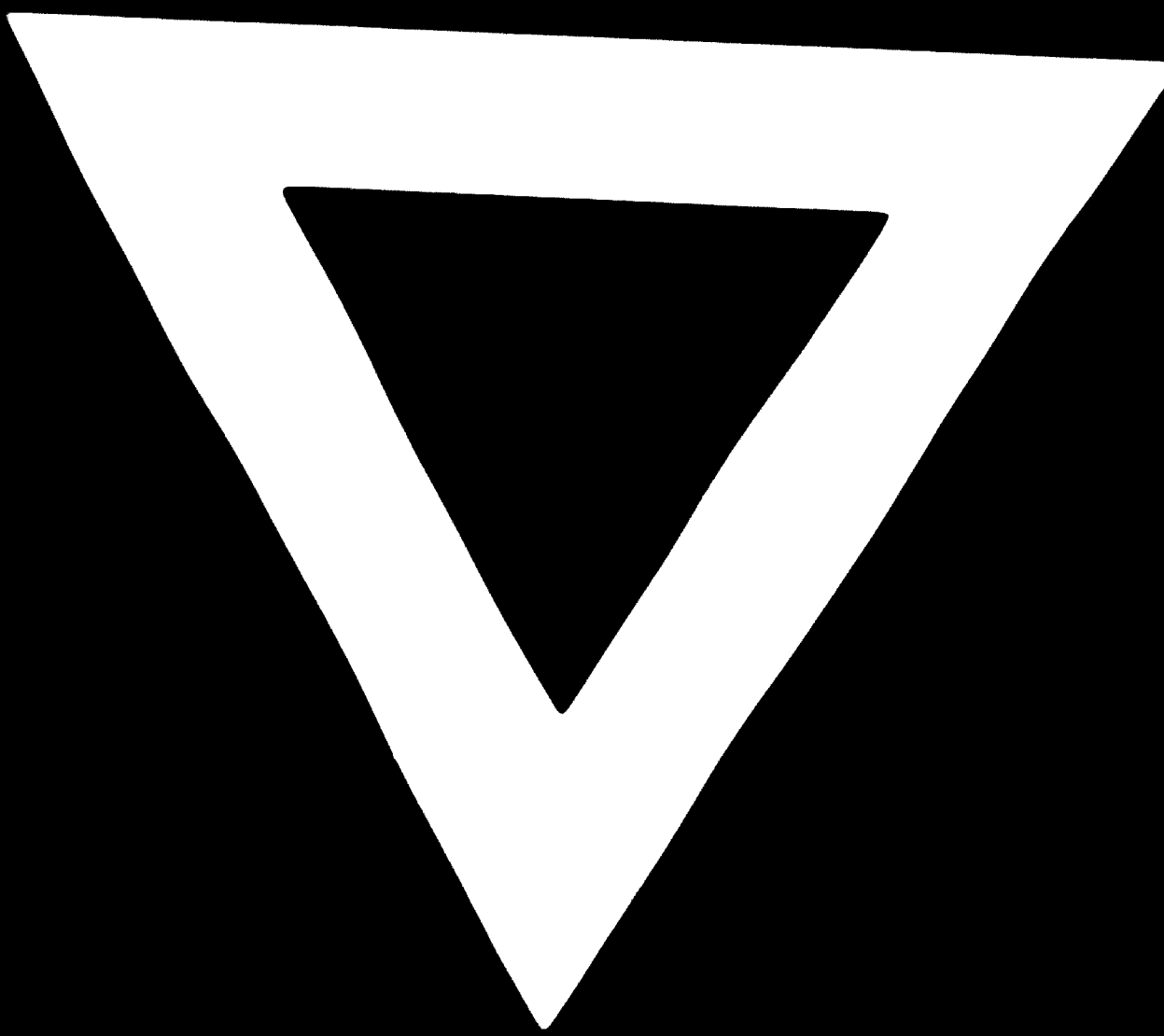
	1964	1965	19[illegible]	19[illegible]	[illegible]	[illegible]	
Head of cattle		46,709	47,000	51,[illegible]	[illegible],4	[illegible],[illegible]	thousands
Beef Veal meat production from slaughtered animals	2,019	1,99[illegible]	2,[illegible]21	2,[illegible]22	[illegible],52[illegible]		in thousand tons
Head of cattle slaughtered	9,368	9,13[illegible]	11,07[illegible]	11,52[illegible]	[illegible],00[illegible]	[illegible],5[illegible]0	in thousands
Exports:							
Livestock total	590	563	[illegible]90	[illegible]2[illegible]	59[illegible]	6[illegible]	million of US-$
Live animals	24	24	2[illegible]	[illegible]2	[illegible]2	[illegible]3[illegible]	million of US-$
Meat	329	329	499	[illegible]54	[illegible]4[illegible]	[illegible]	million of US-$

Source:

Production Yearbook Vol. 23, FAO
Recent Economic Development and Prospects of Argentina, IBRD, May 1969.

Population of Argentina [illegible] million

[illegible] approx. [illegible],[illegible] million



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