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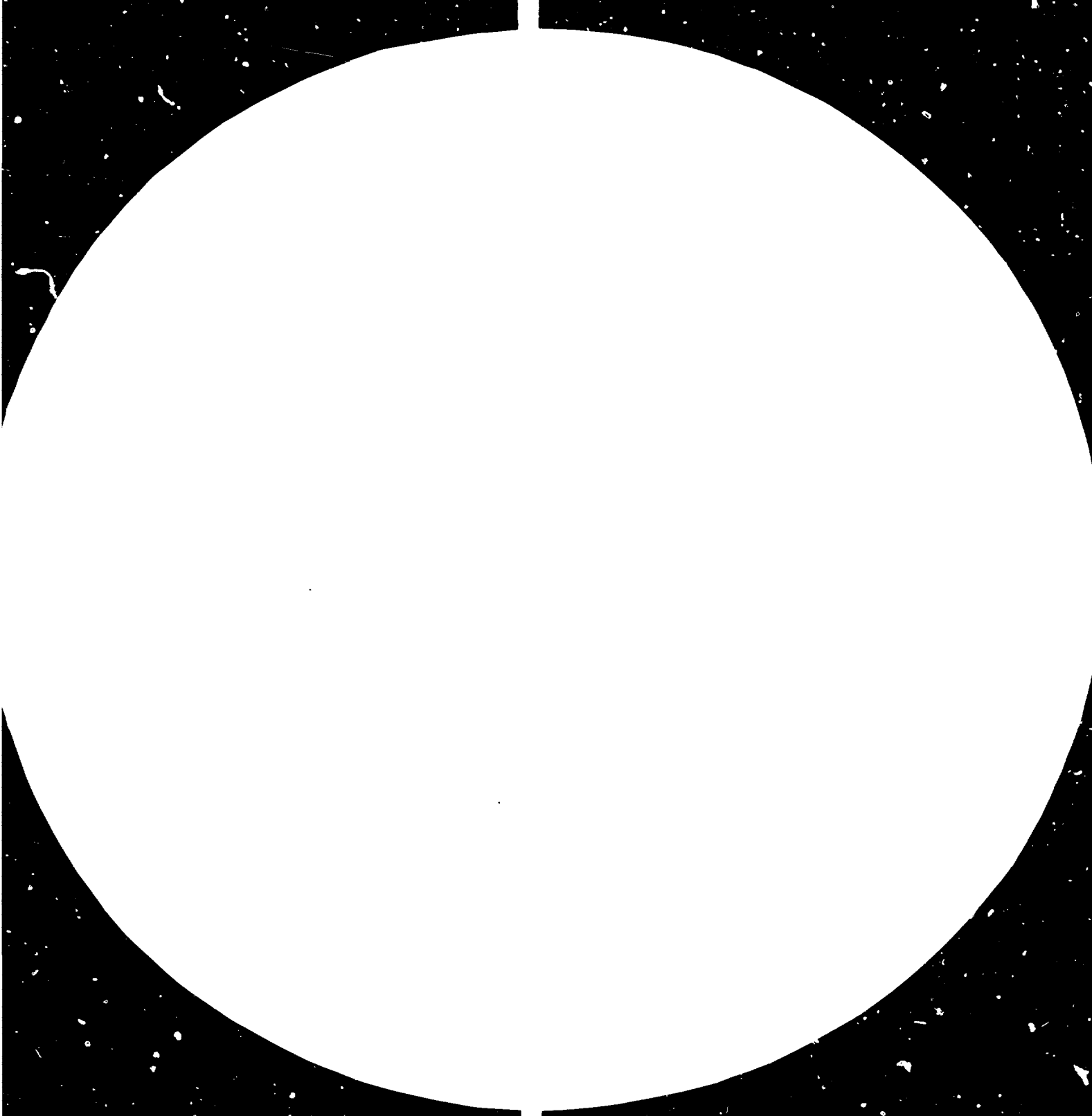
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Minimum Resolvable Detail (MRT) Chart

Resolution Test Chart



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Trust
LIMITED

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STANDARDIZATION AND QUALITY CONTROL

IN FOOD INDUSTRIES IN IRAQ

presented by the

Government of Iraq

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PREFACE

This document, Standardization and Quality Control in Food Industries in Iraq is one of 18 studies presented as supporting material to the Iraq country paper about the development of agro-industries and state of agricultural production and supplementary industries. We thought of presenting them to assist the reader in getting acquainted with the pioneering experiment in Iraq in the development of this field of our economic activities. This documentation reflects the great development achieved within the years that have already elapsed since the uprising of 17th July Revolution under the leadership of Arab Baath Socialist Party that aimed at achieving economic and social welfare for the people by rational use of the natural resources and elevating our country to the rank of advanced countries within a considerable period.

From the point of view of the Revolution leadership in Iraq, what has been achieved so far in the field of irrigation development, drainage, mechanization of agriculture, animal production, other agro-industries, and other infra-structural development in this field, are deliberate and effective steps towards reaching our aspiration.

In those studies we have tried to highlight the main development features, the negative sides as well as the positive results achieved so far with the objective of presenting our experience to brotherly and friendly countries in particular to those whose conditions and potentialities are similar to our country. This exchange of experience is not only a necessity but a duty imposed on us by our principles and the current international circumstance in which food weapon becomes one of the important weapons raised by imperialism in the face of developing countries. If those countries do not support each other and exchange national experience their task in achieving their food security will be, if not impossible, difficult to achieve.

We hope that our contribution together with that of other participating states and organizations will contribute to the success of this ministerial meeting on development of food industries in developing countries.

Preparatory Committee
for the Round-Table Ministerial Meeting
on Agro-Industry Development

STANDARDIZATION AND QUALITY CONTROL
IN FOOD INDUSTRIES IN IRAQ

Introduction

The national development plan, with its broad objectives called on the expansions in the productive sectors, amongst which are oil and minerals, industry, agriculture and services. These sectors are sometimes called service industry such as: transport, communication, health municipality, management...etc.

These expansions, if implemented, require the application of modern scientific methods, such as quality control, in running various establishments and developing their systems and its quality.

The importance of these systems for the productive sectors is that they ensure the consumer getting equal return for the price he pays for the commodity. As for the producer, if quality control is implemented in a pragmatic way, it will definitely lead to production with less defect. Consequently, decrease in production costs resulting from the difference between defected product costs (if it were sold with less value) and in the saving accomplished in reprocessing or dumping of rejects, means an increase in production efficiency of the factory with a decrease in the rejects.

As far as its significance in the service industry is concerned, it is by all means, not less than that in the productive sector because of the importance of quality and its return on the work.

The National Development Plan
in the Field of Standardization

The general objectives of the national development plan highlights the following elements:

1. The development of in-plant quality control systems and the subjection of these systems to the continuous development to ensure that the product can compete qualitatively with similar commodities in the world market, and also make the consumer more concerned and confident of local industrial products.
2. The development of production plans at the industrial sector level, as a whole, and the implementation of programming systems at the project level, in order to ensure maximum utilization of the available resources.
3. The emphasis on the role of industrial quality control and the compliance of products to technical manufacturing standards in achieving quality products.
4. The establishment of the necessary measures for transfer, development and adaptation of technology to suit the local development conditions of the country by establishing national technology substitutes capable of competing with other technologies, as for the guiding directories on improving productivity levels. The national plan considered two major elements namely: improving the production productivity level and productivity on project level. The plan also emphasized the improvement of product quality and quality control as the plan states, quote, "The importance of product quality improvement especially in the industrial and agricultural sectors, and not to be contented with quantitative growth of production during the plan period but at the same time realize the development of quality control system". Unquote.

In the field of industrial products, the plan stated the following, quote, "To develop product quality in different industrial branches during the next plan period, it is essential to continue

support, establish scientific research centers and laboratories in the factories, and provide the specialized scientific staff to analyze scientific trends of improving product quality and establishing in-plant quality control systems in the factories, and seriously improve product quality, so as to make products capable of competing - qualitywise - with similar products from the developed industrial countries". Unquote.

In the field of developing the technological infra-structure of the national economy, the plan stated, quote, "The importance of allocating certain percentages of investments to promote science and technology researches".

To promote production technology in the industrial sector, the plan emphasized the necessity of providing the following facilities, quote, "Establishment of Research and Development Departments in the factories, industries and industrial organizations which are considered as vital links in the quality activity chain, also providing these departments with the facilities such as technicians and specialized technical staff capable of carrying out research and development; establishing special standards for the Iraqi technology that is appropriate to their conditions and national strategy and to encourage its competition with other technologies". Unquote.

The resolutions planning council contained many directives essential for the implementation of scientific research and technology projects.

Evaluation of Standardization and Quality Control in the Country

Our evaluation of the country's position from the standpoint of standardization and quality control until recently, is as follows:

1. The lack of national plan to design and plan standardization and quality control at the national level.

2. The presence of central organization for standardization and quality control specialized with issuing national standards and observe their implementation in different fields. This agency has a legislative authority according to the decree no. (1) of the Industrial Control Law of 1973, issued by the Ministry of Industry and Minerals.
3. The presence of several administrations assigned with quality control in services sector like, administrative health control, commercial control, managerial and monetary administrations, etc. These agencies are attached to several ministries and there is no coordination between their activities, planning or working programs. Their activities cannot cover the desired control of the the services required.
4. The presence of quality control departments in all industries and factories of the socialist sector, but very few in the mixed sector, and almost none in the private sector. The ability and efficiency of these bodies differ according to their available potential and expertise. They implement some or all quality control activities such as product conformity to standards, product development, vendor, marketing, and storage control, etc.
5. The lack of specialized quality control departments in one of the most important productive sector which is agriculture, to deal with:
Pre-harvest control which includes control of different agricultural production stages starting from cultivation, plantation to harvesting and what is connected with it to provide suitable conditions for normal growth, such as fertile soil with no harmful weed or disease, suitable climatic conditions, continuous protection from insects and diseases and regular irrigation.

Pre-harvest control also includes:

- Control of harvesting, packing and transporting agricultural products from farms to marketing stations.
- Control of preparing agricultural products for marketing such as weighing, loading, washing, sterilizing, grading, classifying, packing and packaging.

- Control of manufacturing packing boxes.
 - Control of handling and shipping products.
 - Inspection and release of marketed products.
6. The lack of applied research centers that deal with developing products, processes, raw materials, or utilization of by-products, or developing packing and packaging, etc.
 7. The lack of supervision in its applied sense such as consumer societies that exist in most developed and developing countries, except in the Arab states. The only supervision that exists is reflected in the daily newspapers and in the magazines from consumers' complaints.
 8. The lack of basic infrastructures for quality control that include plans and programs, legislations and regulations, laboratories and equipments, technical staff, analytical methods, training and upgrading, technical information and documentation systems, etc.

Measures for Implementing National Development Plans
in Improving Standardization and Quality Control

The facts aforementioned, have started to change in the light of implementing development plans and the generalization of standardization and quality control activities at the national level. The most important aspect of this change is the issuing of the law of the central organization for standardization and quality control which contains the following basic principles:

1. The adoption of defined manufacturing standard in each productive industry which define the requirements appropriate to the consumer and the nature of the product.
2. The introduction of the principle of granting "marking certification" to the products and industries.
3. The introduction of penalty to those who defy implementation of standards; such penalties include halting of production until the origin of contravention is cured.

4. Unlicensing new industrial projects unless manufacturing standards are presented in accordance with the regulation of the Central Organization for Standardization and Metrology.
5. The beginning of laying basic principles of supervision and technical inspection of machinery and equipments.

Standardization and Quality Control
at the Industrial Level

The most important measure taken by the industrial sector in implementing development plan is summarized as follows:

1. The establishment of research and development department in each industry of the Ministry of Industry and Minerals with the following objectives:
 - a. Development of products and processes; create substitutes for raw materials, minimize production costs; improve productivity; minimize defects and industrial losses; find proper means of utilizing by-products; develop packing and packaging; development of industrial and engineering design; and proper means for treating pollution.
 - b. Improving the development of manufacturing practices of quality control through:
 - Developing quality control structures.
 - Developing quality control systems according to the best applications adopted by the industrial countries such as the introduction of quality control "statistical" charts; or the establishment of quality control circles, or the inspection plans by sampling representation; establishment of quality committees, or production-marketing committees; re-establishment of field inspection activities and trouble shooting activities, etc.
2. The establishment of a high committee for the transfer of technology in the industrial sector as well as bureaus in every productive industry with the following objectives: follow-up studies,

research, and information associated with industrial fields and obtain the latest information on technical and scientific development in the world.

3. The establishment of national body for packing and packaging, to collect information and to nationalize the coordination of using packing and packaging materials; follow-up by the organizations responsible and implementation of standards; coordinate with counter type of Arab and international organizations.
4. The establishment of Food Industry Research Centre.

Standardization and Quality Control Measures
in the Socialist Food Industry Sector

The main measures taken by the Socialist Food Sector Industries in implementing national development plan concerning standardization and quality control are:

1. Establishment of a central quality control committee in the state organization for food industry and its productive companies to prepare plans, policies and programs for standardization and quality control.
2. Establishment of quality control circles in every industry similar to the circles operating in Japan and to develop products and services quality.
3. Standardization of company standards of all state organizations for food industry companies with that of the national standards through the technical food committee working within the central organization for standardization and quality control.
4. Preparation of field studies on every company of the state organization for food industry by experts of the Research and Development Department of the same organization.
5. Preparation of studies on the evaluation of quality performance in the food industry.

Standardization and Quality Control
in the Mixed and Private Sectors

In implementing the national development plan with respect to standardization and quality control, the mixed and private sectors have acted as follows:

1. Compliance of private sector industries to food legislations and regulations.
2. Refrain from granting licenses to new food industries unless these industries submit their manufacturing standards.
3. Convincing the management of private sector projects of the importance of quality and its economic and technical profitability.
4. Commissioning of the Iraqi Federation for Industry to various training and upgrading programs for the manpower working in the field of standardization and quality control.

Measures of the Central Organization
for Standardization and Quality Control

The Central Organization for Standardization and Quality Control measures in the Food and Industry Sector is as follows: Issuing standards for most of the food stuff available for distribution, whether processed, semi-processed, or raw material. These standards include:

1. Analytical and sampling procedures.
2. Food additive standards.
3. Contaminant standards.
4. Packing and packaging standards.
5. Label and labelling standards.

The procedure followed in preparing most of these standards is the international, regional foreign standards with slight modification according to local conditions, like those of the International Organization for Standards (ISO) or the Codex Alimentarius (Codex),

or the Arab Organization for Standardization (ASMO) or the American Standards (STM), (AOAC), (ASA), or the British Standards (B.S.S.) or the French Standards (AFNOR) or the German Standards (DIN) or the Russian Standards (GHOST)...etc.

National Food Standards

The Iraqi Food Standards, issued by the Central Organization for Standardization and Quality Control, included the following:

1. Vegetable Oils and Fats Standards.
2. Dairy and Dairy Products Standards.
3. Soft Drinks and Alcoholic Beverages Standards.
4. Canned Food Standards.
5. White Sugar and Sugar Products Standards.
6. Cigarettes and Tobacco Standards.
7. Miscellaneous Food Products Standards.
8. Food Additives and Essential Oils Standards.
9. Fresh Vegetables and Fruits Standards.

Future Projections of Standardization and Quality Control in Food Industry Sector

As it can be noticed from the planning and designing standardization and quality control programs and their implementation on national scale (especially in the food industry sector), there is a high rate of growth and development achieved in this sector which is obvious from the following:

1. All food industries and organizations in the country all committed to obey national food legislations and regulations with respect to manufacturing, handling and quality control.

2. All food industries and organizations in the country are committed to compel to cooer of the central organization for standardization and quality control of 1979, with respect to manufacturing, sampling testing and analysis, etc.
3. The continuous follow-up of industrial food products by the government and people control bodies, to ensure the implementation of national legislations and regulations and the compliance of food products to the standards.
4. Accomplishments of public sector food industries and the manufacturing standard with their respective parts, which entails the following:
 - a. Raw Materials Standards
 - b. Semi-Processed Materials Standards
 - c. Finished Products Standards
 - d. Packing and Packaging Materials Standards
 - e. Analytical Standards
 - f. Flow Process Standards
 - g. Manufacturing Notes
 - h. Formula Sheet
 - i. Deviation Standards
5. Establishment and development of quality control infrastructures in all public sector food industries. Such infrastructures include buildings, specialized laboratories, modern and developed laboratory equipments, technical staff, field inspection staff, analytical methods, technical information and documentation, standard specifications, training, quality awareness, etc.
6. Implementation of highly developed technical systems and trends in the activities that affect quality, such as production, quality control, maintenance and services in all public sector food industries, emerging from the concept of integrated quality control.
7. Providing bigger productive capacities to meet local market and export needs so that the quality does not deteriorate in attaining higher production rates.

8. Replacement of old production lines by modern ones.
9. Most of public sector food industries change to two-shift work especially in filling and other departments which require intensive manual labor to try to avoid shortcomings of night shifts. Such shortcomings include decrease in productivity and deterioration of quality, rise of costs, increase in industrial waste and taking advantage of the night shift to carry maintenance and cleaning and to prepare for the morning and afternoon shifts.
10. Enforcement of control on food additives that goes in the products of the public sector food industries by restricting their use in view of their toxicological evaluation, so as to ensure food hygiene and protect consumer's health.
11. Separation of quality control departments from technical departments of public sector food industry and link them with management - (Director General) - in order to maintain good backing for the quality control functions and enforce their actions.
12. The public sector food industries focuses on the role of human beings in achieving quality through the state organization programs in the field of quality awareness, technical training and upgrading.
13. Implementation of quality motivation systems and programs in public sector food industries taken into account incentive systems and programs of the industrial countries.
14. Implementation of coding systems in the public sector food industries.
15. Implementation of principle of evaluation on the basis of quality rather than quantity in the public sector food industries.

Proposals for Accelerating Standardization and Quality Control in
Agro-Industry Sector of Developing Countries

1. Due to the importance of cooperation and coordination between developing countries in the field of standardization and quality

control and its return on commercial, industrial and technical exchange between these countries and other common bases, it is suggested to increase cooperation and coordination between these countries in international conferences and seminars of the International Organization for Standards (ISO), Codex Alimentarius (Codex), Codex Coordinating Committee for Asia, and others. A common position amongst these countries in this respect, would ensure product interest of these countries in the world market, as well as an agreement on a common food law and standards between these countries is also suggested.

2. Due to the importance of standardization and quality control in the agricultural sector of the developing countries in maintaining quality raw materials to food industries, it is suggested to implement a unified quality control guide book for pre- and post-harvest crops in the developing countries.
3. Due to the importance of packing and packaging in preservation of raw materials and agricultural crops used in food industries, in giving the industrial products the proper appearance and protection, and in minimizing industrial losses, it is suggested to give more attention to packing materials and products of the developing countries. To attain the above-mentioned objectives, specialized centers must be established, infrastructures provided and quality standards of these industries be clearly defined.
4. Due to the importance of research and studies in the field of production, processing, packing and packaging development, and in the search for more economic raw material substitutes, in the utilization of by-products and in solving industrial pollution problems, it is also recommended to strengthen cooperation among developing countries in the field of the above-mentioned research.

