

IMPACT OF ISO 9001 & HACCP CERTIFICATION IN DAIRY INDUSTRY

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Introduction

Quality and food safety are going to be the biggest competitive issues of the 21st century. Therefore, quality and food safety management systems and international trade are among the most important concerns of dairy industry and the government. A commitment to excellence in manufacturing and services is essential to a nation's long term economic welfare. Globalization of markets and their expansion at a scale visualized never before has created a fierce competition among nation's bidding for such a market. Price factor no longer valid has turned the emphasis on quality encompassing food safety, reliability, performance, maintainability, durability and acceptability by the customer. There is yet another revolutionary development of this century is shift from production economy to knowledge economy.

India has achieved the distinction of being the largest milk producer in the world. The present dairy industry set up represents a blend of public, cooperative and private sector dairies. Each segment has its own problems and potentials. If dairy industry is to survive in the ever increasing global competition and excelling in its quality and safety approach, it has to seriously think of reorienting the paradigm of change. The change that encapsulates sound hygienic norms, good manufacturing practices, proactive food safety programmes and quality management systems.

Processing of dairy products to satisfy the palate of the consumer is not enough. It must be free from harmful additives, microbial contamination, physical and chemical hazards and remain so for a period it is intended to be consumed. Therefore, the methods employed in quality assurance programmes for the dairy industry will vary considerably in accuracy and sophistication according to the type of process and size and nature of resources available.

With the advent of Quality (ISO 9000) and Food Safety (HACCP) Management Systems, the concept of quality and food safety has taken a tangible form. For the first time there is a broad consensus about quality and food safety system's minimum requirements. This is the reason why ISO 9000 has unanimously received a worldwide acceptance and HACCP is fast gaining momentum in its application. This presents a good opportunity for the dairy industry for upgrading quality and food safety and bringing uniformity and consistency in its supplies to international market. These standards have become the subject of intense focus worldwide and are important both as a potential market place requirement and as a marketable company feature.

Since the International market has become demanding in terms of quality, safety and delivery, installation of quality and food safety management systems have become de rigueur for long term survival and for entry into competitive global markets. The application of HACCP is compatible with the implementation of ISO 9000. The HACCP approach adds value to ISO 9000 Quality Management System and a combined effect of both would be a safe and wholesome food to consumer.

The trade reforms initiated by the World Trade Organization (WTO) have already changed the business environment. The Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary (SPS) agreements brought out under WTO govern the international trade. SPS is particularly applicable to food industry and adoption of HACCP standard under this agreement makes it mandatory for the food industry to apply Food Safety Management System (HACCP) for facilitating international trade.

A decade of implementation of ISO 9000 in Indian industries is good time for looking back and assessing the impact of ISO 9000 on quality. The relevant questions now to ask are whether the industries that have installed ISO 9000 systems and have subsequently got certification have achieved the objective that they set to achieve and What are the difficulties, obstacles and limitations that exist in the way of ISO 9000 implementation and certification?

Constraints Faced by the Dairy Industry

Dairy products are sensitive commodities. They directly affect human health and safety if not properly processed and contamination gets into it during procurement, processing, handling, storage and transport. The mechanism of ensuring food safety is complex because food hazards are borne by raw materials, process contamination and improper handling and packaging before it reaches the customers. Controlling these hazards in the food chain at different stages must be intrinsic part of food manufacturing system.

Problems often arise in the manufacture of dairy products, due to the nature of the inherent variations of raw materials being used. Differences in raw materials may be due to agro-climatic conditions, cultivation and rearing techniques, and non-uniformity within the species concerned. This poses an additional burden upon maintaining control over the system in maintaining consistency. Good Manufacturing Practices (GMP) and Good Agriculture and Animal Husbandry Practices (GAHP) are necessary to ensure food safety from raw material that does not impart any undesirable contaminants such as pesticide residues, metallic impurities and microbiological spoilage to get products with consistent quality and safety.

a) Top management commitment

The top management is often not committed to quality and food safety. Since quality and food safety are top management driven activities, management commitment has to descend down to the shop floor. If the top management is not committed to quality and safety things do not improve.

There is a lip service to quality and food safety. Desired concerns are not shown by top management. In many cases the management is only interested in getting certification and adorns his office wall with the certificate and journey to quality ends here.

There are islands of excellence. I have seen some dairies where situation has drastically improved on account of top management commitment to quality and safety. These are the places where people could go and see how things have changed. It does not require large resources to improve. It requires unrelenting will to improve through dynamic leadership to drive workforce for continual improvement. In any system there are 80 percent improvements which do not need heavy investments.

b) Lack of building infrastructure

The dairies designed are not capable of accommodating the food safety parameters necessary for meeting international norms such as fly, insect, bird, rodent protected structures. With my close association with dairy industry for preparing them to meet international norms such as quality management system (ISO 9000) and food safety management systems (HACCP) some deficiencies have been observed. These are:

- i) too many entries to the production area,
- ii) no entry protocol being observed,
- iii) internal finish facilitates harbouring of insects and birds,
- iv) building not kept under repair,
- v) lighting fixtures not protected to safe guard against glass pieces falling in the product in the event of breakage etc.,

c) Insufficient training and education

There are fast technological changes taking place around the world. There is a need to constantly upgrade skill of dairymen in new developments. The dairy management does not give enough stress on training to improve and upgrade operations. I have seen during my training sessions in dairies that they have very faint ideas of quality tools and techniques and latest technological developments. Food safety management is very new to them. Some of them have not even heard of them. In today's industrial environment quality and food safety management systems have come to stay in shaping the dairies in the new millennium. In this endeavour training and upgradation of skill would be necessary to cope with the developments.

d) Inadequate testing facilities

The dairy industry is on the slippery ground. The testing facilities are oriented to only routine testing. The main emphasis is on production related testing and safety related testing such as testing of metallic impurities like lead, toxic elements like aflatoxin, pesticidal residues and pathogenic microorganisms is mainly absent. Water used in dairies is often of unknown quality as it is not tested against defined criteria like WHO norms for potable water. Without knowing presence or absence of harmful elements, it would be difficult to say that whether the product is safe or unsafe for consumption.

To establish these testing facilities will involve heavy expenditure and dairies may not be in a position to acquire such facilities. There should be a place where they could get their samples tested. National Dairy Development Board provides such facilities but with the increase of demand this facility is highly inadequate.

e) Lack of appropriate attitude

The biggest bottleneck is going to be personnel attitude to quality and food safety. People are saddled with old methods and mindset. There is a conflict between new and old generation of dairymen. Under the circumstances undesirable practices tend to continue and ignored by dairymen. For instance presence of a fly in a can of milk or in a vat of ghee is not seen with concern. In some dairies supervisory staff went to the extent of telling that how does it matter they are filtered at the next stage of processing. The dairymen must discern desirable from undesirable practices and promote desirable actions. This attitude is partly due to lack of awareness and training.

f) Inadequate adherence to hygienic norms

The edifice of food safety management system is built around hygiene both within the processing area and in the immediate vicinity. There is a very scant respect to hygienic norms in most of the dairies. These norms appear to be there more for breaking than maintaining. The international norm on hygiene have been developed and published by Codex Alimentarius Commission.

The basic document is Recommended International Code of Practice- General Principles of Food Hygiene. The dairy industry would be better placed if they adhere to these hygienic norms. Personnel hygiene is the weakest area to be addressed. It must start from the top management when he takes a round of the dairy. Often laid down norms of hygiene are not followed. For instance not wearing white coat and washing hands while entering the dairy, not following entry protocol while entering high hygiene areas. This gives very bad signal to lower down staff. There should be management of hygiene by practicing and not by preaching.

g) Weakness in primary milk production

Unlike in the West where milk production is at dairy farms and mechanical milking conditions exist, in India milk production is spread in villages where animal holding is as low as one animal. The hygienic condition prevailing there is far from satisfactory. This condition at village level is not conducive for clean milk production.

But we have to live with these situations, yet meet the norms. The situation can be improved with concerted efforts both by government agencies and cooperatives. A vigorous programme of education and training is needed on good animal husbandry practices. In fact this programme of education and training at village society level has been done in selected cases in Gujarat and Punjab with very encouraging results.

The Clean Milk Production programme launched by the National Dairy Development Board is bringing good dividends and quality of raw milk has gone up wherever such programmes have been implemented. This scheme has to reach each village and collection centers.

h) Multiple inspection and certification systems

Dairy industry today is facing multiple inspections and certification systems operated by agencies such as Export Inspection Council (EIC), Ministry of Agriculture administering Milk and Milk Products Order in addition to number of rules and regulations from different agencies.

These follow more or less similar criteria yet operated separately instead of recognizing

national certification system and strengthening it. No organization wants to leave its authority. This creates confusion and duplicates national resources without commensurate benefit to the dairy.

Certification Process

Indian dairy industry has taken cognizance of the imperatives of global market. It has therefore taken initiative to launch a vigorous programme for implementation of ISO 9000 & HACCP. Majority of organized dairies in the country have taken / are taking efforts to implement ISO 9000 & HACCP systems. The obvious question is asked whether ISO 9000 & HACCP certification has made any impact in the enhancement of quality and food safety in the dairy industry? The answer is both YES and NO. In many cases it has brought some system in place of no system. In many others it has upgraded the existing system. In both the cases it has not necessarily brought compliance to international norms. The basic aim is to implement and to obtain third party certification as a proof of adherence to quality and food safety management systems rather than putting the system in place to gain economic efficiency.

The growing demand for certification services has resulted in proliferation of certification agencies to meet the demand. But instead of certification becoming a service to industry it has become a commercial proposition. There are a number of certification agencies now operating in the country. Though all certification agencies profess to operate according to international norms for certification, their procedures and modus operandi are at least varying to a great extent.

Credibility of Certification Agencies

The process of certification of different certification agencies varies considerably despite international criteria being available from ISO. The majority of certification bodies are from foreign origin. Their certification systems are accredited by accreditation bodies in their countries. Accreditation process involves the assessment of not only the system practices but also the competence of its personnel. Further accreditation is awarded for industrial sectors in which the certifying body has been found to be operating satisfactorily and to the satisfaction of the accrediting body. Accreditation body need to have 4 periodic surveillance on their operations which appears to be absent in their Indian operations. This is perhaps the reason why their approach varies considerably and variability exists in their operation. The national certification bodies are no different. Their approach and operations also vary. This needs to be paid attention to for the benefit of industry.

Credibility of Auditors

The most important aspect of certification is auditing. Here too, wide variation exists among auditors of different certification bodies. Though all ISO 9000 and HACCP auditors meet the minimum requirements of auditors' training and are thus qualified, they interpret ISO 9000 and HACCP requirements differently adding another dimension of confusion. This coupled with a lack of uniformity in auditing concepts and approach is resulting in the auditing activity itself becoming afflicted with subjectivity making it amenable to criticism. The auditors' interpretation of ISO 9000 and HACCP requirement varies considerably due to lack of their understanding and lack of rigorous programme of calibration of auditors by certification agencies as instrument appraisal of the installed system.

Despite process approach to auditing system brought out by ISO 9000 system, it is practiced more in breach rather than in compliance. Most of the certification bodies do not have auditor of their own and they out source auditors with variable back grounds, often without accreditation. Even for auditing HACCP, which is highly food science based system; engineers are deployed for auditing by many certification agencies. It itself exemplifies how effective would be the auditing process.

Credibility of Audit Process

Most certification bodies provide pre-certification services in some garb or the other. The line between consultancy and these services is very thin. This line is often crossed which should invite provision of international conflict of interest violating code of professional ethics. A few certification bodies dole out comprehensive packages to the industry constituting consultancy, training for its personnel and finally certification. In some rare cases it is given in one work order yet another

Synergizing ISO 9000 & HACCP

Both these management systems - one design to build quality and another to build safety are compatible with each other and synergizing them will provide strength to both. The seven principles of HACCP are the building block for food safety management system and eight quality principles implemented through five elements of ISO 9001 are the building block for Quality management system.

The two systems are closely related and are compatible with each other (See Fig. 1). Twinning the two systems will give synergetic effect for better results. Therefore, the best way is to use ISO 9000 route to manage HACCP to ensure quality and safety of food. Both the systems are quality assurance systems, designed to provide maximum confidence that a specified acceptable level of quality and safety are being achieved at an economic cost.

Conclusion

It may-be seen how the two systems-ISO 9000 and HACCP -are vital for management of quality and safety of dairy products to assure customers around the world. The regulatory agencies lay more emphasis on safety while businesses emphasize on both quality and safety as component of reliable quality. HACCP adds reliability to quality i.e. food is not only good at the point of manufacture but also through its shelf life period.

It is logical to select ISO 9000 route to implement HACCP as it is a well known and widely practiced system around the world with over 600 000 companies already certified. It would be much easier to induct HACCP in an already operating ISO 9000 system with a little tailoring.

Dairy industries in India have challenge as well as opportunities to follow food safety management system. The main constraint with food industry is to implement international code of hygiene in their operations. There is lack of proper appreciation of food hygiene and food safety norms by employees in general.



Fig. 1