



Improvement of the quality of milk and other dairy products and compliance with legal standards

(PRJ-0252-2020)

Dairy Standard Agency NPC

Year 2020 (January 2020 till December 2020)

Project goals

Goal 1 - National monitoring of milk and other dairy products in collaboration with Health Authorities

Achievements

During 2020 the Covid 19 pandemic conditions that government and industry had to operate in influenced all the project related activities of DSA. Challenges such as the limited availability of Environmental Health Practitioners to conduct sample collections due to Covid 19 responsibilities e.g. overseeing funerals, tracing of people exposed to virus and reallocation of resources were common. DSA personnel however, where possible, managed to assist with sampling in various provinces and in terms of sound relationships with the relevant authorities continued to work with the law enforcement bodies to limit the sale of non-conforming product.

Initial expansion of the testing regime to include *Enterobacteriaceae* testing on all milk samples has proven to be successful. The inclusion of *Enterobacteriaceae* testing as part of the standard analyses for milk and other dairy products, increased the scope of risk identification as the ability towards pathogen detection and broadened control.

Food safety non-conforming results obtained were assessed and communicated to the municipal health authorities for further action. Contact details of participating authorities as well as processors were updated as per standard procedure.

The total number of samples of milk and other dairy products analysed are as per table 1 below.

Table 1

Dairy Product	Total
Fresh milk in the categories named packed pasteurised and unpasteurised, pasteurised and unpasteurised retail bulk milk	698
Flavoured milk	35
Yoghurt including plain, flavoured and yoghurt with added fruit and/or foodstuffs and drinking yoghurt	127

Non-achievements / underperformance

Decrease in sample populations due to impact of Covid 19

Reasons for non-achievements / underperformance

Decrease in sample populations due to impact of Covid 19

Planned remedies for non-achievements / underperformance

Cycle programmes 2 and 3 were combined.

Cultured milk, cultured buttermilk, buttermilk	99	
Butter	26	
Cream incl. cultured cream	57	
Cheese (various classes)	139	
Ultra-high pasteurised and sterilised milk	67	
Condensed and evaporated milk	29	
Powdered milk and powdered blend	11	
Dairy desserts and custard	54	
Total	1342	

Samples were mainly submitted to DSA Laboratory Services and where applicable to SANAS accredited laboratories as per standard procedure and results of milk and other dairy products were benchmarked against food safety, compositional and trade metrology standards as respectively gazetted under the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act 54 of 1972), Agricultural Product Standards Act, 1990 (Act 119 of 1990) and the Legal Metrology Act, 2014, (Act 9 of 2014). Non-conforming results obtained were assessed and communicated to the processors for further action.

Contact details of participating authorities as well as processors were updated as per standard procedure.

Non-conformance reports regarding added water, inhibitory substance positive, phosphatase positive and E.coli positive were also forwarded to the relevant authorities for further action.

It is important to note that milk sampled in terms of the DSA national dairy monitoring program follows a risk-based approach and also focus on historical data as to identify possible continuous non-conformances. It is generally accepted that more than 90% of packed fresh milk offered for sale in the retail, finds its origin from the estimated top 20 to 25 dairy processors on a national level. The remainder 10% of packed fresh milk access the marketplace through small and medium size enterprises competing geographically on a national basis. The percentage of milk supply of the categories packed unpasteurised, retail bulk pasteurised and unpasteurised milk appears to be minute in relation to the total of packed heat treated milk sold in South Africa, however remain a persistent problem mainly due to poor law enforcement and continuous unlawful sale of substandard milk to the end user.

DSA in terms of its project activities continued to extensively use its updated guideline developments to promote the improvement of the level of compliance of the above categories of products during 2020.

DSA also in terms of its project protocol and relationships with the relevant authorities (see project goals 5 and 6) continuously liaised with the relevant law enforcement bodies, providing support through dairy technical information, and guideline documents to limit the sale of non-conforming products.

Goal 2 - Investigations regarding complaints received in respect of product compliance with legal standards

Achievements

Unverified product claims by processor on public electronic platforms
Illegal selling of raw milk as well as health claims on labels
Packaging integrity of dairy desserts
Chemical taste in pasteurised milk
Absence and low levels of yoghurt cultures in yoghurt
Misleading labeling of yoghurt and drinking yoghurt
Quality defect of butter
Full cream fresh -and UHT milk not adhering to the compositional standards
Incorrect labelling on milk sachets
Shelf life of fermented dairy products
Incorrect labeling of dairy products sold by retail
Composition and labelling of yoghurt and dairy snacks
Milk adulterated with water.
The above complaints were investigated and resolved according to DSA protocol.

No Non-achievements / underperformance has been reported

Goal 3 - Special investigations

Achievements

Adulteration of UHT milk with milk powder and related concentrated powders
The work on the establishment of an analytical method for test of milk powder and constituents of milk in powder in UHT milk continued during 2020. Timeous validation of test methods could not be completed and is scheduled for 2021.
Psychrotrophic organisms (*Pseudomonas*) in milk
Testing for the presence of psychrotrophic organisms (*Pseudomonas*) as standard test done on all milk samples as part of the National Milk Monitoring Program was investigated. The work supports the Risk Identification Project of DSA and also the proposed work of the Milk SA Research and Development Project as part of an action plan to:
further conduct research on the presence of the organism in milk resulting in quality defects(flocculation) in processed milk;
develop an accelerated test method for faster detection of the presence of high bacterial counts (psychrotrophs) in raw milk.
Report on the retail on plant based imitation dairy products in South Africa
In response to the request by the IDF Plant Based Beverage Action Team to survey the South African retail market for plant-based imitation dairy products[1] a task team, consisting of DSA and Milk SA Consumer Education Project was established. The task team started by reviewing existing regulations relating to imitation dairy products as it appears in R1510/2019 and then obtained samples of the products in the South African retail space. The survey was completed and forwarded to IDF by Milk SA CEP. Samples were evaluated and a further report was compiled to be used as supportive information for the work of an industry task team during discussions on imitation dairy products and the use of dairy terms with the aim to review R1510/2019 and make proposals to DALRRD.
Investigation into the continuous sale of incorrectly labelled dairy snacks.

An investigation into the composition of yoghurt and dairy snacks in the retail as a result of a dispensation repealed by the Directorate of Food Safety and Quality Assurance of the Department of Agriculture was completed.

No Non-achievements / underperformance has been reported

Goal 4 - Milk and other dairy product risk identification

Achievements

The DSA national dairy monitoring program provides for the sampling of milk categories namely packed pasteurised, unpasteurised milk and retail bulk pasteurised and unpasteurised milk as well as other dairy products. DSA compiled comprehensive statistical reports following the completion of each cycle. As a result of Covid 19 cycle quarters 2 and 3 overlapped and results were combined and reports were interpreted to determine possible industry specific food safety risks. In support of project activities a significant amount of scheduled work has been completed to upgrade the functionality of the DSA Management Information System.

Reports on non-conforming results were forwarded to the respective government departments after the cycles and each participating municipality received a cycle report on the analysis done of samples submitted. Non-conforming processors as well as processors whose contact details were verified and who requested to receive test results were provided with individual test reports. Cycle reports to health authorities are indicated in Table 2 below:

Table 2

Province	Health Authority offices
MP	38
LP	46
WC	45
NW	51
GA	42
FS	50
NC	3
EC	22
KZN	27

Relevant information regarding food safety and compositional standards for milk and other dairy products were communicated to the dairy industry and other organisations.

NATIONAL AND INTERNATIONAL FOOD SAFETY AND RECALL MONITORING

International food risk monitoring – 19 different websites and RSS feeds* were monitored on a weekly basis for possible food safety scares that might affect the local dairy industry:

Continuous monitoring did not reveal any direct threats from food safety incidents and / or product recalls to the South African consumer (national and international).

As in 2019 special attention was given to the presence of pathogens, the presence of antibiotic residue in raw milk and milk products as well as milk ring test (brucellosis test in raw milk).

Industry reports regarding the prevalence of Brucellosis in milk herds in certain provinces and consumption of unpasteurised remained unchanged, a public health concern with very limited government intervention.

No Non-achievements / underperformance has been reported

Goal 5 - Remedial action programs with the processors and distributors

Achievements

This project in particular was among the most negatively affected projects of DSA during 2020 as a result of the virus pandemic. Quarterly milk and other dairy product sample results once processed were forwarded to the respective PD's and processors/manufacturers. Where possible these activities were followed up by means of interaction with PD's and processors/manufacturers regarding non-conforming test results as well as recommendations for corrective actions. 64 Facility visits were made in comparison to 278 visits in 2019. Most of the communication was either done by means of a telephone call or e-mail and Environmental Health Practitioners (EHP's) were also requested to communicate all test results to the relevant parties.

DSA technical personnel provided the respective processors and producer/distributors and retailers (milk shops) with comprehensive reports after the visits, which are also used for further reference purposes.

As part of the remedial action program, assistance was given to processors on the verification of compliance of product labels against national standards. 97 Dairy product labels were reviewed and comprehensive feedback reports on each label were communicated to processors. The labelling website was also updated with the newest applicable regulations to ensure that it is integrated into the program.

Non-achievements / underperformance

Restricted facility visits

Reasons for non-achievements / underperformance

The project was negatively affected as a result of the virus pandemic as very little facility visits could be conducted

Planned remedies for non-achievements / underperformance

Electronic communication was used to convey information and to interact in terms of remedial actions.

Goal 6 - Communication with the authorities and other organisations

Achievements

Communication with authorities and other organisations

a. Department of Health: Directorate Food Control

As a continuous activity, DSA in a supportive role assisted the industry members with queries relating to food labelling, food safety and food additive requirements as well as dairy technical matters. Upon invitation and with the approval of DOH the DSA's managing director participated in the WTO SPS Committee Thematic Session on Voluntary Third-Party Assurance as part of National SPS Control Systems which took place on 3 November 2020.

b. Municipal Health Authorities

Communication with the municipal health authorities mainly focused on interpretation of food safety legislation and elements of law enforcement as per the health regulations under the Foodstuffs, Cosmetics and Disinfectants Act with specific reference to retail unpasteurised and pasteurised bulk milk and certificates of acceptability.

c. Department of Agriculture, Land Reform and Rural Development (DALRRD)

i) Directorate: Inspection Services (IS)

Cycle results of the DSA monitoring programmes regarding infringements in terms of the Regulations relating to dairy and imitation dairy products, as a result of the DSA mandate were restricted to communication with the Directorate Food Safety and Quality Control in light of the pending court case between Woodlands Dairy and Milk SA and the DALRRD respondents.

ii) Directorate Food Safety and Quality Assurance – FSQA (policy making)

Communication with FSQA regarding dairy product compositional matters and the interpretation of the Regulations relating to dairy and imitation dairy products continued. Formal communication with DALRRD: FSQA also continued regarding possible revisions of the latest R1510 of 2019 Regulations relating to dairy and imitation dairy.

d. National Regulator for Compulsory Specifications (NRCS): Legal Metrology

Standard procedure provides for a quarterly report regarding metrology infringements to the Senior Manager, Inspections: Legal Metrology NRCS. No formal complaints were lodged with NRCS. Interaction took place by means participation in a webinar regarding fraudulent activities (SANS 289 – under filling and misleading practises by means of oversized packaging materials)

e. South African Bureau of Standards (SABS)

DSA participated as member in the activities of the Technical Committee SABS TC 70/SC 4, Legal Metrology - sale of goods as well as the SABS TC 034 SC 17 Food products – Hygiene practices in the food industry and technical committee. Committee work continued relating to the draft SANS 10330 (HACCP). Outcomes were communicated via the Regulations and Standards Project of Milk SA to industry.

Communication with other organisations

Milk SA, MPO and SAMPRO

DSA interacted on a regular basis with the project managers of the Milk SA Consumer Education Project and SAMPRO, MPO as well as the Milk SA Project Coordinating Committee (DSA, CEP and R&D Project of Milk SA) of which scheduled meetings took place during the year. DSA's managing director participated as judge in the MPO Stewardship Awards programme and also presented during MPO Dairy School webinar sessions during the fourth quarter.

The Project management of the Regulations and Standards Project of Milk SA consulted regularly with the organised dairy industry with specific reference to regulatory matters and appointment of the DALRRD assignee. Regular interaction between the project management and the Milk SA legal team continued during 2020. A separate project report for the Milk SA Regulations and Standards report was compiled by DSA.

CGCSA: FSI – DSA as member of the Food Safety Initiative (FSI) interacted on a regular basis with the management of FSI regarding matters relating to regulations under the Foodstuffs, Cosmetics and Disinfectants Act, Agricultural Product Standards Act and the DALRRD appointed assignee, as well as new Extended Producer Regulations in terms of the National Environmental Management Waste Act, 2008.

EHEDG: European Hygienic Engineering and Design Group – DSA MD serves as committee member of the South African Regional Section of EHEDG and participated in meeting activities during 2020. The EHEDG provides a balanced forum for food processing equipment manufacturers, users and legislators to discuss issues concerning hygienic design and to stimulate food safety and quality.

IDF – DSA MD is a member of SANCIDF and of the IDF Standing Committee: Standards of

Identity and Labelling and nominated to the IDF Standing Committee for food additives. The Managing Director attended IDF webinars relating to the scope of work as member of the SANCIDF and Milk SA/DSA.

SAATCA - South African Auditor & Training Certification Authority – DSA as member attended the AGM held on 6 March 2020.

SANCU - DSA as member of SANCU communicated with the SA National Consumer Union regarding dairy food safety and quality related and attend general meetings where applicable.

SASDT - DSA MD as member of the management committee of the Northern region participated in the SASDT management meetings and general meeting during the fourth quarter.

TERTIARY INSTITUTIONS – DSA served as a member of the Advisory Boards of the Departments of Environmental Health of the Tshwane University of Technology (TUT) as well as Nelson Mandela Metropolitan University. The purpose of the advisory boards is to give industry inputs and assist the universities with the development of course material for Environmental Health Practitioners.

No Non-achievements / underperformance has been reported

Goal 7 - Liaison on legislation with authorities and other organisations

Achievements

DSA continued liaison with the authorities regarding the following legislation and standards:

1. Department of Health: Directorate Food Control

Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act 54 of 1972)

Regulations relating to milk and dairy products R1555/1997 – Milk SA approval of funding for appointment of consultant was finalised, to assist with the revision process in 2021.

2. Department of Agriculture Land Reform and Rural Development (DALRRD)

Agricultural Product Standards Act, 1990 (Act 119 of 1990)

Preparation work relating to the review of the Regulations relating to the classification, packing and marking of dairy products and imitation dairy products intended for sale in RSA (R1510/2019) was initiated. An industry workshop was held on 8 December 2020 in support of the liaison on legislation project activities, in preparing proposals to industry for comment.

3. Non-compulsory South African National Standards – SABS

Virtual work group technical committees were attended by DSA on which it serves namely TC 034 SC 17, SC034/05 and SC 10. DSA actively participated in the review and development of a draft SANS 10156: Handling of chilled and frozen foods.

4. Codex Alimentarius and ISO

Amendments to the "Codex General Standard for Food Additives" (GSFA, Codex STAN 192-1995)

Codex General Standards for the use of Dairy Terms

5. DSA Technical Committee

Work related to investigations into the product composition of goats milk in South Africa, establishment of psychrotroph and *Enterobacteriaceae* test regimes.

Extensive work was done in preparation of the industry meeting on imitation dairy and the use of dairy terms on plant-based beverages and products (R1510/2019) that took place during the fourth quarter. The work is to continue in the first quarter of 2021 which are to include all other proposals towards the DALRRD planned review of R1510/2019 in 2021.

Preparation work on the revision of R1555/1997, Regulations relating to milk and dairy products (food safety) continued with the assistance of an outsourced expert and to continue into 2021.

No Non-achievements / underperformance has been reported

Goal 8 - Information and education

Achievements

Two highly successful laboratory sessions were held during February 2020 at the offices of the DSA and Stellenbosch University addressing the topics:

- ISO standards overview in the dairy field, validation and verification process of alternative methods and regulatory approach;
- Taking Dairy into the future with alternative testing methods;
- Environmental monitoring in dairy processing facilities;
- The use and calibration of testing equipment for fat, protein, lactose and MUN (Fourier-transform infrared spectroscopy (FTIR)).

The workshops were attended by 134 industry stakeholders in dairy laboratory and related discipline with guest speakers from France and the Netherlands.

DSA presents information sessions based on the DSA Code of Practice and related guideline materials to professional EHP's as well as student EHP's, and other professions such as veterinary and B.Sc. Agric students.

These information sessions are also available to other professions and government/municipal officials, milk producers, processors and distributors that require information regarding food safety and quality standards on a national level.

All scheduled EHP presentations were dealt with by the end of the third quarter. In the interim copies of DSA presentations were made available to all lecturers for the attention of an estimated 248 students. During the third quarter a very successful webinar namely "Introduction to dairy product labelling in South Africa" was held with several prominent speakers. A total of 270 delegates registered and as this was only the introduction to the DSA labelling tool, further training sessions will be conducted during 2021.

During the fourth quarter a webinar was held with the BSc Agric Animal Sciences students of the University of Pretoria.

Non-achievements / underperformance

No lecture room or practical sessions due to Covid 19

Reasons for non-achievements / underperformance

No lecture room or practical sessions due to Covid 19

Planned remedies for non-achievements / underperformance

Conversion of industry information sessions into webinars sessions

Goal 9 - Media communication

Achievements

DSA signed contractual agreements with Agri Connect and Plaas Media. Project work resulted in ten advertisements, nine advertorials, three talks on national radio stations and two Milk SA Essay publications.

No Non-achievements / underperformance has been reported

Goal 10 - Development of guideline documentation

Achievements

The revision of the DSA Labelling Guide was completed including work relating to the t R1510/2019 Regulations relating to dairy and imitation dairy. Work on the update of the DSA Code of Practice for Milk Producers with specific reference to biosecurity as well as animal welfare following the publication of the latest SANS 1694, the Welfare of dairy cattle continued during 2020. DSA audit criteria-based SANS 1694 has been developed in support of the dairy industry compliance with animal welfare criteria. Validation of the DSA audit criteria based on SANS 1694 is to take place in 2021 with the registration of a Milk SA project and assistance of the Milk SA R&D project.

The revision work of the DSA Code of Practice for the Secondary Industry as a result of amendment of the latest SANS 10049, as well as integration of the latest SANS 10330 was completed during the second quarter of 2020.

No Non-achievements / underperformance has been reported

Income and expenditure statement

Income and expenditure statement	SKM_C25821011811370.pdf
Unnecessary spending during period	No

Popular Report

[DSA Annual Statutory Report Popular for 2020 \(2\).pdf](#)

Additional documentation

No file has been uploaded

Statement

Levy funds were applied only for the purposes stated in the contract	Yes
Levy funds were applied in an appropriate and accountable manner	Yes
Sufficient management and internal control systems were in place to adequately control the project and accurately account for the project expenditure	Yes
The information provided in the report is correct	Yes