



Improvement of the quality of milk and other dairy products

(PRJ-0281-2021)

Dairy Standard Agency

Year 2021/2021 (January 2021 till December 2021)

Project goals

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

Achievements

Operational activities due to the Covid-19 restraints continued to affect the DSA project activities during 2021 and more specifically the national dairy monitoring program in collaboration with health authorities. Combining of sample cycle activities and operational logistics (rescheduling and planning of routes) resulted in optimised project outputs in the circumstances given.

Challenges relating to the limited availability of environmental health practitioners (EHPs) to conduct sample collections mainly due to Covid-19 responsibilities, and reallocation of resources continued. DSA personnel, where possible, managed to assist with sampling in various provinces.

The annual sample run activities (cycle 75 to 78) were completed as per schedule and the number of samples per product are indicated in Table 1 below.

Table 1 **Number of samples per product collected**

Dairy product	Total
Fresh milk in the categories named packed pasteurised and unpasteurised, pasteurised and unpasteurised retail bulk milk	870
Flavoured milk	52
Yoghurt including plain, flavoured and yoghurt with added fruit and/or foodstuffs and drinking yoghurt	159
Cultured milk, cultured buttermilk, buttermilk	123
Butter	75
Cream incl. cultured cream	103
Cheese (various classes)	281
Ultra-high pasteurised and sterilised milk	114
Condensed and evaporated milk	36
Powdered milk and powdered blend	11
Dairy desserts and custard	82
TOTAL	1906

During the year 6 Metropolitan municipalities, 12 district municipalities and 44 local municipalities participate in the sampling runs, representing all provinces.

Samples were submitted to DSA Laboratory Services per standard procedure and the 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). The inclusion of *Enterobacteriaceae* testing as part of the standard analyses for milk was established and increased the scope of risk identification, towards pathogen detection and control.

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

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

No Non-achievements / underperformance has been reported

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

Achievements

The following problems were attended to and investigated by the DSA office:

Butterfat % of milk sold in Gauteng / Incorrect labelling

- Where applicable resampling and analyses of products were conducted
- Communications of non-conformance to processors were completed

Labelling and composition of butter imported from Ukraine

Labelling of plant based “butter” fat spread

Flocculation of fresh pasteurised milk

Labelling of medium fat milk sold in the Western Cape

Importation of UHT milk

Milk adulteration (Possible addition of water to milk sold in Gauteng province)

Milk sour before expire date (off-taste)

Adulteration of butter (Modified butter sold as salted butter)

Incorrect labelling and marketing of various dairy snacks under product type Yoghurt based Dairy Snack – Various role-players

Non-conformance of product against food safety standards measured against R1555/1997

Selling of expired foodstuffs in the informal market

No Non-achievements / underperformance has been reported

Goal 3 - Special investigations

Achievements

Aflatoxin M1

Procurement of DSA Lab equipment to conduct investigation work has been completed in the first quarter of 2021.

A national survey was conducted on the presence of Aflatoxin M1 in fresh milk sold in South Africa during 2021. A total number of 473 milk samples were tested of which 4.4% samples exceeded the maximum

residue limit of >50 ppm. The project was commissioned in the second quarter of 2021 and continued until the final quarter of 2021.

Psychrotrophs in milk

Milk SA project: Evaluation and validation of methods for the detection of psychrotolerant bacteria and proteolytic enzymes in milk. The project was commissioned during the second quarter. Assistance was rendered by DSA in the Milk SA Research and Development Project (Milk SA R&D) relating to the development of a rapid test method for detection of psychrotrophic organisms in raw milk registered by the University of the Free State.

4.1.3.3 Addition of milk powder to various types of milk (Pasteurised, ESL, UHT and sterilised milk)

Work on this project has been initiated in 2019 and outsourced to an external specialist laboratory to develop the analytical method currently not in existence.

The laboratory assisting with the research is building on prior work using high sensitivity instrumentation to identify these low-abundance protein modifications to build a targeted and quantitative method for detecting the level of powdered milk to both fresh and UHT milk.

Target markers have been identified and verification is currently underway to confirm specificity across a wide range of commercial UHT and powdered milk samples. The benefits of this targeted protein-based method include comparatively low cost and high confidence results. The research is still in process.

Investigation into the establishment of a suitable analytical method for the enumeration of bifidobacteria in fermented milk products.

This work was a new project identified and development continued until the end of 2021.

Establishment of a suitable sterility test for UHT and sterile product

The necessary equipment has been obtained and commissioned. The first trials were successfully conducted in 2021 and the work will continue into 2022.

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 and unpasteurised milk and retail bulk pasteurised and unpasteurised milk as well as other dairy products. Relevant information regarding food safety and compositional standards for milk, and other dairy products were communicated to the relevant dairy industry members as tests were completed.

Reporting

Reports on non-conforming results were forwarded to the respective government departments at the end of each cycle. Each participating municipality received a quarterly 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. The total cycle reports forwarded to health authorities for 2021 are indicated in Table 2.

Table 2 Total cycle reports

Province	Health Authority offices
MP	49

LP	56
WC	55
NW	63
GA	48
FS	60
NC	4
EC	20
KZN	33
TOTAL	388

Management information system (MIS) upgrading

The compatibility of the DSA current MIS platform with the Microsoft latest platform was initiated and the updating of parameters on products were aligned with R1510 of 2019. Improvements on product classification were done and the design of result reports were changed in order to be more user friendly and reflect a wider range of tests conducted.

National and international food safety and recall monitoring

National and international food safety alerts during 2021 were monitored. Approximately 19 national and international websites were monitored on a weekly basis for possible food safety risks relating to dairy during this year, that could have a public health impact on South African consumers. No further actions were required based on the monitoring activities.

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

No Non-achievements / underperformance has been reported

Goal 5 - Remedial action programmes with producers/processors and processors/distributors (PD's)

Achievements

Due to the limited shelf life of most dairy products, the follow-up of non-conforming products as to ensure appropriate action by the parties involved, requires prompt action. The data obtained from projects 1 and 5 provide, were used and effectively communicated to industry members. EHPs were also requested to communicate all test results to relevant stakeholders in a confidential manner. During the 2021 (cycle 75 to 78) sample runs, 119 visits were paid to processors, PD's and milk shops in 6 provinces (Table 3).

DSA technical personnel provided the respective processors and producer/distributors and retailers (milk shops) with comprehensive reports after the visits, which were 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. Hundred and thirteen (113) company's 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.

Table 3 Visits were paid to processors, PD's and milk shops

Province	Companies visited	DSA further assistance provided
Gauteng	17	42
Mpumalanga	18	1
Free State	29	23
Northwest	27	8
Northern Cape	0	0
Western Cape	0	14
Eastern Cape	0	7
Limpopo	10	18
KwaZulu Natal	18	0
Total	119	113

No Non-achievements / underperformance has been reported

Goal 6 - Communication with authorities and other organizations

Achievements

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. Technical matters such as the incorrect issue of certificates of acceptability in terms of health regulations in particular received attention.

Technical consultation with the directorate during the revision meeting of R1555/1997, supported the technical workgroup of the Milk SA Regulations and Standards project managed by DSA, continued during 2021 of which the work is to be completed in 2022.

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, certificates of acceptability. In support of Project 1, a letter was forwarded to SALGA (South African Local Government Authorities) encouraging the municipal authorities in the continuous participation in the DSA national dairy monitoring programme.

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 Assurance in light of the dysfunctional status of the assignee and judgement by the High Court in the case between Woodlands Dairy and Milk SA and the DALRRD respondents.

Progress regarding the appointed assignee is reported on under the Regulations and Standards Project of Milk SA.

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 the FSQA also continued regarding possible revisions of the latest R1510 of 2019 - regulations relating to dairy and imitation dairy products, which initiated the industry process to review R1510/2019.

Inputs from FSQA were also addressed during the technical workgroup meetings held during the third quarter by the Regulations and Standards Project of Milk SA. Support from FSQA regarding enquiries on compositional and labelling matters were well received, in an attempt to assist industry members with technical matters.

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 of NRCS. No formal complaints were lodged with NRCS during 2021.

Interaction took place by means of a webinar regarding fraudulent activities (SANS 289 – under filling and misleading practises by means of oversized packaging materials).

South African Bureau of Standards (SABS)

DSA participated as member in the activities of the Technical Committee SABS/TC 070/SC 04, 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.

A virtual workgroup technical committees meeting was attended by DSA on which it serves namely TC 034/SC 17 / SC 034/05 and SC 10. DSA continued participation in the review and development of a draft SANS 10156: Handling of chilled and frozen foods.

Virtual meetings of the TC 070/SC 04, Sale of goods and TC 070, Legal Metrology were attended by DSA as well as monthly African Organisation for Standardisation (ARSO) workgroup meetings relating to the TC 05, Milk and milk products

COMMUNICATION WITH OTHER ORGANISATIONS

Milk SA, MPO and SAMPRO

DSA interacted on a regular basis with the project managers of the Milk SA's Consumer Education Project, SAMPRO, MPO as well as the Project Coordinating Committee of Milk SA (DSA, CEP and R&D project of Milk SA) of which scheduled meetings took place during 2021. DSA managing director has been nominated to the Dairy R & D Committee (DRDC) of Milk SA and subsequently participated in the meetings of the DRDC and management committee.

Consumer Goods Council Of South Africa: Food Safety Initiative (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;
- new regulations in terms of the National Environmental Management Waste Act, 2008;
- the assignee; and
- the latest developments regarding the Front of Pack Labelling.

The Front of Pack labelling initiative will continue in 2022 in collaboration with the Milk SA Consumer Education Project. Discussions were considered critical to ensure dairy products are specifically protected from harmful warning signs regarding fats and sugars on front of pack labelling regulations, to the detriment of the industry and the consumer.

European Hygienic Engineering & Design Group (EHEDG)

DSA is a member of the South African steering committee. DSA could not attend any meetings scheduled during 2021.

International Dairy Federation (IDF)

DSA managing director is a member of the South African National Committee of the International Dairy Federation (SANCIDF) and of the IDF Standing Committee: Standards of Identity and Labelling and nominated to the IDF Standing Committee for food additives. Electronic webinars of the IDF were attended where possible, as well as commenting on documents relating Front of pack labelling, general standards for the use of dairy terms and IDF comments on Codex Standards on Fats and Oils.

South African Society of Dairy Technology (SASDT)

DSA managing director as member of the management committee of the Northern region participated in the SASDT management meetings during 2021.

Tertiary institutions

DSA serves 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 (EHPs). One meeting was attended during 2021.

No Non-achievements / underperformance has been reported

Goal 7 - Liaison on legislation with authorities and other organizations

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's approval of funding for the appointment of a consultant was finalised. Revision continued through the appointed Technical Workgroup and three phases of development of micro criteria have been worked through.

What was outstanding is the compilation of criteria for composite dairy products of which the work was rescheduled for the first quarter of 2022, during which restricting requirements will be revised and completed. It is envisaged that the final draft will be circulated by the end of the second quarter of 2022.

Comments to Department of Health in preparation of the South African contribution towards the Codex Committee on Food Additives meetings (CCFA 52) in June and September 2021, were submitted.

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

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

Regulations relating to the classification, packing, and marking of dairy products and imitation dairy products intended for sale in the Republic of South Africa (R1510/2019).

A draft was compiled and forwarded to the industry technical workgroup for comments during the first half

of 2021.

The first report was circulated to the workgroup, which was followed up with a meeting in the second half of 2021 for the purpose of the revision of R1510/2019. Workgroup comments were collated with the assistance of DALRRD: FSQA. The second meeting regarding the revision of R1510/2019 was held on following comments received from industry and inputs from DALRRD: FSQA. Following this meeting, a further document was compiled for the Technical Workgroup's consideration. The work is to continue during the first quarter of 2022.

3. South African National Standards (SABS)

SABS TC 034/SC 17, Hygiene practices in the food industry: SANS 10156: 202X-Ed2 Handling of chilled and frozen foods.

SANS 298, Labelling requirements for pre-packaged products and general requirements for the sale of goods subject to legal metrology control.

The managing director of DSA serves as chairperson of the SABS TC 034/SC 05 regarding Milk and milk products. The first meeting for TC 034/SC 05 was held on 19 May 2021. As chairperson of the TC 034/SC 05, DSA managing director was appointed on behalf of the SABS and industry on the African Organisation for Standardisation (ARSO), TC 04, Milk and milk products.

Three ARSO workgroups were established to address compositional standards for milk and other dairy products of which the managing director of DSA was nominated as workgroup 1 convener. All ARSO meetings for TC 04 were attended during 2021.

4. Codex Alimentarius and International Organization for Standardization (ISO)

International Dairy Federation (IDF) draft of the latest General Standards for the Use of Dairy Terms

International Dairy Federation (IDF) draft document on Front of Pack Nutritional Labelling

As representative of the SANCIDF, the managing director of DSA participated in the IDF survey regarding the General Standards for the Use of Dairy Terms during May 2021. Both the IDF SC Identity and Labelling (SCIL) as well as the joint SCIL and SCNH (Standing Committee: Nutrition and health) meetings were attended on 25 and 26 May 2021. IDF comments on front of pack nutritional labelling were followed and used as part of the information forwarded to the South African Codex contact point for the purpose of discussion at the next South African preparation meeting of the Codex feedback session on food additives (CCFA 52).

Codex standards preparation meetings were also attended and comments on food additives as well as fats and oils relating to "plant butter" were rendered. Following the third quarter, further Codex standards, comments were rendered on 13 October 2021 towards the Codex Committee on Fats and Oils. A Codex feedback session on food additives (CCFA 52) was attended as presented by the SA Codex Contact point.

5. DSA Technical Committee

The extensive work in terms of 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 in 2021 continued. This work also supports the project work of the Regulations and Standards Project of Milk SA.

Technical inputs were provided in support of the Regulations and Standards Project of Milk SA relating the revision of R1555 of 1997. The work of this project also supports the Research and Development Project of Milk SA.

Assistance for the development of the DRDC research project regarding the development of a rapid test method for the early detection of psychrotrophic bacteria at farm level were rendered.

No Non-achievements / underperformance has been reported

Goal 8 - Information and Education

Achievements

DSA presents information sessions based on the DSA Code of Practice and related guideline materials to professional environmental health practitioners (EHPs) as well as student EHPs, and other professions such as veterinary and B.Sc. Agric students. EHP presentations for student EHPs were scheduled with the respective tertiary institutions. The project operations have been amended to engage with the institutions more through electronic communication, where possible. To this effect, the scope of the audiences was also widened to cover other interest parties. The first webinar was held on 31 March 2021 with the subject “Understanding the complexities of the dairy regulatory landscape”. The purpose of the presentation was to bring more clarity to the integral role of acts and regulations and standards in respect of compliance and 111 people attended.

The following successful webinars took place during the first half of 2021 with 241 attendees:

April 2021 – Brucellosis and tuberculosis: The importance of zoonosis in dairy - 60 attendees

May 2021 – Mastitis and the quality of your milk: What to do – 83 attendees

June 2021 – Introduction into pasteurisation – 98 attendees

A successful workshop was held in the Sara Baartman District Municipality on 8 April with 17 municipal environmental health practitioners followed by a physical visit at a milk production farm in the Alexandria area.

Other successful webinars with 810 attendees took place during the second half of 2021:

July 2021 - Milk Sampling – 101 attendees.

August 2021 - Dairy laboratory testing – 117 attendees.

August 2021 - Student webinar on Introduction to dairy quality and safety in the dairy industry - 396 student attendees.

September 2021 - Cleaning and sanitising in the dairy industry – 73 attendees.

October 2021 - Cold chain in dairy – 63 attendees.

November - Packaging and Labelling in the dairy industry – 60 attendees.

No Non-achievements / underperformance has been reported

Goal 9 - Media communication

Achievements

DSA signed contractual agreements with Agri Connect and Plaas Media. Twelve advertorials/advertisements relating to food safety/hygiene, animal welfare and DSA Lab Services were published in the Dairy Mail and Plaas Media during 2021. One radio interview on a national radio station was conducted. During May 2021 a TV broadcast regarding the DSA Lab Services was conducted.

No Non-achievements / underperformance has been reported

Goal 10 - Development of guideline documentation

Achievements

Work on the update of the DSA Code of Practice for Milk Producers, with specific reference to biosecurity as well as animal welfare, continued during 2021 with the launch of the Code to take place during the first quarter in 2022. In addition, the work on the validation of the DSA audit criteria based on SANS 1694 was completed end of 2021 in collaboration with the Milk SA R&D project. The outcomes of this work also gave direction on the completion of the Code of Practice for Milk Producers.

No Non-achievements / underperformance has been reported

Income and expenditure statement

Income and expenditure statement	PRJ-0281 December 2021 Financial Reports.pdf
Unnecessary spending during period	No

Popular Report

[DSA Milk SA Statutory Annual Popular Report for 2021.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