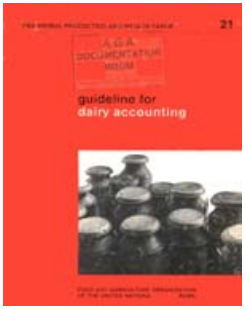

guideline for dairy accounting

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FAO ANIMAL PRODUCTION AND HEALTH PAPER 21

by
p. fagard
dairy accounting

international scheme
for the coordination of dairy development

country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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INTRODUCTION

This publication is intended to provide a basis for the establishment of a quantity control system for the dairy industry. By dairy industry are meant all operations between the purchase of raw milk from the producer and the sale of milk and dairy products to the consumer. Many different types of dairy organizations exist and as for all administrative procedures also quantity control needs to be adjusted to fit the organization. The procedures and documents presented in this publication have been designed to allow the highest possible flexibility.

The main aim of quantity control is to improve the efficiency of all sections of the dairy organization or at least to maintain it at a high level. The loss of milk finally results in the loss of revenue for the dairy organization. This revenue could have been used to pay a higher price to the producers, to sell at a lower price to the consumer or to finance investments in the industry. To avoid wastage of milk is even more important in countries with a limited food supply.

Dairy organizations with more than one processing plant can use quantity control for comparing the performance of the various plants. To obtain a valid comparison the

figures used should be arrived at in the same way in each plant. This implies that the controlling dairy organization has to play an important role in the implementation and supervision of a quantity control system.

Chapter 1 of this publication gives a description of the quantity control system in the various sections of the dairy industry. The documents to be used with this system are presented in Chapter 2.

CHAPTER 1 : PRESENTATION OF THE SYSTEM

Milk collection

Many different patterns of milk collection exist in different countries. The pattern taken into consideration here is one whereby all milk is delivered by the producers to a collection and/or cooling centre. The collection centres belong to the same dairy organization as the dairy processing plant. The milk is weighed-in and bulked in cans at the collection centre. The milk is transported to the processing plant only once a day and evening milk can therefore be accepted in collection centres with cooling facilities only. Farmer accounts are maintained by the accounts section at the processing dairy. The recording system worked out below should be adjusted for other patterns of milk collection.

To facilitate the recording and accounting of milk supplies each producer should be given a code. This code should have three elements:

a. **A code for the collection route;**

b. **a code for the collection centre. This code preceded by the code for the route identifies each collection centre;**

c. **a code for each producer supplying to a particular collection centre.**

This code would also be useful in countries where a person can freely change his name. It also avoids confusion when a herdsboy or any other person supplies milk on behalf of a producer and gives his own name instead of the producer's name.

A register of producers should be kept at each collection centre for the producers supplying at that centre and one should be kept at the accounts office for all producers in the milkshed supplying to the processing plant. This register should show for each producer: his code number, his full name and any other particulars used in the country to identify a person.

The basic document for quantity control as well as for maintaining suppliers accounts is the Milk Receipt (see Form I). This document should be maintained in triplicate by the milk buyer in each collection centre. The second copy should be perforated in such a way that each receipt can be torn off to be given to individual suppliers. The first copy should be perforated so that the whole page can be torn out of the book while the third

copy should not be perforated. The first and third copy should have space at the bottom for recording the total of the page, the quantity brought forward and the cumulative quantity. Each individual receipt should be numbered.

When the milk buyer at the collection centre receives milk from a producer he should carry out the usual tests and when the milk is accepted he should weigh it and record the quantity on a Milk Receipt. He should further fill in the date and the farmers code, he should also make a mark in the space after AM or PM to indicate whether it was morning or evening milk. The milk buyer should then sign the Milk Receipt, tear off the second copy and give it to the producer. When the milk buyer has made an error while filling in the quantity supplied he should not be allowed to alter the figure but he should cancel the receipt and write a new one. The second copy of a cancelled receipt should remain in the book.

Whatever system is used for recording milk purchases one should always avoid that the milkbuyer has to record the quantity supplied twice; once on a record kept by the producer and once on an accounting record. If the milk buyer writes a different figure on each of the documents this will create problems when the producer is paid and he could lose confidence in the whole dairy organization.

Every time the milk buyer has completed one page of milk receipts, he should add the quantities supplied recorded on that page and fill in the amount in the space "total of this page" the cumulative total of the previous page should be entered in the space "brought forward" and the new cumulative total should be calculated. The cumulation of totals should start from the first receipt made after the lorry transporting milk to the

processing plant, has left the collection centre. For cooling centres collecting evening milk, the accumulated quantity should include the evening milk of one day and the morning milk of the next day.

When the purchase operations are closed the milk buyer should cancel the unused milk receipts of the last page used during the day and he should calculate the grand total of milk purchased ready for dispatch to the processing plant. Each milk can to be dispatched to the processing plant should be marked with the collection centre's code.

Accurate handing-over of milk from the milk buyer to the driver from the processing plant would be time consuming. The value of the milk lost during the process could be considerably higher than the benefit obtained from a very accurate handing-over, especially when there are several collection centres without cooling facilities along the same route.

If the milk buyer has filled the cans to capacity, only the number of full cans need to be counted and multiplied with their capacity. The volume of milk in the one can that is not full should be estimated or measured with a dipstick, if available. This should be recorded on a Delivery Note (see Form II) made in duplicate. The milk buyer should record the various capacities of the milk cans in the column "litres per can". Since the capacity of milk cans is usually given in litres, it is easier if this part of the delivery note is completed in litres. The work of the milk buyer would also be simplified if a standard type of cans could be used. The one can that is not completely full should be recorded as a can with a different capacity than the others. The milk buyer should further enter

the number of cans of each capacity and calculate the total litres by multiplying the litres per can with the number of cans. He should then add the figures in the column "total litres" to obtain the total number of litres handed over to the driver. This last figure multiplied by 1.032[1] should give approximately the number of kilograms obtained on the last used page of the milk receipts.

The driver should sign the delivery note after checking that the number and types of cans loaded on the lorry agree with the entries on the delivery note. The first copy of the delivery note and the first copy of all used milk receipts should be handed over to the driver.

Reception at the processing plant

On arrival at the processing plant the driver should give the milk receipts and delivery notes to the receptionist. The milk cans should be off loaded on to the platform or a chain conveyor, taking care that the cans from each collection centre remain together. The milk which is accepted is tipped in the weighbowl and the quantity in kilograms should be recorded by the receptionist on the delivery note of the collection centre from where the milk originated. The volume of the weighbowl is usually larger than the content of one can; more cans may be tipped in the weighbowl before the quantity need to be recorded, as long as the milk from different collection centres is weighed separately. The receptionist should also count the number of cans received from each collection centre and this number should agree with the number of cans dispatched by the collection centre as recorded on the delivery note.

The quantity of rejected milk should be recorded in the appropriate space of the delivery note. The receptionist should then calculate the total fresh milk and the total milk received at the processing dairy. He should also convert the "total litres received by the driver" to kilograms. The total milk received at the dairy (including rejects) should be compared with the total kilograms received by the driver at the collection centre.

[1] Or preferably by exact specific weight in the

The delivery note only allows to check on the drivers, but it is even more important to know if there is any difference between the quantity of milk purchased at each collection centre, which will be paid for, and the quantity of milk received at the processing dairy, which will eventually become available for sale.

This should be controlled by using the "Reception Quantity Control Sheet" (see Form III) to be maintained in duplicate by the receptionist. When the number of routes and collection centres is not too large only one sheet would be sufficient. In this case the form should be subdivided to allow space for totals of each collection route. When the number of collection centres would result in too large forms one reception quantity control sheet should be kept for each collection route. Whether one or more forms need to be used each day the procedure remains the same.

Before completing the reception quantity control sheet the receptionist should check the calculations made by the milk buyers on the milk receipts. He should then transfer

the quantity purchased at each collection centre from the milk receipts to the reception quantity control sheet. The figures for the columns: “delivered to driver”, “total received at dairy” and “reject” should be obtained from the delivery notes. The delivery note number should be entered in the appropriate column to facilitate any verification required later on. The receptionist should then calculate the difference between the milk purchased and the milk received at the dairy. Because the figures used to calculate this difference are both obtained by weighing it gives the most accurate base for evaluating the efficiency of the purchase and transport operations. When the difference between the quantities purchased and received at the dairy for any one collection centre is important, all calculations on the milk receipts and delivery note for that collection centre should be checked before any conclusions are drawn. If after checking the difference is still significant it should normally be a shortage. If a surplus is found it would indicate that milk was bought at the collection centre but that no receipt was issued for it.

The difference between the milk purchased and the milk delivered to the driver need to be calculated only when the difference between milk purchased and milk delivered to the dairy is of any significance. In case such an important shortage occurs the reception quantity control sheet allows to identify who should be held responsible: the milk buyer at the collection centre or the driver.

The receptionist should further calculate the quantity of fresh milk available for further processing. This is obtained by deducting the quantity of rejected milk from the quantity of milk received at the dairy.

When the receptionist has entered the figures for all collection centres on the reception quantity control sheet he should calculate for each column sub totals per route and the grand total for the day. The difference between the milk purchased and the milk received at the dairy and also the daily total quantity of rejected milk should be calculated as a percentage of daily total quantity of milk purchased.

Because the measuring devices on the storage tanks in the processing sections usually show litres and because sales of most products are made in litres it is necessary that the receptionist converts the daily total of fresh milk from kilograms to litres. He should also calculate the total fat in the fresh milk using the average fat percentage obtained by the laboratory.

The daily totals should then be transferred to the reception control summary sheet (see Form IV). This document should be kept by the receptionist and covers the milk purchase and reception for a whole month. This document gives a better idea in the change taking place from day to day in the purchase and reception operations than could be obtained by looking through a file with the daily reception quantity control sheets.

On completion of these documents the receptionist should forward the milk receipts and one copy of the reception quantity control sheet to the accounts office where the accounts for the individual producers are kept. After copying the quantities recorded on the milk receipts to the appropriate producer accounts a total of all entries on the producer accounts should be made and this total should agree with the total milk purchased as recorded on the reception quantity control sheet.

At the end of the month the total quantity purchased as recorded on the producer accounts should agree with the monthly total of milk purchased as recorded on the reception control summary sheet. No payment calculation should be made before both totals agree.

Pasteurisation section

In the dairy plant under consideration the pasteurisation section is responsible for the following activities:

- **storage of raw milk**
- **reconstitution and/or recombination**
- **pasteurisation**
- **homogenisation**
- **separation**
- **distribution of milk to the processing units**

The pasteurisation section receives in the first instance raw milk from the reception. Since the milk flows through a closed system from the dumptank in the reception to the storage tanks in the pasteurisation section the quantity weighed in at the reception should normally agree with the quantity of raw milk received by the pasteurisation section. The total quantity of milk received in litres as calculated on the reception quantity control sheet should be entered on the pasteurisation control sheet (see Form V). The readings on the storage tanks should only be used as a control. Only when a

flow meter is available should the quantity measured by this device be recorded on the pasteurisation control sheet. The figures for fat content and total fat should be obtained from the reception quantity control sheet.

In many countries the raw milk supply does not meet the demand for liquid milk, at least at certain times of the year. Where this is the case, liquid milk has to be produced from milk powder and butteroil. The pasteurisation section being responsible for reconstitution, irregular mixing of the milk powder should be shown in the final result of this section.

The total volume and the quantity of fat in the butteroil used for recombination should be recorded on the "in" side of the pasteurisation control sheet. The opening stock to be recorded is the closing stock of the previous day.

After pasteurisation the milk is immediately distributed to the reception tanks of the processing sections and the quantity "out" should be read on the measuring device of these tanks. The fat content of the whole milk on the "out" side of the pasteurisation control sheet should be the same as that for the raw milk recorded on the "in" side. The fat content for cream and for recombined milk should be obtained from the laboratory and the total quantity of fat should be calculated.

The closing stock of the pasteurisation section should only consist of unpasteurised products since all pasteurised milk is stored in the processing sections.

At the end of each day the columns "litres" and "fat kg" should be totalled and the

difference between "in" and "out" should be calculated for the total volume and the total quantity of fat. The % of loss or surplus should be calculated in function of the total intake. This last figure indicates the efficiency of the pasteurisation section.

Liquid Milk Section

The two main functions of the liquid milk section are the standardisation of the milk so as to obtain the fat content required in the final product and packaging that product in containers.

For the purpose of this publication the dairy plant produces two types of liquid milk; standard milk with 3% fat and low fat milk with 1.5% fat. Part of the milk is packed in single service containers of 1L and ½L and these packages are delivered in returnable crates. Another part of the milk is packaged in returnable 45L cans for distribution to hospitals, hotels etc.

The opening stock to be entered on the "in" side of the liquid milk control sheet (see Form VI) are the quantities of pasteurised milk left over-night in the storage tanks of the liquid milk section. The quantities to be entered as "received from pasteurisation section" should be read from the measuring device on the storage tanks of the section. These quantities as well as the fat content should be the same as the entries "to liquid milk section" on the "out" side of the pasteurisation control sheet.

On the "out" side of the liquid milk control sheet the number of units of each size and type should be recorded and converted into litres by multiplying the number of units

with the corresponding unit size. The units should be counted at the time they enter the coldroom when they come under the responsibility of the storekeeper.

At the end of each day the difference between total "in" and total "out" should be calculated and the loss or surplus should be calculated as a percentage of the total "in". This last figure for the number of litres as well as the quantity of fat indicate the efficiency of the liquid milk section.

Fermented Milk Section

The fermented milk section receives various types of milk from the pasteurisation section to be blended to the correct composition for producing the type of fermented milk required. The fermented milk section may also receive buttermilk from the butter section.

If any stock is carried over-night by the fermented milk section this should be entered as opening stock on the fermented milk control sheet (see Form VII). On the "in" side of the control sheet should further be recorded: the volume and fat content of the various types of milk received from other sections, starter and the volume of non-milk additives such as sugar, fruitpulp etc.

The figures to be recorded on the "out" side of the fermented milk control sheet should be obtained in the same way as for the liquid milk section as well as the difference and the loss/surplus percentage.

Butter Section

In the processing sections studied so far the total volume and the total fat used should also be found in the final product. This is not the case in the manufacture of butter, cheese, ghee etc. In these processes only part of the input is found in the final product and byproducts are produced, some of which can be marketed.

The documents to be used for the quantity control of these processes would be similar, they would have three sections: inputs, manufacturing and packaging. Butter making has been used as example in this publication. As far as quantity control is concerned three stages in the butter manufacturing are important: cream ripening (inputs), churning (manufacturing) and packaging.

In dairy plants where butter making is a daily operation there should always be ripened cream, prepared the previous day opening stock. During the day the butter section receives fresh cream from the pasteurisation section to which starter is added. The addition of these inputs gives the total available. The ripened cream transferred to the butter churn should be deducted from the total above to obtain the closing stock.

Each time the churn is filled with ripened cream the quantity should be recorded in the churning section of the butter control sheet (see Form VIII). The quantity of butter and butter milk obtained should also be recorded for each churn. The daily totals should be calculated for: cream used, butter and butter milk and the yield can then be calculated. The butter milk is issued to the liquid or the fermented milk section depending on the way it will be used. The quantity of butter milk issued by the butter section should also

be found on the "in" side of the control sheet of the receiving section, in this example the fermented milk section.

The total quantity of butter produced should be entered as received on the packaging side. This quantity added to the stock of bulk butter not packaged the previous day gives the total available for packaging. The number of units packaged should be counted when entering the coldroom and should be multiplied by the unit weight to obtain the total kg packaged. To this should be added the closing stock of bulk butter and this should be compared with the total available. When the bulk butter kept over-night does not fall under the responsibility of the butter section, the headings opening and closing stock on the butter control sheet should be replaced by "received from coldroom" and "issued to coldroom" respectively. The coldroom control sheet should then also have space for recording the reception and issues of bulk butter.

Sales Section

The system for sales control described below is generally known as the pegboard system. It requires a board with a line of pegs at the top. Most boards available in commerce are also equipped with a sliding ruler and a device to put the board at different inclinations to facilitate the reading of the documents placed on the board. The documents to be used with the system need to have holes punched at the top so that they can fit in the pegs of the board. Because many calculations need to be made horizontally when using the peg board system the use of an adding machine or a calculator is necessary.

All products sold by the dairy plant should be printed on the documents, one line should be used for each unit size of each product. The documents should be printed in such a way that when the documents are fitted on the peg board the line for one particular product and size is at the same level on all the different types of documents. When putting these documents on the peg board each document should cover part of the previous one and only the column with the figures required should remain uncovered. When the figures that remained uncovered are added horizontally they give the total product by product.

The main advantage of the peg board system is that the figures of the original document need not to be copied on a summary sheet; a source of errors is thus eliminated and time saved. An additional advantage of the system is that, since all products are printed on invoices and delivery notes, the customers are constantly reminded of the full range of products offered for sale by the dairy plant.

The dairy plant for which the system is worked out in more detail employs its own sales-men who sell to retail shops not owned by the dairy organization. Although the subject of this publication is quality control, it would be unrealistic not to link quality control with the financial control when dealing with sales operations. The salesmen should at the end of each day inform the sales manager of their requirements for the next day. The sales manager should prepare one store issue voucher (see Form IX) in triplicate for each salesman. The last copy of the store issue voucher should remain in the book, the two other copies should be forwarded to the storekeeper who should prepare the consignments for each salesman as indicated on the issue voucher. The

storekeeper should record the number of returnable crates and cans in the appropriate space of the issue voucher. When the goods are handed over to the salesman he should sign the two copies of the issue voucher, one of these copies should remain with the storekeeper. The salesman should keep the other copy for control at the gate of the dairy plant. No products should leave the plant without a store issue voucher. The sales manager may delegate the responsibility for completing the store issue voucher to an other staff member but this responsibility should never be given to a storekeeper because the store issue voucher is an authority for the storekeeper to issue the products recorded on it.

When the goods are delivered to the customer the salesman should prepare a delivery note (see Form X) if the customer is allowed to buy on credit or a cash sale. These documents should be made in triplicate. The customer should sign all three copies of the delivery note while the salesman should sign all copies of the cash sale when he has received the payment. The first copy of the delivery note or cash sale should be given to the customer, the other copies should remain in the book.

When the salesman has completed his route he should bring the unsold products to the coldroom and give his copy of the store issue voucher to the storekeeper. The storekeeper should record the returned products and containers on the two copies of the store issue voucher and he should calculate the net sales of each product.

One copy of the store issue voucher should remain with the storekeeper and the salesman should take the other copy together with the delivery notes and cash sales to the sales manager. The sales manager should first check if no alterations were made on

the salesman's copy of the issue voucher by comparing it with the copy that remained in the book.

The sales manager should then take the second copy of the delivery notes and cash sales out the book and put them on the peg board with the quantity column uncovered. He should add the quantities recorded on the delivery notes and cash sales for each product (line by line) and these totals should agree with the net quantity for each product recorded on the store issue voucher. The delivery notes and cash sales should then be replaced on the peg board so that the columns with the amounts remain free. The amounts should be added line by line and the results recorded on the store issue voucher.

The following checks should then be carried out:

- **The net quantity of each product as recorded on the store issue voucher multiplied by the unit price should equal the amount obtained by the addition of delivery notes and cash sales.**

- **The addition (vertical) of the amounts per product on the store issue voucher should agree with the addition (horizontal) of the total amounts of all delivery notes and cash sales.**

The net quantity of containers can be a negative figure when more containers were returned than delivered. This should be clearly indicated, e.g. by making a ring around negative figures. The sales manager should further calculate the total amount of credit

sales and the total amount of cash sales and record them in the appropriate space of the store issue voucher. To avoid confusion between cash sales and credit sales the documents may be printed on different colours of paper.

The salesman should pay the cash collected during his tour to the cashier who should issue a receipt. The salesman should bring his copy of the cash receipt to the sales manager who would record the amount of the receipt on the store issue voucher. If this amount agrees with the total of the cash sales as calculated previously the process is completed. When there is a difference between the two amounts action should be taken depending on the policy of the dairy organization in such matters. On the store issue voucher (see Form IX) space has been provided for showing an eventual shortage or overage of the salesman. This is necessary in cases where shortages are deducted from the salesman's pay. Surplusses could be used for offsetting shortages made by the salesman or they could be considered as miscellaneous revenue for the dairy plant.

When all salesmen have returned to the plant and their store issue vouchers are checked the sales manager should put all store issue vouchers on the peg board and calculate the daily sales summary (see Form XI). These daily sales summaries can later be used for preparing weekly and/or monthly summaries.

The store issue vouchers should be filed per salesman. At the end of a week or a month each salesman's vouchers should be put on the peg board to calculate his total sales, shortages or surplusses. The monthly total sales can be used for comparing each salesman's performance with that of his colleagues or with the performances of previous periods. It can also be used as a basis for calculating each salesman's sales

commission where this is applicable.

When besides the wholesale operations described above, the dairy organization also operates its own retail outlets the procedures would be similar. The main difference would be that no delivery notes or cash sales are used and the control of this operation should be done with the store issue vouchers only. Daily, weekly and monthly sales summaries should be made separately for wholesale and retail operations otherwise the control based on the quantity-price relation would be lost.

For dairy plants that bring a large range of products on the market the documents used with the peg board system may become too long. In this case each sales document presented in this publication should be split into two similar documents each with different products. Products with a long shelf life would in most cases be distributed less frequently than products with a short shelf life and this could be used as a criterion for separating the products.

Coldstore Stock Control

The coldroom receives products from two sides: the production sections of the plant and unsold returns from the salesmen. The entries into the coldroom from the production sections should be the same as the quantities "out" recorded on the control sheet of each production section.

The quantities returned by the salesmen can be obtained by adding the return column of the store issue vouchers of all salesmen. The storekeeper should put the copy of the

store issue vouchers that remained in the coldroom on the peg board to make this addition. The returns should be recorded separately from the fresh products on the coldroom control sheet (see Forms XII-XIII-XIV). This is necessary because it is usually not the storekeeper's responsibility to decide what should be done with the returns, but as long as they remain in the coldroom he is responsible and they need to be recorded.

When a decision has been made as to how the returns will be used, normally the next day, the quantities that can still be used should be recorded as "other issues" on the coldroom control sheet and as received in the section where they will be used. If the returns would be used by more than one production section this should be specified on the coldroom control sheet and more lines should be provided for "other issues". Returns that cannot be used should be recorded as leakages.

If the keeping quality of the product allows the returns to be sold as fresh products the quantity of these returns should first be recorded as "other issues" in the return column and entered as received in the fresh product columns of the coldroom control sheet.

The sales issues of fresh products should be obtained by adding the "quantity issued" column of all store issue vouchers issued during the day. "Other issues" of fresh products may be products taken for laboratory tests or products distributed free of charge to visitors or staff.

When all figures are filled in on the coldroom control sheet, the storekeeper can calculate the total intake, issues and closing stock in units and in litres.

Regularly a senior staff member should do a physical stock-taking and record his findings on the line "physical stock". If there is any difference between the physical stock and the calculated stock this should be recorded on the coldroom control sheet and appropriate action should be taken. When stock-taking has been done the physical stock should be carried forward as opening stock for the next day and not the calculated stock, otherwise the difference would accumulate.

CHAPTER 2 - FORMS AND INSTRUCTIONS FOR USE

FORM I : MILK RECEIPT

FORM I

DAIRY ORGANIZATION				
MILK RECEIPT No…….				
Date……			A.M…….	P.M…….
Producer No.	Quantity	KG	Buyer's	Signature

DAIRY ORGANIZATION				
MILK RECEIPT No…….				
Date……		KG	A.M…….	P.M…….
Producer No.	Quantity	KG	Buyer's	Signature
DAIRY ORGANIZATION				
MILK RECEIPT No…….				
Date……		KG	A.M…….	P.M…….
Producer No.	Quantity	KG	Buyer's	Signature
DAIRY ORGANIZATION				
MILK RECEIPT No…….				
Date……		KG	A.M…….	P.M…….
Producer No.	Quantity	KG	Buyer's	Signature
DAIRY ORGANIZATION				
MILK RECEIPT No…….				
Date……		KG	A.M…….	P.M…….

Producer No.	Quantity	KG	Buyer's	Signature
DAIRY ORGANIZATION				
MILK RECEIPT No…….				
Date……		KG	A.M…….	P.M…….
Producer No.	Quantity	KG	Buyer's	Signature
			TOTAL THIS PAGE	
			BROUGHT FORWARD	
			CUMULATIVE TOTAL	

Completed by the milk buyer at the collection centre.

Receipt No : printed on the document

AM - PM : make a cross in the appropriate space

AM for milk bought in the morning
PM for evening milk

Producer No : complete number including code for route and collection centre

KG : net weight of the milk supplied by the producer

Total this page : total KG purchased on the receipts of the page

Brought forward : total KG calculated in the space "cumulative total" of the previous page of the milk receipt book

Cumulative total : addition of "total this page" and "brought forward"

Routing : 1st copy : full pages accompany the driver who hands them over to the receptionist at the dairy for completing the reception control sheet. Later forwarded to the accounts office for completing the producer accounts.

2nd copy : handed over to the producer at the time of milk delivery.

3rd copy : remains in the book. Completed books should be returned to the accounts office at the dairy plant.

FORM II : DELIVERY NOTE

FORM II

D A I R Y O R G A N I Z A T I O N
D E L I V E R Y N O T E No. ……
Collection centre No. …… Date ……
MILK RECEIPTS No. from …… to …… Vehicle No.
from …… to …… ……

RECEIVED BY DRIVER			RECEIVED AT DAIRY	
Litres per	Number of cans	L I T R E S	Number of cans	KG
TOTAL LITRES				
RECEIVED BY DRIVER				
TOTAL KG **A** RECEIVED BY DRIVER			TOTAL FRESH	
SURPLUS A less than B			TOTAL REJECT	
SHORTAGE A more than B			TOTAL KG **B** RECEIVED AT DAIRY	
Driver's Signature			Receptionist's Signature	

Completed by the milk buyer : the top part of the document and the section “received by the driver”

Completed by the receptionist at the dairy plant : the part “received at dairy” and “shortage - surplus”

To be completed by the milk buyer

Collection centre No. : the code of the collection centre preceded by the code of the route

Milk receipts No. : the first and last number of the milk receipts used for purchasing the milk to be dispatched. When more than one receipt book was used the first and last number of each book should be recorded

Vehicle No. : as on the number plate of the vehicle transporting the milk to the dairy plant.

Received by driver

Litres per can : capacity of the various milk cans to be transported
Number of cans : the number of cans of each capacity
Total litres : litres per can multiplied by the number of cans
Total litres received by driver : addition of the total litres for each type of can.

To be completed by the receptionist

Received at dairy

Number of cans : the number of cans from the collection centre weighed-in at the dairy plant. This number should agree with the number of cans received by the driver.

KG : the net weight of fresh milk as indicated by the reception scale.

Total fresh : addition of the fresh milk weighed-in.

Total reject : the net weight of the milk rejected on arrival at the dairy plant.

Total KG received at the dairy : addition of total fresh and total reject.

Total KG received by driver : the total litres received by the driver multiplied by 1.032

Surplus/shortage : difference in KG between total received by driver and total received at dairy

ROUTING : 1st copy : from the milk buyer via the driver to the receptionist

2nd copy : to remain in the book with the milk buyer.

FORM III : RECEPTION CONTROL SHEET

FORM III

DAIRY ORGANIZATION

R E C E P T I O N C O N T R O L S H E E T

Date ……

		A	B	C	D	E	F	G
Collect. Centre No.	**Delivery Note No.**	**Milk Purchased KG**	**Delivered at Driver KG**	**Difference A - B**	**Received at Dairy KG**	**Difference A - D**	**Rejected Milk KG**	**Fresh Milk D - F**
TOTAL ROUTE 1								
TOTAL ROUTE 2								
GRAND TOTAL								

					% a/ A			×
Compiled by					Fresh Milk Litres			1.032
Checked by					Average Fat %			
					Total Fat Available KG			

Completed by the receptionist.

Documents used for completion / Milk receipts Delivery notes

Collection centre No. : the code of each collection centre including the code of the route. These number should be recorded in serial order. When no expansion of the network of collection centres is expected the numbers can be printed on the documents, allowing space for sub-totals for each route.

Delivery note No. : the number of the delivery note issued by the corresponding collection centre

A. **Milk purchased : the total weight of milk purchased at each collection centre as calculated on the last page of milk receipts received from the collection centre.**

B. **Delivered to driver : the total KG received by the driver at the collection centre.**

C. **Difference A - B : indicates the difference caused at the collection centre. This difference needs to be calculated only when the difference in column E is significant.**

D. **Received at dairy : total weight of milk received at the dairy plant including rejects**

E. **Difference A - D : indicates the difference caused between the collection centre and the dairy plant. The figure should be preceded by + for a surplus and - for a shortage. The daily total of this column should be calculated as a % of the milk purchased.**

F. **Rejected milk : as indicated on the delivery note. The daily total should be calculated as a % of the milk purchased.**

G. **Fresh milk : milk received at the dairy minus rejects.**

The daily total should be converted into litres and the total fat calculated.

ROUTING : 1st copy: forwarded to the accounts office for checking the producer accounts.

2nd copy: remains with the receptionist for completing the reception control summary sheet (Form IV). Then forwarded to the production manager for comparing the milk received with the entries on the pasteurisation control sheet (Form V).

FORM IV : RECEPTION CONTROL SUMMARY SHEET

FORM IV

DAIRY ORGANIZATION

RECEPTION CONTROL SUMMARY SHEET

Month …. Year ….

	A	B	C	D	E	F	G	H	I
Date	Milk Purchased KG	Received at Dairy KG	Difference A - B KG	Difference as % of A	Rejected Milk KG	Reject as %of A	Fresh Milk KG	Fresh Milk Litres	Fat available KG
1									
2									
3									
4									
27									

28									
29									
30									
31									
T									

Completed by the receptionist.

Document used for completion : reception control sheet. The daily totals and percentages of the reception control sheet should be transferred to this document and the monthly total should be calculated for each column.

ROUTING : 1st copy : to the production manager for checking

2nd copy : to the accounts office for checking the producer accounts

3rd copy : to remain with the receptionist.

FORM V : PASTEURISATION CONTROL SHEET

FORM V

DAIRY ORGANISATION

P A S T E U R I S A T I O N C O N T R O L S H E E T

IN				OUT			
	Litres	Fat %	Fat KG		Litres	Fat %	Fat KG
OPENING STOCK : Raw milk				TO LIQUID MILK SECTION			
Skim milk				Whole milk			
Recombined milk				Fresh skim			
Raw milk received from reception				Reconstituted skim			
Reconstituted skim milk				Recombined milk			
Butter oil				TO FERMENTED MILK SECTION			
TOTAL INTAKE **A**				Whole milk			
				Fresh skim			
				Reconstituted skim			
	Litres		KG Fat	Recombined milk			
				TO BUTTER SECTION			
A. Total Intake				Cream			

B.Total Output			CLOSING STOCK			
Difference: Surplus (A less than B)			Raw Milk			
Loss(A more than B)			Skim milk			
Difference as % of Intake			Recombined Milk			
			TOTAL OUTPUT **B**			
	Complied by……			Checked by……		

Completed by the head of the pasteurisation section.

Opening stock : closing stock of the previous day

Raw milk from reception : the volume and quantity of fat received from the reception. These figures should be the same as the fresh milk figures recorded on the reception control sheet.

Reconstituted skim milk : the quantity of skim milk obtained in the tanks after reconstitution.

The quantity of butteroil used in the production.

Out : the volume, fat % and total fat of the products send to the various processing sections. The volumes should be read on the measuring device of the reception tanks

in the processing sections.

Closing stock : the stock remaining in the tanks of the pasteurisation section at the end of a day.

Difference : Surplus or shortage obtained when deducting total output from total input.

ROUTING : to production manager for checking and preparation of monthly reports.

FORM VI : LIQUID MILK CONTROL SHEET

FORM VI

DAIRY ORGANIZATION

L I Q U I D M I L K C O N T R O L S H E E T

Date ……

IN				OUT					
	Litres	Fat %	Fat KG			Units	Litres	Fat %	Fat KG
OPENING STOCK : Standard milk				Standard milk	1 l				
					½				

Low Fat milk					l				
RECEIVED FROM PASTEURISATION				can	45 l				
Whole milk				Low fat milk	1 l				
Fresh skim					½ l				
Reconstituted skim				can	45 l				
Recombined milk				CLOSING STOCK					
				Standard milk					
TOTAL INTAKE **A**				Low fat milk					
				TOTAL OUTPUT	**B**				
	Litres		KG Fat						
A. TOTAL INTAKE									
B. TOTAL OUTPUT				Compiled by ……					
Difference: Surplus (A less than B)				Checked by ……					
Loss (A more than B)									

Difference as % of total intake									

Completed by the head of the liquid milk section.

Opening stock : closing stock of the previous day

Received from pasteurisation : the volume, fat % and total fat received from the pasteurisation section. These figures should agree with the "out to liquid milk" on the pasteurisation control sheet.

Out : the number of units leaving the section for the coldroom. The number of units for each type of package and product should be multiplied by the unit size to obtain the number of litres.

Closing stock : stock remaining in the tanks of the liquid milk section at the end of the day.

Difference : surplus or shortage obtained when deducting total output from total input.

ROUTING : to production manager for checking and preparation or monthly reports.

FORM VII : FERMENTED MILK CONTROL SHEET

DAIRY ORGANIZATION

F E R M E N T E D M I L K C O N T R O L S H E E T

FORM VII

Date ……

IN				OUT				
	Litres	**Fat %**	**Fat KG**		**Unit**	**Litres**	**Fat %**	**Fat KG**
OPENING STOCK : Standardised milk				Natural Yoghurt 1l				
Butter milk				300ml				
Starter				150ml				
From Pasteurisation: Whole milk				Flavoured Yoghurt 1l				
Fresh skim				300ml				
Reconst. skim				150ml				
Recomb. milk				Cultured Butter milk 1l				
From Butter : Butter milk				300ml				
Sugar				Closing stock				
Fruit pulp				Standardised milk				
				Butter milk				
TOTAL INTAKE **A**				Starter				

				TOTAL OUTPUT **B**				
		Litres	KG Fat					
A. Total Intake								
B. Total Output				Compiled by				
Difference: Surplus (A less than B)				Checked by				
Loss (A more than B)								
Difference as % of Intake								

Completed by the head of the fermented milk section.

Opening stock : closing stock of the previous day

From pasteurisation : the volume, fat % and total fat received from the pasteurisation section. These figures should agree with the "out to fermented milk" on the pasteurisation control sheet.

From butter : the quantity of butter milk received from the butter section. The figure should agree with the quantity issued recorded on the butter control sheet.

Sugar/fruit pulp : the volume of products added to obtain the final product.

Out : the number of units leaving the section for the coldroom. The number of units for each type of package and product should be multiplied by the unit size to obtain the number of litres.

Closing stock : stock remaining in the tanks of the fermented milk section at the end of the day.

Difference : surplus or shortage obtained when deducting the total output from the total input.

ROUTING : to production manager for checking and preparation of the monthly reports.

FORM VIII : BUTTER CONTROL SHEET

FORM VIII

DAIRY ORGANIZATION

B U T T E R C O N T R O L S H E E T

Date ……

CREAM RIPENING				CHURNING				PACKAGING		
	Liters	Fat %	Fat KG		Cream Litres	Butter KG	Butter milk		Units	KG

							Litres			
Stock: ripened cream				Churn 1				Stock bulk butter		
Cream received				2				Received from churn		
Starter				3				TOTAL AVAILABLE A		
TOTAL AVAILABLE **A**				4				Butter 5 KG		
To churning				TOTAL				1 KG		
Closing stock				Issued to fermented milk section				½ KG		
TOTAL OUTPUT **B**								250 gr		
Difference (A - B)				Butter yield				TOTAL PACKAGED Closing stock		
Difference % of A								Bulk butter		
								TOTAL ISSUE **B**		

								Difference (A - B)		
								Difference % of A		

Compiled by ……
Checked by ……

Completed by the head of the butter section.

Cream ripening

Stock ripened cream : closing stock of the previous day.

Cream received : should equal the cream issued to the butter section as recorded on the pasteurisation control sheet.

Starter : the quantity of starter added to the cream

Total available : stock + received + starter

To churning : volume, fat content and total fat of the cream filled in the butter churn. The volume should agree with the total of the "cream litres" column in the churning section of this document.

Closing stock cream remaining in the butter section at the end of the day.

Difference : surplus or shortage obtained when substracting the total output from the total available.

Churning

The quantity of cream used and the quantity of butter and buttermilk obtained should be recorded for each process and totalled at the end of each day.

Issued to fermented milk section : the volume of butter milk issued from the butter section. If butter milk is used by more than one section, more space should be provided on the document to record the issues to the various sections. The issues of butter milk should also be found on the "in" side of the control sheet of the receiving section.

Butter yield : the quantity of butter obtained divided by the total quantity of fat used as recorded "to churning" in the cream ripening section of this document.

Packaging

Stock bulk butter : the closing stock of the previous day

Received from the churn : this figure should equal the total "butter KG" of the churning section of this document.

Total available : stock bulk butter + received from churn.

Butter : the number of units of packaged butter should be counted when entering the

coldroom. The number of units should be multiplied by their respective unit sizes to obtain the number of kilograms entered in the coldroom.

Closing stock bulk butter : the butter that has not been packaged at the end of the day and that remains in the butter section or the unpacked butter issued to the coldroom if this coldroom is not under the responsibility of the butter section.

Total issues : total packaged + closing stock

Difference : total available - total issues

ROUTING : to the production manager for checking and for preparation of montly reports.

FORM IX : STORES ISSUE VOUCHER

FORM IX

DAIRY ORGANIZATION						
STORES ISSUE VOUCHER No.....						
Salesmna.....			Retail			
Sales Route.....			Wholesale			
			Date.....			
Quantity Issued	**Returns**	**Net Quantity**	**PRODUCT**	**size**	**Unit Price**	**AMOUNT**

			Standard milk	1 l		
				½		
				45 l		
			Low Fat milk	1 l		
				½		
				45 l		
			Natural Yoghurt	1 l		
				300ml		
				150ml		
			Flavoured Yoghurt	1 l		
				300ml		
				150ml		

			Cultured Butter milk	1 l		
				300ml		
			Butter	5kg		
				1kg		
				½		
				250 gr		
TOTAL PRODUCTS						
			Milk cans			
			Crates			
					TOTAL DEPOSIT	
					GRAND TOTAL	

Salesman signature……

Delivery Note No.	from……	to……		……
	from……	to……		
			Value Credit Sales	……
Cash Sales No.	from……	to……	Cash Received	……
	from……	to……	Shortage	……

Value Cash Sales:		Surplus	……
Cash Receipt No.		TOTAL	……
Compiled by……	Checked by……		

Completed by the sales manager : top and bottom part of the document "quantity issued", "unit price" and "amount".

the storekeeper : "returns" and "net quantity"

Retail/wholesale : make cross in the appropriate space

Quantity issued : the number of units to be issued from the coldroom

Returns : the number of units of each product and size returned to the coldroom by the salesman on completion of his route

Net quantity : quantity issued - returns

Amount : net quantity multiplied by the unit price. This should agree with the addition of the amounts on the delivery notes and cash sales issued by the salesman during the day.

Milk cans and crates : to record the units of returnable containers issued, returned, net quantity and amount. When the net quantity and the amount are negative this should be

clearly indicated. The space is double the size of the other lines because two lines are required on the delivery notes and cash sales to record the movements of returnable containers.

Value cash sales : the value obtained by adding the totals of all cash sales issued by the salesman during his tour.

Value credit sales : the value obtained by adding the totals of all delivery notes issued by the salesman during his tour.

Cash received : the cash paid by the salesman to the cashier, the amount recorded on the cash receipt issued by the cashier.

Shortage/surplus : the difference between the value of cash sales and the amount receipted by the cashier.

Total : this total should equal the grand total obtained by adding the amounts of each product and deposit.

ROUTING : 1st copy : from the sales manager via the storekeeper to the salesman. On completion of the route this copy returns to the sales manager after the storekeeper has completed the returns and net quantity.

2nd copy : from the sales manager to the storekeeper and remains there to be used for completing the coldroom control sheet.

3rd copy : remains in the book with the sales manager for checking if all vouchers issued by him are returned for checking and accounting.

FORM X : DELIVERY NOTE AND CASH SALES

FORM X

DAIRY ORGANIZATION				
D E L I V E R Y N O T E No ……				
Name ……				
Address ……			Acc. No…….	
			Date……	
Quantity	**PRODUCTS**	**size**	**UNIT PRICE**	**AMOUNT**
	Standard milk	1 l		
		½ l		
		45 l		
	Low Fat milk	1 l		
		½ l		
		45 l		
	Natiral Yoghurt	1 l		
		300ml		
		150ml		
	Flavoured Yoghurt	1 l		

		300ml		
		150ml		
	Cultured Butter milk	1 l		
		300ml		
	Butter	5kg		
		1kg		
		½kg		
		250gr		
	TOTAL PRODUCTS			
	Milk cans delivered			
	Milk cans returned			
	Crates delivered			
	Crates delivered			
	Crates returned			
	TOTAL DEPOSIT			
	GRAND TOTAL			
Invoice No…… ……				
		Customer's signature		

Delivery note

Completed by the salesman; one document issued for each credit customer.

Acc No. : the number of the debtors account of the customer. Could eventually be completed by the invoicing section.

Quantity : the number of units delivered to the customer.

Unit price : could be printed on the document if prices do not change frequently.

Amount : quantity multiplied by the unit price.

Milk cans/crates returned : the number of containers returned by the customer to the salesman. This figure is always negative and the - sign should be printed on the document.

Invoice No. : the number of the invoice issued for this delivery note to be completed by the invoicing section.

ROUTING : 1st copy : to the customer

2nd copy : to the sales manager for checking the stores issue voucher of the salesman who issued the delivery notes, then forwarded to the invoicing section.

3rd copy : to remain in the book completed books should be forwarded to the invoicing section.

Cash sales

The lay-out for this document is almost the same as the delivery note. The title of the document should be changed to cash sales. Acc. No. and Invoice No. should not appear on the cash sale. The customer's signature should be replaced by the salesman's signature. Where delivery notes should go to the invoicing section the cash sales should be forwarded to the cashier.

FORM XI : SALES SUMMARY

FORM XI

DAIRY ORGANIZATION

S A L E S S U M M A R Y

Daily ……
Weekly …… RETAIL ……
Monthly……
Salesman……WHOLESALE……

Period from…… to……

Salesman……

Liters/Kg Per Product	Liters/Kg.	Total Units	PRODUCT	size	UNIT PRICE	AMOUNT
			Standard milk	1 l		
				½ l		
				45 l		

			Low Fat milk	1 l		
				½ l		
				45 l		
			Natural Yoghurt	1 l		
				300ml		
				150ml		
			Flavoured Yoghurt	1 l		
				300ml		
				150ml		
			Cultured Butter milk	1 l		
				300ml		
			Butter	5kg		

				1kg		
				½kg		
				250gr		
			TOTAL PRODUCTS			
			Milk cans			
			Cratesw			
			TOTAL DEPOSIT			
			GRAND TOTAL			

S.I.V. No.	Cash Receipt No.	AMOUNT		
			Value credit sales	
			Cash received	
			Shortage	
			Surplus	
			TOTAL	
			Complied by……	Checked by……

Completed by the sales manager.

The same document is used for making daily, weekly, or monthly sales and for the total sales per salesman. The type of summary should be indicated by making a cross in the appropriate space. Daily sales summaries and salesman's sales summaries should be prepared from the appropriate stores issue vouchers.

Weekly sales summaries should be prepared from daily summaries.

Monthly sales summaries should be prepared from weekly summaries.

Total units : obtained by adding the net quantities of the stores issue vouchers.

Litres : obtained by multplying the total units for each product and size with their unit size.

Litres per porudct : addition of the litres for each type of product

Amount : addition of the amounts for each product and size as recorded on the documents used for making the sales summary.

S.I.V. No./Cash receipt No./amount : to be completed only when stores issue vouchers are used for making the sales summary.

ROUTING : 1st copy : to the accounts office for checking with cash book and debtors ledger and for posting sales book and nominal ledger.

2nd copy : to the production manager for checking the coldroom control sheets.

FORM XII

DAIRY ORGANIZATION

C O L D S T O R E C O N T R O L S H E E T - L I Q U I D M I L K

Date ……

	STANDARD MILK								LOW FAT MILK							
	FRESH			RETURNS												
				TOTAL LITRES	1 l	½ l	45 l	TOTAL LITRES	1 l	½ l	45 l	TOTAL LITRES	1 l	½ l	45 l	TOTAL LITRES
Opening Stock																
Received																
TOTAL INTAKE UNITS																

TOTAL INTAKE LITRES																
Sales Issues																
Leakages																
Other issues																
TOTAL ISSUES UNITS																
TOTAL ISSUES LITRES																
Closing Stock UNITS																
Closing Stock LITRES																
Physical Stock UNITS																

Physical Stock LITRES																
Difference LITRES																

Compiled by ……

Stock taking made by ……

FORM XIII

DAIRY ORGANIZATION

C O L D S T O R E C O N T R O L S H E E T - F E R M E N T E D M I L K

Date……

	NATURAL YOGHURT				FLAVOURED YOGHURT				CULTURED BUTTER MILK		
	FRESH	FRESH	FRESH	FRESH	FRESH	FRESH	FRESH	FRESH	FRESH	FRESH	FRESH
	1 l	300ml	150ml	TOTAL LITRES	1 l	300ml	150ml	TOTAL LITRES	1 l	300ml	TOTAL LITRES
Opening Stock											

Received											
TOTAL INTAKE UNITS											
TOTAL INTAKE LITRES											
Sales Issues											
Leakages											
Other issues											
TOTAL ISSUES UNITS											
TOTAL ISSUES LITRES											
Closing											

Stock UNITS											
Closing Stock LITRES											
Physical Stock UNITS											
Physical Stock LITRES											
Difference LITRES											

Compiled by ……

Stock taking made by ……

FORM XIV

DAIRY ORGANIZATION

C O L D S T O R E C O N T R O L S H E E T - B U T T E R

Date……

	BUTTER					BUTTER				
	FRESH	FRESH	FRESH			RETURN	RETURN		RETURN	
	5kg	1kg	½kg	250gr	TOTAL KG	5kg	1kg	½kg	250gr	TOTAL KG
Opening Stock										
Received										
TOTAL INTAKE UNITS										
TOTAL INTAKE LITRES										
Sales Issues										
Leakages										
Other issues										
TOTAL ISSUES UNITS										
TOTAL ISSUES LITRES										
Closing Stock UNITS										
Closing Stock LITRES										
Physical Stock UNITS										
Physical Stock LITRES										
Difference LITRES										

Compiled by ……

Stock taking made by ……

FORMS XII, XIII, XIV : COLDSTORE CONTROL SHEET

Completed by the storekeeper

Opening stock : the physical stock in units of the previous day's coldroom control sheet.

Received fresh : the number of units received from the processing sections. The quantities should agree with the "out" side of the control sheet of the processing sections.

Received returns : the number of units returned by the salesmen, obtained by adding the return column of the stores issue vouchers issued during the day.

Total intake units : opening stock + received.

Total intake litres : total intake in units multiplied by the respective unit size. The addition of these results horizontally gives the total litres intake fresh and returns for each type of product.

Sales issues : obtained by adding the quantity issued column of the stores issue vouchers.

Leakages : the number of units of products that can no longer be used. To be counted in the coldroom by the storekeeper in the presence of a senior officer.

Other issues : number of units issued for other reasons than sales. Includes the number of units that cannot be sold in their present state but can still be reprocessed.

Total issues units : sales issues + leakages + other issues

Total issues litres : total issues in units multiplied by the unit size. The addition of these results horizontally gives the total litres issued for each product.

Closing stock units : total intake - total issues.

Closing stock litres : total intake litres - total issues litres. As control the closing stock units multiplied by the respective unit sizes should give the same result.

Physical stock units : the number of units found in the coldroom after stocktaking.

Physical stock litres : physical stock units multiplied by unit size.

Difference : closing stock litres - physical stock litres.

ROUTING : 1st copy : to the production manager for checking with control sheets of the processing sections and daily sales summary.

2nd copy : to remain with the storekeeper.

NOTES

- **The coldroom control sheet fermented milk presented in this publication is only for fresh products. A second coldroom control sheet is necessary for recording the movements of the returns. The coldroom control sheet for fermented products had to be split because the number of products is too large for one sheet.**

- **When bulk butter is stored under the responsibility of the store keeper the coldroom control sheet butter should have an additional column "bulk butter". Issues of bulk butter for packaging should be recorded as other issues.**

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