



Milk Quotas

Milk Purchaser Fact Sheets

- ✓ Milk Haulage
- ✓ Milk Sampling (Butterfat)
- ✓ Declaring Deliveries
- ✓ Butterfat
- ✓ The Dixon Test
- ✓ Calculations and Formulae
- ✓ Purchasers Obligations
- ✓ Further Information/Contacts



Milk Haulage

Milk Hauliers are not approved by the RPA but they are still subject to record keeping obligations under the Dairy Produce Quota Regulations 2005 and must be registered with the RPA for monitoring/compliance reasons. Your approval may be in jeopardy if you continue to use a haulier that cannot provide you with the information that you need to meet your obligations as a purchaser. Part D of the MQ11 (Application for Purchaser Approval) requests that you list any company used to haul your milk; this also includes hauling your own milk or if your producer is hauling the milk from his farm for delivery.

All milk hauliers are liable for inspection. For larger companies with automated tankers this will involve unannounced spot checks following the milk tanker from the haulier depot or farm through each collection point and finally to the reception site. If, however, you only haul milk on specific days then the inspector will give you prior notification to ensure that milk is being hauled at the time of inspection. The inspectors will be looking at how the milk is stored and will check on sampling procedures and record keeping. The results of these inspections are then reported back to the RPA.

If you haul your own milk;

If you haul your own milk from the milking parlour to the processing premises, this may be by mobile tank, pipeline, churns or even by bucket across the yard; regardless of how the milk is transported it is regarded as haulage and must be subject to regulatory checks. The same applies if your milk producer hauls the milk to your premises. You will be given a separate identification number and issued with a letter informing you of the records you are required to keep (a list of these can be found below).

Recordkeeping;

As a haulier collecting milk on behalf of a purchaser, you must keep the following records;

- Ø The time and date of collection/delivery from each producer.
- Ø The time and date of sampling of the milk for each producer. These should be taken at least once a month and should be representative of the milk delivered/collected from each producer. Milk should be agitated for 2 minutes prior to the sample being taken to ensure accurate measurement.
- Ø The identity of the producer concerned. To ensure that collections and samples can be assigned to the appropriate producer.
- Ø The volume of milk collected including a copy of the tanker receipt or in the case of on farm transfer, written confirmation of the date and volume of milk transferred (preferably in a written ledger).
- Ø The identity of the purchaser concerned (if you are not the purchaser yourself).
- Ø The volume of milk delivered, and the name and address of each reception site (if the reception site is different from the Purchaser).
- Ø The sources of all the milk carried on each tanker (this will not apply for on farm transfer of milk in particular if the milk is hauled by pipeline).
- Ø Details of any malfunction in any equipment used by the Haulier.

Records must be kept for a period of 3 years following the quota year to which they relate.



Milk Sampling (Butterfat)

As an RPA approved milk purchaser you are required to sample, all raw whole or bulk pasteurised milk for butterfat. At least one butterfat sample per month must be taken from each producer supplying you.

All samples should be sent to a laboratory approved by the RPA, a list of which is sent to you along with your MQ/11 application.

The laboratory will make you aware of what their sampling procedures are and how the milk should be labelled and returned to them. However you are required to have a set of sampling standards which you and your haulier should have a copy of; you may be asked to produce these at inspection.

Sampling must be carried out in line with ISO (International Standard) 707 1997 – Milk and Milk Products – Guidance on Sampling. The following information gives you guidance on the sampling of liquid milk and is taken from the above.

- Ø Sampling shall be carried out in such a way as to obtain a representative sample. The milk should be agitated for a period of 2 minutes prior to the sample being taken.
- Ø For manual sampling a sterile dipper and sample pot should be used
- Ø The sample should be taken immediately after agitation; the milk should not be allowed to settle.
- Ø All samples should be sealed and clearly labelled (see testing lab for details)
- Ø If automatic agitating is not available i.e. if milk is collected in churn or bucket then a suitable stirrer or plunger should be used.
- Ø Where milk from more than one tank is being sampled, a separate sample should be taken for each tank using the methods described above.
- Ø A preservative tablet can be added to the sample prior to despatch to the laboratory (the lab will be able to supply these if needed). Freezing of samples is not permitted.

Milk must be sampled on the day of collection. If samples are taken on days when your producer does not deliver to you then you must preserve the sample until the lab collection date using the methods noted above.



Declaring Deliveries

All milk that leaves the farm holding or milking parlour (if production and processing is on the same site) must be declared and the milk producer must register quota to cover all deliveries. There are 2 types of milk quota; wholesale and direct sale. A milk producer may hold both types of quota and the quota may be converted temporarily or permanently from one type to the other.

This fact sheet explains how different milk deliveries are classified and how they need to be recorded and declared to the Milk Quota section of the Rural Payment Agency.

Direct Sales;

In order for a delivery to be classed as a direct sale the milk production and milk processing must be completed by the same company with a final product being retailed to the consumer. It is important to realise that if there are separate production and processing divisions to the business that this does not constitute a direct sale, this is actually a wholesale delivery as milk is being supplied to a separate business. If you are making bulk deliveries of pasteurised milk this is also classed as a wholesale delivery.

Contract Processing;

If milk is processed by a third party under contract this is classed as a wholesale delivery as the milk leaves the producers holding. This is the case even if the milk is not paid for and is returned to the producer for final sale.

Supplementary Deliveries;

If you have deliveries of milk to supplement your production, whether this milk is declared is dependant upon:

1. If the milk is from an approved milk purchaser then this milk has already been declared by them and is regarded by the RPA as a Secondary purchase. Although you will need to ensure you keep records of milk volumes, it does not need to be declared.
2. If the milk is direct from a milk producer then it must be declared by the recipient as a wholesale delivery. This applies even if the milk is being supplied by a Direct Seller or to a Direct Seller as once the milk leaves the producers holding it cannot be classed as direct sales.
3. If you buy milk off the spot market or through a milk broker it is your responsibility to check whether this milk has come from an approved source. Although you will need to ensure you keep records of this milk, it does not need to be declared.

Wholesale Delivery;

If milk is transferred from one business to another prior to processing, including contract processing, then this constitutes a wholesale delivery even if no money is exchanged for the milk or it is returned to the milk producer for final sale to the consumer. All wholesale deliveries must be to a milk purchaser approved by the RPA. Examples of a wholesale delivery are;

- Ø Milk delivered off farm to a milk broker or milk processor, even if this milk is being processed under contract for the milk producer. The Milk Processor should be an approved milk purchaser
- Ø Milk delivered on farm if the milk processor is a separate business to the milk production. The Milk Processing side of the business should be approved to purchase milk.
- Ø Milk delivered on bulk from a direct seller to a milk processor even if the milk has been pasteurised beforehand. The milk processor should be approved as a milk purchaser.

- Ø Supplementary milk being received by a direct seller to boost production, if direct farm supply. Direct Sales status can be retained for own milk production but approval should be sought for supplementary deliveries unless these are from an approved source.

All wholesale deliveries of milk should be butterfat tested monthly even if a one off delivery.



Butterfat Fact Sheet

As an RPA approved milk purchaser;

1. You must take at least one butterfat sample from each producer supplying you each month.
2. You are advised to take samples early in the month to allow for re-sampling within the month should any sample be unusable on receipt at the laboratory.
3. You must use a laboratory approved by the RPA for butterfat testing purposes.

Other Purchasers/Producers results

All samples taken must be representative of the milk you have purchased. If another purchaser takes milk from the same bulk tank, this is not representative of the milk you have purchased. The same applies to using the producers' results.

Freezing Samples

If there is a delay in sending your samples to the laboratory or you are sending them via a third party you may use a preservative. You must not freeze the samples as this may make it difficult to reconstitute the fat within the sample. Preservative tablets should be available from your testing laboratory.

Twin Tanks/Multiple Holdings

If collections are made from two tanks or more than one farm (if registered to the same producer) then individual samples should be taken from each. A simple average of the results from each tank/farm should be calculated for each month. At the end of the month the simple averages should be used to derive a weighted average taking account of the volumes of milk from each tank/farm.

Monthly Returns If you have taken more than one sample in a month from any given producer you should calculate a simple average for declaration to the RPA in your MQ12 (Monthly Return). If you have more than one producer you should declare a weighted average fat content taking account of the volume delivered by each producer.

Annual Returns

The simple average results for each month and each producer should be used to derive a weighted average fat content for the year, taking account of volumes delivered. If you have more than one producer such averages should then be weighted to produce an average for the purchaser group as a whole, taking account of the volume delivered by each producer. Weighted averages should be entered on your annual declaration.

Rogue Results

If you have any results which appear rogue you should;

- In the first instance take another sample if you can.
- If more than 3 samples have been taken in the month; perform the Dixon Test (available in the purchaser handbook) to see if the result can be included in your calculations
- Finally, seek guidance from the RPA.

The Dixon Test Fact Sheet

The fat content of a producer's milk for a month is calculated using the simple average of the results in the month.

If only one or two tests are taken in a month and a rogue result occurs, the purchaser must re-sample and re-analyse in that month, replacing the rogue result with the new test.

If three or more tests are taken per month, and there is no evidence available to support the questionability of a result, the purchaser should apply the Dixon test, which is used to justify the exclusion of a supposedly rogue result.

If the Dixon test supports exclusion, records must show both results, to demonstrate why the questionable result was excluded.

The Dixon Test

Principle – the results are ranked in order. Ratios are calculated and the largest value of these is compared with a tabulated value at a 95% significance level.

The tabulated values are:

Number of samples (n)	Critical value (95%)
3	0.970
4	0.829
5	0.710

Example 1

The fat results for the month are 3.69, 3.61, 3.58 and 3.83. These are ranked in order:

3.58, 3.61, 3.69, 3.83.

As there are four results in the month, the critical value is 0.829, taken from the table above.

To check whether the highest result is a rogue, the following ratio is calculated:

$$\frac{(3.83 - 3.69)}{(3.83 - 3.58)} = \frac{0.14}{0.25} = \mathbf{0.560}$$

(the highest result less the second highest result, divided by the highest result less the lowest result).

To check whether the lowest result is a rogue, the following ratio is calculated:

$$\frac{(3.61 - 3.58)}{(3.83 - 3.58)} = \frac{0.03}{0.25} = \mathbf{0.120}$$

(the second lowest result less the lowest result, divided by the highest result less the lowest result)

The largest calculated ratio of 0.560 is less than the critical value of 0.829 (n = 4) and so is not significant. Therefore neither of the results is a rogue and they must be retained.

Example 2

The fat results for the month are 3.69, 3.61, 3.58 and 4.50. These are ranked in order:

3.58, 3.61, 3.69, 4.50

As there are four results in the month, the critical value is 0.829, taken from the table above.

To check whether the highest result is a rogue, the following ratio is calculated:

$$\frac{(4.50 - 3.69)}{(4.50 - 3.58)} = \frac{0.81}{0.92} = \mathbf{0.880}$$

(the highest result less the second highest result, divided by the highest result less the lowest result)

To check whether the lowest result is a rogue, the following ratio is calculated:

$$\frac{(3.61 - 3.58)}{(4.50 - 3.58)} = \frac{0.03}{0.92} = \mathbf{0.033}$$

(the second lowest result less the lowest result, divided by the highest result less the lowest result)

The largest calculated ratio of 0.880 is greater than the critical value of 0.829 ($n = 4$) and so is significant. The highest fat result of 4.50 may therefore be considered a rogue. The lowest result cannot be considered 'rogue', as the result is less than the critical value of 0.829.

The fat result of 4.50 may therefore be excluded from the calculation of the average fat content for the month. The fat content is taken to be the average of the three remaining results, 3.58, 3.61 and 3.69 = 3.63.

NB: The Dixon test need only be applied to justify the exclusion of high or low results where there is no other evidence available to confirm the inaccuracy of the result

Contact Information;

- Direct Sales contact Louise Smith on (01392) 266306.
- Milk Purchaser Approval contact Evelyn Paul on (01392) 266461.
- Milk Quotas helpline on (01392) 266466.



Calculations and Formulae

The following fact sheet explains some of the calculations that are used by the milk quotas section and that you will need to become familiar with.

The following basic records should be held by all milk purchasers;

- Ø Delivery details for each delivery received from each individual producer
- Ø Independently tested butterfat results for each individual producer's deliveries.

These will form the basis of most calculations. As a milk purchaser you are required to submit a Monthly Return (MQ/12) and an Annual Return (MQ/13), it is in these returns that the formula below will be used.

Monthly Return (MQ/12)

The MQ12 requires you to declare the provisional volume deliveries for the month in question plus confirmed deliveries from the previous month, along with cumulative deliveries to date. You are also required to declare the average butterfat figure for the month in question.

Annual Return (MQ/13)

The annual return requires you to declare the total volume of milk delivered in the quota year, the **weighted average butterfat** of those deliveries and the **butterfat adjusted deliveries** of the milk delivered in the quota year. The wholesale levy is calculated on butterfat adjusted deliveries so this calculation is needed on your Annual Return (MQ/13). The butterfat adjustment is a pre set adjustment that applies to all purchasers and is set by the EU for all participating member states.

Example Calculation – Simple Average (MQ/12 Monthly Return)

For each producer you need to take a **simple average** of the butterfat results you have for the month in question (the legal obligation is at least one). If you have more than one sample you will need to total together the butterfat results and divide by the number of results to obtain the simple average result. This is the figure that will be entered onto the MQ/12.

Butterfat Result 1	3.89
Butterfat Result 2	4.03
Butterfat Result 3	3.95

$$\begin{aligned} &= (\text{Total of Butterfat Results}) / \text{No of Butterfat Results} \\ &= (3.89 + 4.04 + 3.95) / 3 = (11.87) / 3 = *3.96\% \end{aligned}$$

* Rounded to 2 decimal places, butterfat results should always be rounded to 2 decimal places.

If you receive milk from more than one producer or from a producer with twin tanks or multiple holdings you must calculate the **weighted average** of your butterfat results for your producer.

If any of your producers' has twin tanks/multi farms then you must treat each tank/farm individually calculating the simple average for the month. It is these monthly totals that you weight together at the end of the month. This is done by calculating the **butterfat in litres**.

Example Calculation – Butterfat in litres (MQ/12 Monthly & MQ/13 Annual Returns)

If a producer delivers 10,000 litres in the month from tank 1 and the simple average butterfat is 3.96% then the butterfat in litres for tank 1 is 3.96% of 10,000 litres;

$$= (\text{total volume tank or producer} \times \text{simple average butterfat}) / 100$$

$$= (10,000 \times 3.96) / 100 = (39,600) / 100 = **396.0 \text{ litres.}$$

If the same producer delivers 8,500 litres from tank 2 with a simple average butterfat of 4.02% then the butterfat in litres for tank 2 is 4.02% of 8,500 litres;

$$= (\text{total volume tank or producer} \times \text{simple average butterfat}) / 100$$

$$= (8,500 \times 4.02) / 100 = (34,170) / 100 = ** 341.7 \text{ litres}$$

** Butterfat in litres is always calculated to 1 decimal place.

Example Calculation – Weighted Average Butterfat (MQ/12 Monthly & MQ/13 Annual Returns)

The same principle applies whether you are calculating the weighted average butterfat for a producer with a twin tank/multi farm or where you have more than one producer supplying you. If both apply then you will need to perform the calculation first for the producer with twin tanks/multi holdings then for your producer group. When calculating the **annual weighted average butterfat** of deliveries you will need to complete the calculation again for the simple/weighted average monthly figures that you have for each producer, for each calendar month.

Producer/Tank	Total Deliveries	Simple Average Butterfat	Butterfat in litres
Tank 1	10,000	3.96	396.0
Tank 2	8,500	4.02	341.7
Totals	18,500		737.7

To calculate the **weighted average butterfat** you need to take the total volume and divide it by the total of the butterfat in litres, this figure is then multiplied by 100 to give you a percentage figure;

$$= (\text{total butterfat in litres} / \text{total volume deliveries}) \times 100$$

$$= (737.7 / 18,500) \times 100 = (0.398756) \times 100 = * 3.99\%$$

* Butterfat figures are always rounded to 2 decimal places.

Example Calculation – Butterfat Adjusted Deliveries (MQ/13 Annual Return)

To correctly calculate the butterfat adjusted deliveries you will need to know the **ongoing butterfat base** of each producers quota, if you do not have quota registered you will not have this information and therefore you will not be able to complete the calculation. Note: In this situation you will use the straight volume deliveries in place of butterfat adjusted deliveries.

To calculate the **butterfat adjusted deliveries** you need to take the **weighted average butterfat** of your deliveries to date and subtract this from your producer's **ongoing butterfat base**.

Note: depending on whether your weighted butterfat is higher or lower than the ongoing butterfat base of your supplying producer, you will use a different butterfat co-efficient to calculate your butterfat adjusted deliveries.

If your weighted butterfat is greater than the ongoing butterfat base of your producer;

You will need to take the **weighted average butterfat** of your deliveries to date and subtract this from your producer's **ongoing butterfat base**, multiply this by **0.09**, add on 1 then multiply this figure by your total straight **volume deliveries** to date.

If we use the figures that we have already calculated in previous examples and assume an ongoing butterfat base for our producer of 3.89%.

Producer/Tank	Total Deliveries	Simple Average Butterfat	Butterfat in litres
Tank 1	10,000	3.96	396.0
Tank 2	8,500	4.02	341.7
Totals	18,500	3.99%	737.7

$$\begin{aligned}
 &= (((\text{weighted average butterfat} - \text{producer's ongoing butterfat base}) \times 0.09 + 1) \times \text{volume delivery}) \\
 &= (((3.99 - 3.89) \times 0.09 + 1) \times 18,500) \\
 &= (0.10 \times 0.09 + 1) \times 18,500 \\
 &= 1.009 \times 18,500 \\
 &= 18,666.5 \text{ litres} \\
 &= 18,667 \text{ litres (rounded to wholes figures)}
 \end{aligned}$$

The calculation is also shown in the table below.

Butterfat content – butterfat base	3.99-3.89	0.10
X butterfat co-efficient	X 0.09	0.009
	+1	1.009
X deliveries	X 18,500	18,666.5

If your weighted butterfat is less than the ongoing butterfat base of your producer;

You will need to take the **weighted average butterfat** of your deliveries to date and subtract this from your producer's **ongoing butterfat base**, multiply this by **0.18**, add on 1 then multiply this figure by your total straight **volume deliveries** to date.

For this example we will use the ongoing butterfat base from our previous example of 3.89% and the assumed delivery and butterfat figures below.

Producer/Tank	Total Deliveries	Simple Average Butterfat
Totals	18,500	3.79%

$$\begin{aligned}
 &= (((\text{weighted average butterfat} - \text{producer's ongoing butterfat base}) \times 0.18 + 1) \times \text{volume delivery}) \\
 &= (((3.79 - 3.89) \times 0.18 + 1) \times 18,500) \\
 &= (-0.10 \times 0.18 + 1) \times 18,500 \\
 &= 0.982 \times 18,500 \\
 &= 18,167 \text{ litres}
 \end{aligned}$$

The calculation is also shown in the table overleaf.

Butterfat content – butterfat base	3.79-3.89	-0.10
X butterfat co-efficient	X 0.18	-0.009
	+1	0.982
X deliveries	X 18,500	18,167

When completing your annual return you will calculate this figure for each producer dependent on the coefficient used then total them all together for your **annual butterfat adjusted deliveries**.



Milk Purchaser Obligations

In order to retain Milk Purchaser approval status once approved, a purchaser must:

- Ø keep records relating to producers and their deliveries, quotas and butterfat content;
- Ø take regular samples (at least once per month) of the milk delivered by each producer;
- Ø have the samples analysed by an approved laboratory to establish their fat content;
- Ø prepare an end-of-year statement of deliveries for each producer;
- Ø submit an annual statement of total deliveries and butterfat content to the RPA by 14 May (form MQ/13);
- Ø Submit a revised annual statement of total deliveries and butterfat content to the RPA along with a revised end-of year statement of deliveries for each producer within 2 weeks of the date despatched from the RPA (form MQ/13A and PLR report);
- Ø submit monthly statements by the third working day of the following month to the RPA (form MQ/12);
- Ø submit weekly statements by Wednesday of the following week to the RPA when required (form MQ/14)
– *currently suspended until further notice;

- Ø notify the RPA of any producers who have made no deliveries or have ceased production during the year;
- Ø notify the RPA of changes in your quota due to a producer joining from another purchaser group (form MQ/10);

- Ø collect levy from over-quota producers;
- Ø pay any levy by 30 September;
- Ø inform the RPA of changes affecting your processing premises and laboratories;
- Ø inform producers if your approval is revoked by the RPA;

- Ø retain records for three calendar years after the end of the quota year in which they were drawn up;
- Ø make records available for physical inspection by officers authorised by the RPA.

Further Information;

Further guidance Milk Purchaser Approval is available in the Purchasers Handbook, a copy of which is supplied to every approved milk purchaser.

Further guidance on quota matters is available in the Guide to Milk Quotas, a copy of which is supplied to every new milk producer.

Further guidance on approved milk sources is available on the Approved Milk Purchasers List, which is updated monthly. N.B. This is not an exhaustive list of all Milk Purchasers, if you are unable to find a source on the list please contact the Milk Purchaser Approval section on the contact numbers below, who will be able to confirm whether or not a source is registered or not.

The **Purchaser Delivery Calculator** spreadsheet is available from the RPA, the spreadsheet performs the calculations detailed above, detailing the figures needed for the monthly and annual returns.

All of the above publications are available on request or may be downloaded from the RPA website www.rpa.gov.uk.

Contact Information;

- Ø Direct Sales Team contact Louise Smith (01392) 266306 or Dennis Boulton (01392) 266535.
- Ø Milk Purchaser Approval contact Evelyn Paul (01392) 266461 or Andrew Butt (01392) 266320.
- Ø Milk Quotas helpline on (01392) 266466.
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