DairyBase Level Two physical data questionnaire

Please note: The Level 1 physical data questionnaire must also be completed to enable DairyBase to enter your Level 2 data.

Completing the questionnaire:
- Use information in the shaded areas for suggestions on where to source answers, or for further clarification on what the question is asking.
- For any assistance, contact DairyBase on 0800 4 DairyNZ.

Submitting your data:
- Save the PDF and email to info@dairybase.co.nz, or print and post to DairyNZ, Private Bag 3221, Hamilton 3240.

Farm business name	**Business owner name/s**

Season 20xx/xx:	**DairyBase 6 digit ID number:**

General comments, for example - major weather event, dried off early, first year conversion, new supply number.

Farm dairy description

Farm dairy	Shed type (please select)	Herd calving season (please select)	Dairy size (number of sets of cups)	Number of staff milking (include person on herds)	Milking time (minutes)	Peak number of cows milked	Number of cows that go around twice (rotary only)
Shed 1	Herringbone	Spring					
Shed 2	Herringbone	Spring					
Shed 3	Herringbone	Spring					

Rainfall for season (mm)		Enter if measured, otherwise district average will be used.
Pasture potential of the farm (t DM/ha)		To find out the pasture potential search "Pasture Potential Tool" on the DairyNZ website.

Farm physical description

Distance from farm dairy to furthest paddock (km)		Estimate from farm map if available.
% of farm at a different height/altitude to farm dairy		Only needed if a significant portion of the farm is hilly or if the cows have a significant climb to/from the farm dairy.
Average difference in height between farm dairy and hill paddocks (m)		

Stock description

Cow LWT (kg) as at December 1			Jersey	Holstein friesian-jersey cross	Holstein friesian
			375-425 kg	445-485 kg	500-550 kg
		Actual / estimated	The ranges above are **approximate weight ranges** based on cow breed. Circle whether the figure you provided is actual or estimated weight.		
Herd BW/reliability	○ LIC ○ CRV	**BW** /	Circle LIC or CRV to indicate the source of the BW and enter the date that BW/PW was measured. Include replacement two-year-olds. For more information on animal evaluation visit **dairynz.co.nz** If values are not known, please leave blank.		
Herd PW/reliability	**Date:**	**PW** /			

Milk production

This section captures all milk output from herd (except colostrum), whether saleable or not, to gain greater accuracy to estimate the energy requirements.

Discarded milksolids (kg) (Number of cows x days withheld x average kg MS/ cow/day)		Discarded milksolids from sick cows disposed of and NOT fed to calves, plus any dumped milk (e.g. chiller faults or penicillin in milk). Refer to animal treatment records for number of cows treated and withholding period. Use average if different treatments have different withholding periods.
Milk fed to calves (L) (Number of calves x litres/ calf/day x no. days)		Includes sick cow milk and saleable milk taken from vat and fed to both replacement and non-replacement calves (do not include colostrum milk). For a 25% replacement rate, for calves fed for 8 weeks, approximately 25% of their feed will come from colostrum so adjust number of days fed out of the vat.

Complete the calculation table below if the total is not known – **include replacement and non-replacement calves reared** and exclude colostrum milk fed to calves.

	Number of calves reared	**Estimated litres of milk/calf/day** (sick cow milk and saleable milk only)	**Number of days fed milk**
Spring			
Autumn			

Milk production – spring herd

Per cow daily production at peak and at end of December are used to calculate monthly drop-off from peak, which can be an indicator of loss of pasture quality.

This section captures all milk output from herd (except colostrum), whether saleable or not, to gain greater accuracy to estimate the energy requirements.

Average daily milksolids per cow for 10 days at peak (KgMS/cow/day 10 day average)		Peak period is when the highest daily per cow production is achieved. Not all cows may have calved, and some milk may be going to the calves so the milk statement may not always reflect peak per cow production. Refer to milk company statements and daily records as a starting point.
Last date of 10 day peak		If peak was on 10 Oct then the last day of 10 day peak would be 15 Oct ~ 5 days after peak.
Milksolids to 31 Dec sold to factory		Refer to December dairy company statement under "season to date production" or dairy company website "1 Jun to 31 Dec production".
Average daily milksolids per cow for last 10 days in December (KgMS/cow /day 10 day average)		Refer to December dairy company statement or website for daily production. Work out the average by dividing daily milk solids for last 10 days in December by number of cows milking at 31 Dec.
Carryover cows		
Number of in-milk carryover cows on 1 June		Number of cows that calved in spring the previous season not in-calf and still in-milk at the beginning of the current season (1 June). (Split calving - dry these cows off at the same time as the autumn herd unless earlier culling/death details are available. Known culls/deaths to be entered as before PSC in calculator.)

Carryover cows in-milk	**Date (xx/xx/xxxx)**	**Number dried off**

Number of in-milk carryover cows on 31 May		Number of cows that calved in spring of the current season not in-calf and still in-milk at the end of the season (31 May).

Spring calving herd

Planned start of calving date		Planned start of spring calving for mixed age cows. Can be found on your Fertility Focus Report.
Date when 50% of cows calved		Information can be obtained from Minda Live Calving or your yellow notebook. If yellow notebook is being used, count the cows until you reach 50% of total cow numbers and use that date, or use midpoint of calving from Calving Rate Report.
Number of cows calving in Spring on 1 June		This should include all cows calving from 1 Jun - 31 Dec for spring calving. Information can be obtained from your calving report.
Number of cow deaths		Number of cows that died throughout the season.
Number of cows culled		Number of cows culled throughout the season.
Days in milk per cow		Average days in milk for herd. If known, enter here. If not known, complete **Days in Milk table.** A separate table must be completed for spring/autumn herds.

Days in Milk table – spring herd

This asks for the number of cow sales and deaths before the Planned Start of Calving. Information can be obtained from your animal removal report. Any animals sold or sent to the works will be recorded in your animal health declaration book and yellow notebook.

	Died	**Culled**
Cow sales & deaths prior to planned start of calving		

Days in Milk table – spring herd

This asks for number of cows and date they where removed from the milking herd either because of death, culling or drying off. Information can be obtained from animal removal report. Otherwise any animals sold or sent to works will be recorded in animal health declaration book and yellow notebook.

Spring herd	Date (xx/xx/xxxx)	Died	Culled	Dried off

Milk production – autumn herd

Per cow daily production at peak and at end of August are used to calculate monthly drop-off from peak, which can be an indicator of loss of pasture quality. (Top box not required for split calving herds with a peak milk value in spring.)

This section captures all milk output from herd (except colostrum), whether saleable or not, to gain greater accuracy to estimate the energy requirements.

Average daily milk solids per cow for 10 days at peak (KgMS/cow/ day 10 day average)		Peak period is when the highest daily per cow production is achieved. Not all cows may have calved and some milk may be going to the calves so the milk statement may not always reflect peak per cow production. Refer to milk company statements and daily records as a starting point.
Last date of 10 day peak		If peak was on 10 May then the last day of 10 day peak would be 15 May ~ 5 days after peak.
Milksolids to 31 August sold to factory		Refer to August dairy company statement under "season to date production" or dairy company website "1 Feb to 31 Aug production".
Total milksolids produced by autumn herd (kg)		Total kg of milksolids produced by the autumn-calving herd during the season. The season starts in February and runs until the end of January of the following year.
Average daily milksolids per cow for last 10 days in December (KgMS/cow /day 10 day average)		Refer to August dairy company statement or website for daily production. Divide average daily milksolids for last 10 days in August by number of cows milking at 31 August.

Planned start of autumn calving		Planned start of autumn calving for mixed age cows. Note: Enter the calving details for the calving period prior, for example in the 2023/24 season enter the calving details from autumn 2023.
Date when 50% of cows calved in autumn		Information can be obtained from Minda Live Calving or your yellow notebook. If yellow notebook is being used, count the cows until you reach 50% of total cow numbers and use that date, or use midpoint of calving from Calving Rate Report.
Number of autumn cows calving		This should include all cows calving from 1 Jan - 31 May for autumn calving. Information can be obtained from your calving report.
Number of cow deaths		Number of cows that died throughout the season.
Number of cows culled		Number of cows culled throughout the season.
Days in milk per cow autumn		Average days in milk for herd. If known enter here, if not known complete **Days In Milk table**. A separate table must me completed for spring and autumn herds.

Days in Milk table – autumn herd

This asks for number of cows and date they where removed from the milking herd either because of death, culling or drying off. Information can be obtained from animal removal report. Otherwise any animals sold or sent to works will be recorded in animal health declaration book and yellow notebook.

Autumn herd	Date (xx/xx/xxxx)	Died	Culled	Dried off
Cow sales & deaths prior to planned start of calving				

Days in Milk table – autumn herd

This asks for number of cows and date they where removed from the milking herd either because of death, culling or drying off. Information can be obtained from animal removal report. Otherwise any animals sold or sent to works will be recorded in animal health declaration book and yellow notebook.

Autumn herd	Date (xx/xx/xxxx)	Died	Culled	Dried off

Additional information for split calving herds

This is to help capture the days in milk of empty carryover autumn calvers that join the spring herd to continue milking.

Autumn cows dried off **(total)**		Dry off date (if known)	
Empty cows carried over and combined with spring herd		OR use spring herd dry off date	

Young stock grazed on the effective (milking) area

	Number of animals	Age at the start of grazing (months)	Age at the end of grazing (months)	Stating the age animals started grazing indicates how much feed they will be consuming.
Rising one-year olds				Animals from 3 months weaning to 10 months of age.
Rising two-year olds				Animals from 11 months to 22 months of age.

Young stock grazed off the effective (milking) area. If no stock is grazed off the milking area, leave blank.

	Number of animals	Age at the start of grazing (months)	Age at the end of grazing (months)	Stating the age animals started grazing indicates how much feed they will be consuming.
Rising one-year olds				Animals from 3 months weaning to 10 months of age. If young stock leave in groups, enter number and age of each group on separate lines.
Rising two-year olds				Animals from 11 months to 22 months of age. If young stock leave in groups, enter number and age of each group on separate lines.

Grazing off dry cows – feed eaten by dry cows not grown on the effective area

Number of cows	**Mob 1**	**Mob 2**	**Mob 3**	**Mob 4**	**Age at the end of grazing (months)** Number of cows grazed off from 1 Jun, includes in-calf heifers.
Total days grazed away from milking area					If gradually sent or brought back between grazing and milking platform use average length of time for herd.
kgDM/cow/day offered					This is feed offered (grass and supplement). Whether cows gained, maintained or lost weight will give some indication of intake.
Average MJME/kgDM	11MJME/kgDM or				Average of all feeds eaten at grazing including supplement. Use 11ME for pasture.
Utilisation %	85% or				Use 85% for pasture unless very wet.

	Friesian	Crossbred	Jersey
Held condition	10	9	8
Gained weight	13	12	11

Crops grazed and feed harvested on effective area

Area harvested for hay and silage (ha)		Includes grass and lucerne. If more than one cut is taken from the same area, count each cut separately e.g.10ha x 3 cuts = 30ha.
Summer crop grazed by dairy cows (ha)		Summer crop to be grazed by the stock (herd and young stock on effective area) in the production season.
Winter crop grazed by dairy cows (ha)		Only include the winter crop area which is grazed in the production season you are collecting information for. Do not include paddocks which may be out for planting the following season.
Harvest crop (ha)		Includes cereal and maize. **Must be harvested**, not grazed.
Feed grown on the milking platform and still on-hand at the end of the season (TDM)		
Feed grown on the milking platform and exported during the season (TDM)		Includes feed grown on the milking platform during the season and not fed out to milking cows e.g. fed out on support block or sold off farm.

Supplements made on the milking platform in the previous season and fed this season

Type of feed	Tonnes of wet matter (WM)	DM %	Tonnes of dry matter (DM)	Average MJME/kgDM	Utilisation
Maize Silage fed					
Pasture silage/baleage fed					
Hay fed					
Other supplements fed					

Imported supplements fed out on effective area during season – identifies the amount of feed eaten while on the effective area that was not grown on the effective area

- Includes any feed grown on owned or leased support block, plus any purchased feed brought home and fed on effective milking area duringproduction season.
- Imported feed may include feed on hand at the start of the season.
- If any stock normally on the effective area during the season graze off the effective area (e.g. neighbouring paddock/support block) for a shorttime period (e.g. 12 hours) then treat that as imported feed. Enter below by estimating the total tonnes of DM fed to the stock.
- Refer to imported supplements table on the next page for DM%, MJME and utilisation of feeds.

Type of feed – expressed in Tonnes of Dry Matter (tDM)	**From feed inventory (tDM)**	**Purchased (tDM)**	**From support block (tDM)**	**Average MJME/kgDM**	**Utilisation**

Imported supplements – information on dry matter, energy and utilisation of feed

Maize silage	DM 30-38%, MJME 10.0–11.0. Utilisation: bins 75-85%, dry paddock 65-75%, wet paddock 50-60% (includes storage losses).	**Baleage/Pit silage**	Baleage: DM 30-40%, MJME 8.0–12.0. Pit Silage: DM 25-30%. Utilisation: dry paddock 70-80% wet paddock 60-70%.
Maize grain/gluten	DM 87-89%, MJME 13.5. Utilisation: bins 80-90%, shed 95%.	**Kiwifruit**	Average DM 14% soft, 20% hard. MJME 9-11 soft, 12-12.5 hard.
Hay	DM 85%, MJME 6.0 – 9.0. Utilisation 60-85%.	**Proliq**	DM 32-40%, MJME 9-11. Utilisation: 95%.
Concentrates	Most will be approx 90% DM, MJME 13.5. Utilisation 80-95% (includes storage losses).	**Lucerne silage and hay**	DM 85%, MJME 8.0 – 10.0. Utilisation: dry paddock 70-80%, wet paddock 60-70%
Molasses	DM average 75%, MJME 11.5. Utilisation: 95%.	**Onions**	DM average 10%, MJME 13.0.
Palm kernel	DM 90-95%, MJME 11.0. Utilisation: bins 80-90%, shed 95%.	**Potato**	DM average 20%, MJME 13.0.
Cereal silage	DM 30-40%, MJME 9.0 - 10.5. Utilisation %: see maize silage.	**Carrots**	DM average 12-13%, MJME 13.0.
Barley/wheat grain	DM 86-89%, MJME 12-13. Utilisation: bins 80-90%, shed 95%.	**Soybean meal**	DM 90%, MJME 12.5. Utilisation: bins 80-90%, shed 95%.
Bread	DM average 63%.	**Broll**	DM 85%, MJME 9.5-11.0.
Brewers grain	DM 24%, MJME 10.5. Utilisation: bins 80-90%, shed 95%.	**Sweet cornsilage**	DM average 20%, MJME 9.5-10.5.
Cereal straw	Average DM 85-89%. MJME 6.0 - 7.0.	**Tapioca**	DM 88%, MJME 12.5. Utilisation: bins 80-90%, shed 95%.

Irrigation (not including effluent spread on pasture)

You can complete this section in one of two ways; either complete section 1 "Irrigation systems" or section 2 "Total/average irrigation".

Section 1: Irrigation systems

Irrigation Type (Centre Pivot, K-line (etc)	Milking area irrigated (ha)	Days of season irrigated (refer to meter records)	Irrigation Interval (days)(time taken for irrigator to return to start point)

Section 2: Total/average irrigation

Milking area irrigated (ha)	Days of season irrigated	Irrigation interval (days)
Water volume (enter one from options below)		
Total metered water (m^3) – preferred		If the water supply is not metered and cannot be entered, then water applied will be derived from flow rate. Only irrigation applied to milking area is of interest, if total metered water includes irrigation for other areas then use flow rate instead.
OR Instantaneous flow rate (l/sec/ha)		
OR Flow rate (bore borderdyke) (l/sec)		

Shed water usage

Total amount of water used in the dairy shed (litres/year)		Information found in dairy shed water meter records.

Soil test data

Soil on effective area only. If more than one test taken please calculate weighted average for farm.

	Minimum	Maximum
Soil test pH		
Olsen P (average)		

Fertiliser application – complete either option one or option two

Option one
If fertiliser statement applies to fertiliser that is applied to the effective milking platform area only, use the below table to enter kilograms of the element applied to the dairy area.

Enter either as total kg or kg/ha	**Total kg**	**or**	**kg/ha**
Nitrogen (N)			
Phosphorus (P)			
Potassium (K)			
Lime Lime is likely to be applied in tonnes/ha, check the correct units have been entered.			

Option two
If fertiliser statement includes fertiliser that is applied to more than the effective area (e.g. support block), use the table below making sure you remove any applications applied to areas other than the effective area. Enter the fertiliser type and total tonnes applied and the DairyBase calculator will work out the total kilogrames of each element applied.

Fertiliser type e.g. urea, superphosphate, lime.	**Tonnes applied to milking area only**	**ha applied to**

Environment

Environment	
Riparian planting area (ha)	Area of the farm used for riparian planting.
% of herd able to be stood off for more than 24 hours	
Number of effluent storage days	

Soil type and drainage (enter up to four soil orders and drainage classes. Soil drainage class is in your Overseer report, nitrogen scorecard or your farm environment report).

	Soil order (select one)	Percentage of farm effective area		Soil drainage class (select one)	Percentage of farm effective area
Soil order 1	Brown		Soil drainage class 1	Very Poorly	
Soil order 2	Brown		Soil drainage class 2	Very Poorly	
Soil order 3	Brown		Soil drainage class 3	Very Poorly	
Soil order 4	Brown		Soil drainage class 4	Very Poorly	

Environmental KPI's (in your Overseer report - whole farm)

Overseer version number (number separated by dots e.g. 6.3.2	Nitrous oxide (N2O) emissions (eCO2/ kg/ha/year)	Nitrogen loss from root zone (leached) (kg N/ha/year)
Current area receiving liquid effluent (%)	Phosphorous loss (kg P/ha/year)	Methane emissions (eCO2/kg/ha/year)
Nitrogen surplus (kg N/ha/year)		

Calving and mating

	Spring herd	Autumn herd	
Start of mating			Use date for mixed-age-cows only (not yearling matings). Available from mating report.
Date AB finished			Available from mating report or from Fertility Focus Report page 2. If no AB used enter date bull withdrawn.
Date bull withdrawn from herd			If bull left with herd for remainder of season enter date which matches culling criteria for calving date.
If short gestation (SG) straws are used after the bull is withdrawn, add the length of time SG is used onto the "Date AB finished" (in the box above) and update "Date bull withdrawn from herd" to final date of mating.			
6-week in-calf rate	% Actual ○ Estimate ○	% Actual ○ Estimate ○	Percentage of cows pregnant in the first 6 weeks of mating from the Fertility Focus Report. Indicate whether actual or estimate.
3-week submission rate			Number of cows mated at least once in 21 days from PSM.
Not-in-calf rate	%	%	Percentage of cows that failed to become pregnant during both the AB and bull mating periods.
Percentage of cows calved by 3 weeks from PSC	%	%	Percentage from the Fertility Focus Report.
Percentage of cows calved by 6 weeks from PSC	%	%	Percentage from the Fertility Focus Report.
Percentage of cows calved by 9 weeks from PSC	%	%	Percentage from the Fertility Focus Report.
Non-cycling cows treated for anoestrus (aka CIDR cows)	%	%	Total percentage from the Fertility Focus Report of non-cycling cows treated for anoestrus (also known as CIDR cows)

Mastitis and lameness

Number of treatments for lameness		Number of recorded antibiotic treatments for lameness for the season. Refer to treatment register in Dairy Diary or Minda Treatment Register.
Number of treatments for mastitis		Number of recorded antibiotic treatments for mastitis for the season. Refer to treatment register in Dairy Diary or Minda Treatment Register.
Average bulk milk somatic cell count(for the season)		Refer to dairy company website or SCC report. Do not use average herd test results.

Wastage and replacements

This section measures wastage of whole herd from calving through to December and wastage of R2 heifers from 1st lactation to 2nd lactation.

	Spring herd	Autumn herd	
Number or heifer calves reared as replacements			
Number of in-calf R2 heifers at the start of the season			Information can be obtained from Herd Summary Report or stock reconciliation in financial statement (if balance date is 31 May).
R2 heifer liveweight at 22 months (kg)			Target is 90% of mature weight at 22 months (pre-calving).
Number of cows and R2 heifers milking as at 31 December			This must be less than, or the same, as peak cows milked. Check December herd test.
Number of 1st calvers at the start of the season and still in the herd at the end			See Herd Summary report - do not include empty heifers.