



Report on a survey conducted in October and November 2021 in respect of the information supplied by milk producers in terms of the requirements as published in Regulations 90 and 91 of 2 February 2020 in terms of the Marketing of Agricultural Products Act (47 of 1996).

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Contents

1	Introduction	2
2	Herd composition and structure	3
3	Milk production	8
4	Geographical distribution of milk production	10
5	Geographical distribution of cows	11
6	Cows breeds	11
7	Type of milk production system	12
8	Management system	12

1. Introduction

In terms of Regulations 90 and 91 of 2020, the Milk Producers' Organisation (MPO) is compelled to collect specific information from milk producers of unprocessed milk. This survey was carried out in October and November 2021. The survey was conducted among all milk producers registered as such with the MPO in terms of Regulation 90 of 2020. It consisted of an initial email survey, followed by two additional email surveys and two telephone surveys among persons who initially failed to respond and producers without email contact. Incomplete questionnaires were followed up by telephone from December 2021 through March 2022. In total 420 responses (43% of registered milk producers) could be used. This is a decrease from 59% of registered milk producers in the previous year. The MPO is aware of the situation and will introduce measures to improve the response rate. The total response is compared with the number of registered producers per province in Table 1.

Table 1: Survey response and registered producers per province, January 2022

Province	Responders	% of total responses	Registered producers	% of total registered producers	Response % of registered producers
North West	54	12,9%	70	7,1%	77,1%
Free State	65	15,5%	117	11,9%	55,6%
Mpumalanga	25	6,0%	44	4,5%	56,8%
Northern Cape	2	0,5%	4	0,4%	50,0%
Limpopo	5	1,2%	5	0,5%	100,0%
Western Cape	153	36,4%	324	32,9%	47,2%
Gauteng	28	6,7%	52	5,3%	53,8%
KwaZulu-Natal	46	11,0%	202	20,5%	22,8%
Eastern Cape	42	10,0%	166	16,9%	25,3%
Total	420	100,0%	984	100,0%	42,7%

The response rate of the different regions varied between 22,8% and 100%. In the opinion of the Milk Producers' Organisation, the information in this report provides a reliable overview of the typical structure of unprocessed milk production in South Africa.

2. Herd¹ composition and structure

The average composition of dairy herds per province is shown in Table 2 and the percentage composition in Table 3. The largest herds are in the Eastern Cape and KwaZulu-Natal and the smallest in Northern Cape and North West.

Table 2: Herd composition average dairy herd per province, 2021

Province	Cows in milk	Dry cows	Heifers < 1 year	Heifers >1 year and pregnant	Heifers > 1 year	Total herd
Eastern Cape	871	83	268	158	79	1459
KwaZulu-Natal	630	75	180	135	107	1149
Western Cape	383	65	175	89	56	768
Limpopo	257	49	153	72	73	604
Free State	248	51	111	59	54	524
Northern Cape	56	39	29	10	9	142
Mpumalanga	262	39	142	75	58	576
Gauteng	347	59	198	103	97	803
North West	135	28	63	33	33	292
National herd	435	57	171	95	65	823

¹ A dairy herd is defined as a number of dairy animals being farmed on a separate farm/separate milking parlour, irrespective of its ownership.

Table 3: Herd composition, percentage of national herd per province, 2021

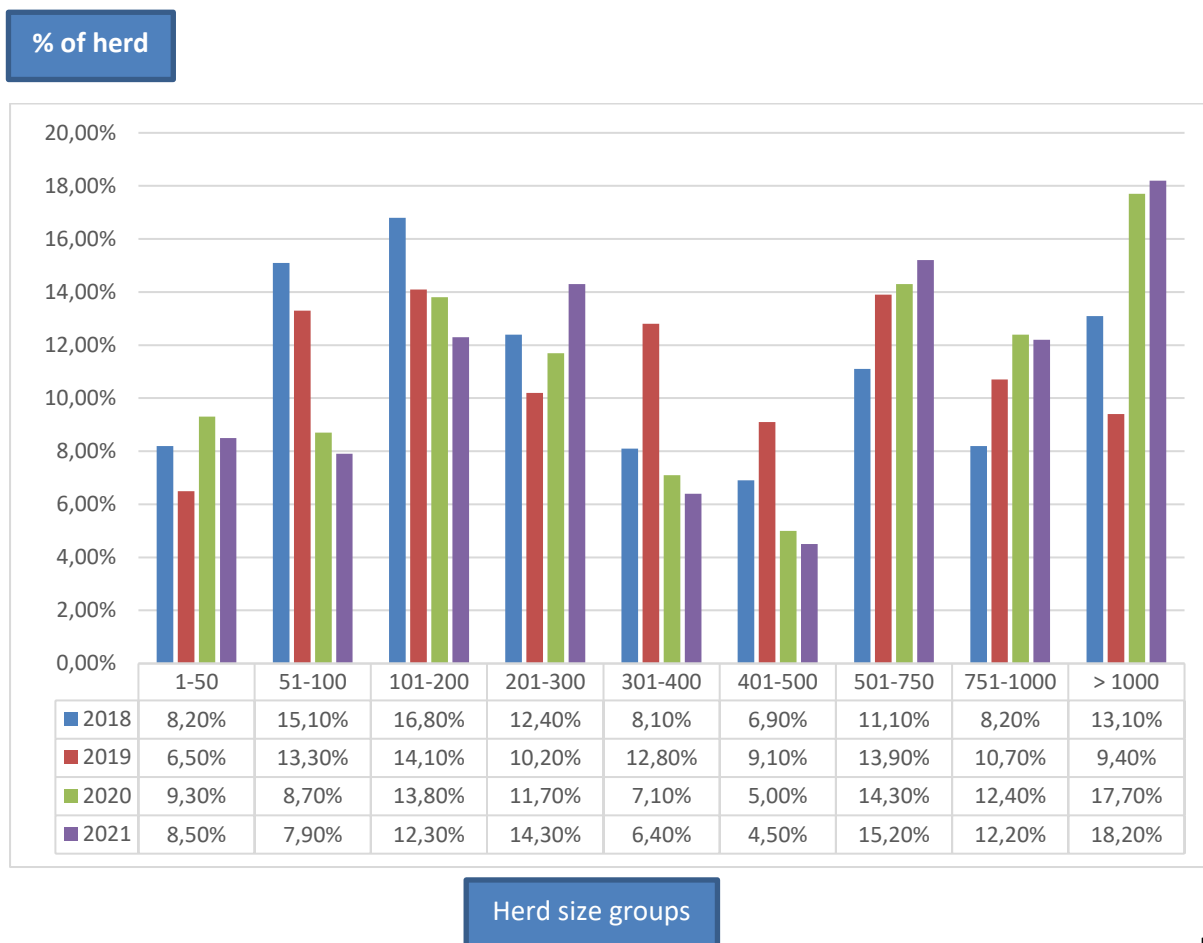
Province	Cows in milk	Dry cows	Heifers < 1 year	Heifers >1 year and pregnant	Heifers >< 1 year	Total herd
Eastern Cape	59,7%	5,7%	18,4%	10,8%	5,4%	100,0%
KwaZulu-Natal	54,9%	6,6%	17,4%	11,8%	9,4%	100,0%
Western Cape	49,7%	8,6%	22,8%	11,6%	7,4%	100,0%
Limpopo	42,6%	8,1%	25,3%	11,9%	12,0%	100,0%
Free State	47,4%	9,7%	21,2%	11,4%	10,3%	100,0%
Northern Cape	39,1%	27,4%	20,1%	6,8%	6,6%	100,0%
Mpumalanga	45,5%	6,8%	24,6%	13,0%	10,1%	100,0%
Gauteng	43,2%	7,3%	24,6%	12,8%	12,1%	100,0%
North West	46,2%	9,5%	21,5%	11,4%	11,3%	100,0%
National herd	52,9%	6,9%	20,8%	11,5%	7,9%	100,0%

The distribution of dairy herds per herd size interval is shown in Table 4 and Figure 1. Forty-three per cent of the dairy herds comprise 300 or fewer cows in the herd while 46% of the herds have more than 500 cows.

Table 4: Distribution of dairy herds per herd size group (cows in the herd), 2018 – 2021

Cows in herd	% of herds				Cumulative % of herds			
	2018	2019	2020	2021	2018	2019	2020	2021
1-50	8,2%	6,5%	9,3%	8,5%	8,2%	6,5%	9,3%	8,5%
51-100	15,1%	13,3%	8,7%	7,9%	23,3%	19,8%	18,0%	16,4%
101-200	16,8%	14,1%	13,8%	12,3%	40,1%	33,9%	31,8%	28,7%
201-300	12,4%	10,2%	11,7%	14,3%	52,5%	44,1%	43,5%	43,0%
301-400	8,1%	12,8%	7,1%	6,4%	60,6%	56,9%	50,6%	41,2%
401-500	6,9%	9,1%	5,0%	4,5%	67,5%	66,0%	55,6%	49,4%
501-750	11,1%	13,9%	14,3%	15,2%	78,6%	79,9%	69,9%	53,9%
751-1000	8,2%	10,7%	12,4%	12,2%	86,8%	90,6%	82,3%	69,1%
> 1000	13,1%	9,4%	17,7%	18,2%	99,9%	100,0%	100,0%	100,0%
Total	100%	100%	100%	100%				

Figure 1: Distribution of herds per herd size group (cows in the herd), 2018 – 2021

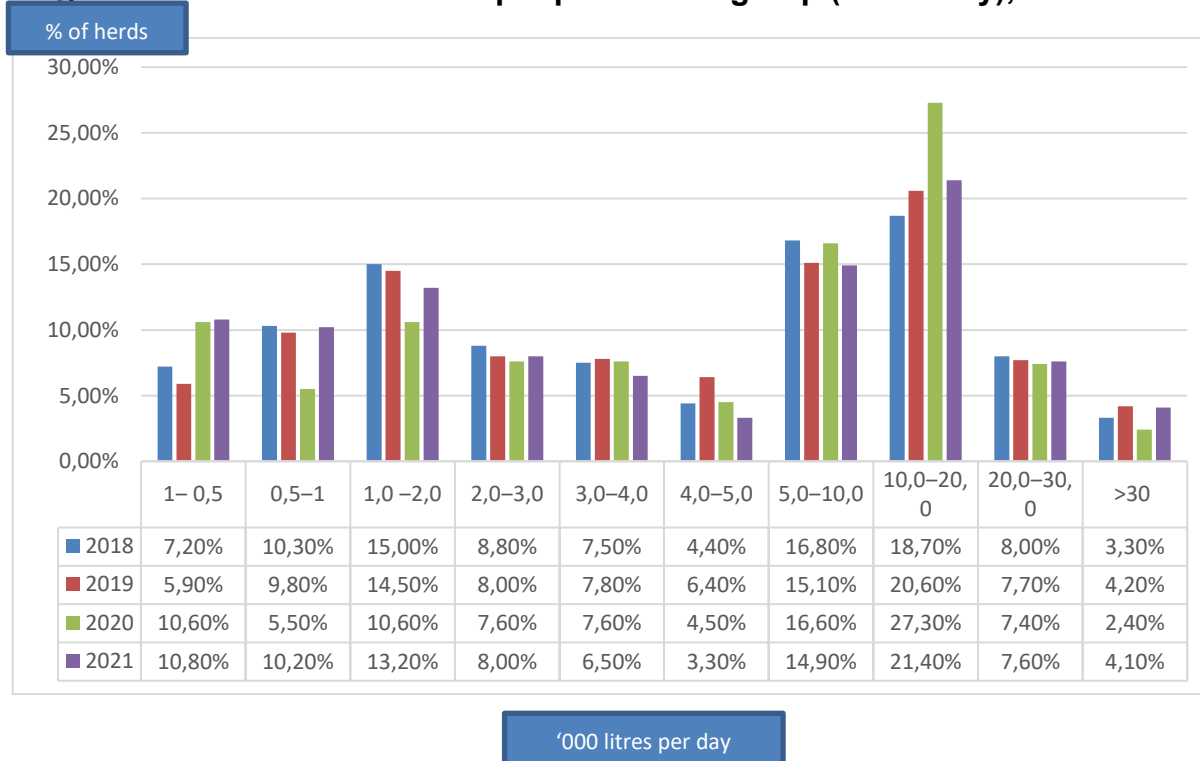


The distribution of herds based on total daily production per herd is shown in Table 5 and Figure 2. Fifty-two per cent of the herds produce 5 000L and less per day, 36,3% of the herds produce between 5001L and 20 000L and 11,7% produce more than 20 000L per day.

Table 5: Distribution of herds per production group, 2018 – 2021

Daily production (Litres)	% of dairy herds				Cumulative %			
	2018	2019	2020	2021	2018	2019	2020	2021
1– 500	7,2%	5,9%	10,6%	10,8%	7,2%	5,9%	10,6%	10,8%
501–1 000	10,3%	9,8%	5,5%	10,2%	17,6%	15,7%	16,1%	21,0%
1 001–2 000	15,0%	14,5%	10,6%	13,2%	32,6%	30,2%	26,7%	34,2%
2 001–3 000	8,8%	8,0%	7,6%	8,0%	41,4%	38,2%	34,3%	42,2%
3 001–4 000	7,5%	7,8%	7,6%	6,5%	48,9%	46,0%	41,9%	48,7%
4 001–5 000	4,4%	6,4%	4,5%	3,3%	53,3%	52,4%	46,4%	52,0%
5 001–10 000	16,8%	15,1%	16,6%	14,9%	70,1%	67,5%	63,0%	66,9%
10 001–20 000	18,7%	20,6%	27,3%	21,4%	88,7%	88,1%	90,3%	88,3%
20 001–30 000	8,0%	7,7%	7,4%	7,6%	96,7%	95,8%	97,7%	95,9%
>30 000	3,3%	4,2%	2,4%	4,1%	100,0%	100,0%	100,1%	100,0%
Total	100,00%	100,0%	100,1%	100,0%				

Figure 2: Distribution of herds per production group ('000 L/day), 2018 – 2021



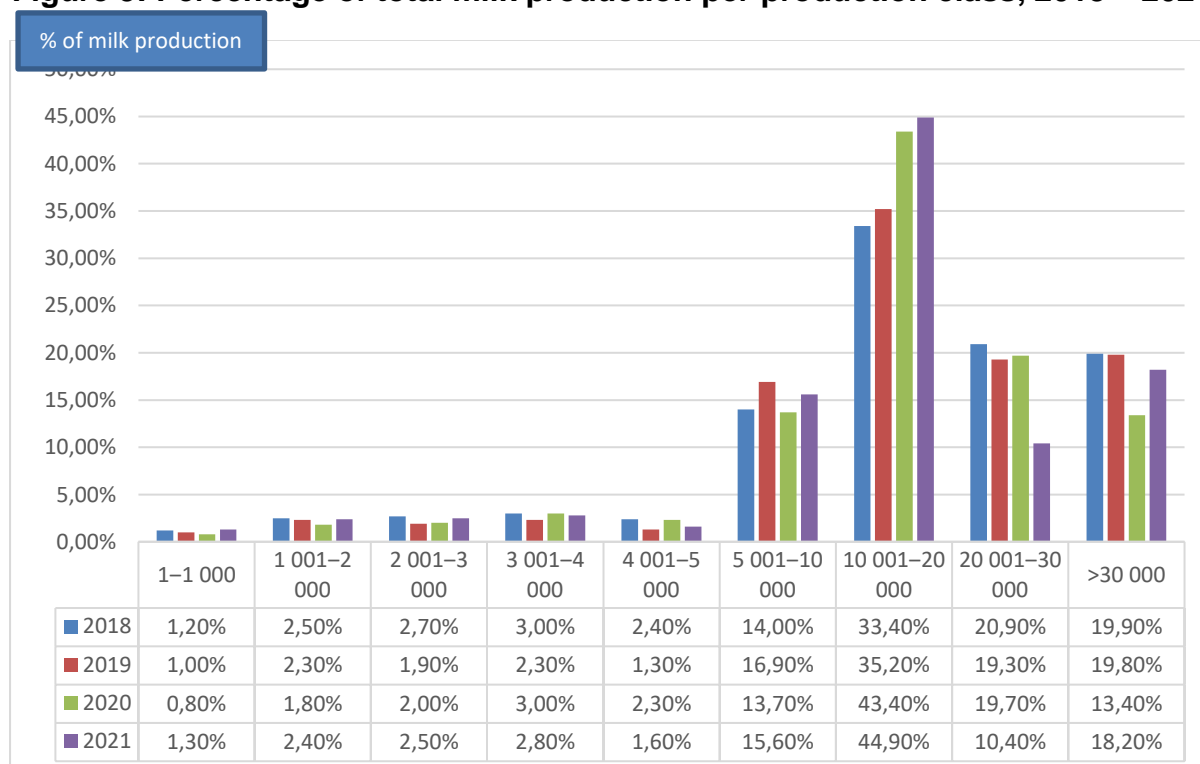
2. Milk production

The share of total milk production per production class is shown in Table 6 and Figure 3. Large herds (producing more than 10 000 l./day) produce 74% of the total volume of milk in South Africa.

Table 6: Percentage of total milk production per production class, 2018 – 2021

Daily production (Litres)	% of total milk production				Cumulative %			
	2018	2019	2020	2021	2018	2019	2020	2021
1–1 000	1,2%	1,0%	0,8%	1,3%	1,2%	1,0%	0,8%	1,3%
1 001–2 000	2,5%	2,3%	1,8%	2,4%	3,7%	3,3%	2,6%	3,7%
2 001–3 000	2,7%	1,9%	2,0%	2,5%	6,4%	5,2%	4,6%	6,2%
3 001–4 000	3,0%	2,3%	3,0%	2,8%	9,4%	7,5%	7,6%	9,0%
4 001–5 000	2,4%	1,3%	2,3%	1,6%	11,8%	8,8%	9,9%	10,6%
5 001–10 000	14,0%	16,9%	13,7%	15,6%	25,9%	25,7%	23,6%	26,2%
10 001–20 000	33,4%	35,2%	43,4%	44,9%	59,2%	60,9%	67,0%	71,1%
20 001–30 000	20,9%	19,3%	19,7%	10,4%	80,1%	80,2%	86,7%	81,5%
>30 000	19,9%	19,8%	13,4%	18,2%	100,00%	100,00%	100,0%	99,7%
Total	100,00%	100,00%	100,0%	99,7%				

Figure 3: Percentage of total milk production per production class, 2018 – 2021



The daily average production and utilisation of milk per dairy farm per province are shown in Table 7 (l/farm). The Eastern Cape has the highest production per day, followed by KwaZulu-Natal.

Table 7: Daily milk production and utilisation per dairy farm per province, 2021

Province	Daily production	Delivered to market	On-farm use	% Delivered
Eastern Cape	13 607	13 485	121	99,1%
KwaZulu-Natal	11 328	11 171	157	98,6%
Western Cape	8 621	8 525	96	98,9%
Limpopo	7 964	7 908	56	99,3%
Free State	5 020	4 942	79	98,4%
Northern Cape	608	541	67	88,9%
Mpumalanga	6 767	6 740	27	99,6%
Gauteng	6 936	6 903	33	99,5%
North West	2 919	2 839	80	97,2%
National herd	8 353	8 241	112	98,7%

Average daily milk production per cow in milk per day is shown in Table 8.

Table 8: Average daily milk production per cow in milk per province, 2021

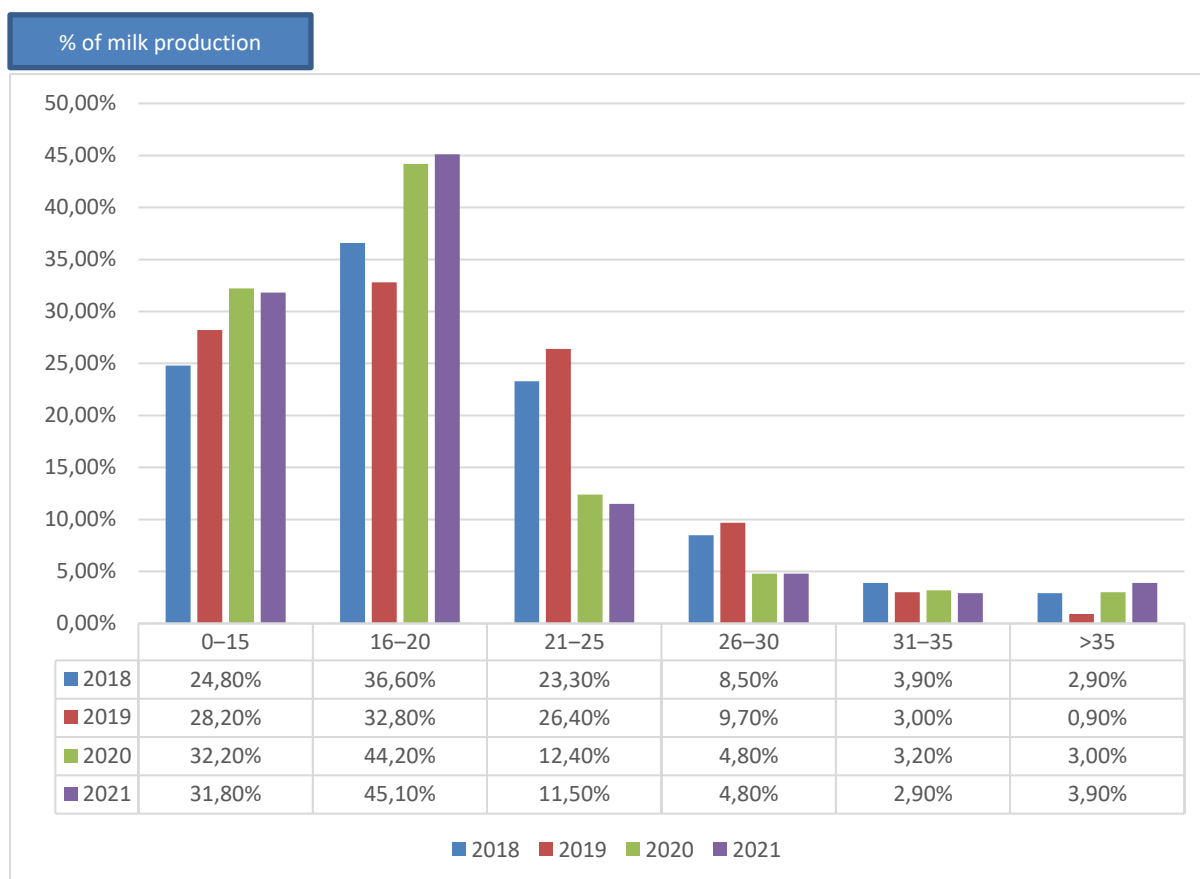
Province	Average Production l/cow/day
Eastern Cape	15,4
KwaZulu-Natal	17,7
Western Cape	22,5
Limpopo	31,0
Free State	19,7
Northern Cape	10,9
Mpumalanga	15,7
Gauteng	20,0
North West	21,7
National herd	18,7

The distribution of herds, based on average milk production per cow per day, is shown in Table 9 and Figure 4.

Table 9: Herd distribution based on average production per cow in milk per day

Production/day (L)	% of herds			
	2018	2019	2020	2021
0–15	24,8%	28,2%	32,2%	31,8%
16–20	36,6%	32,8%	44,2%	45,1%
21–25	23,3%	26,4%	12,4%	11,5%
26–30	8,5%	9,7%	4,8%	4,8%
31–35	3,9%	3,0%	3,2%	2,9%
>35	2,9%	0,9%	3,0%	3,9%

Figure 4: Herd distribution, based on average production per cow in milk per day, 2018–2021



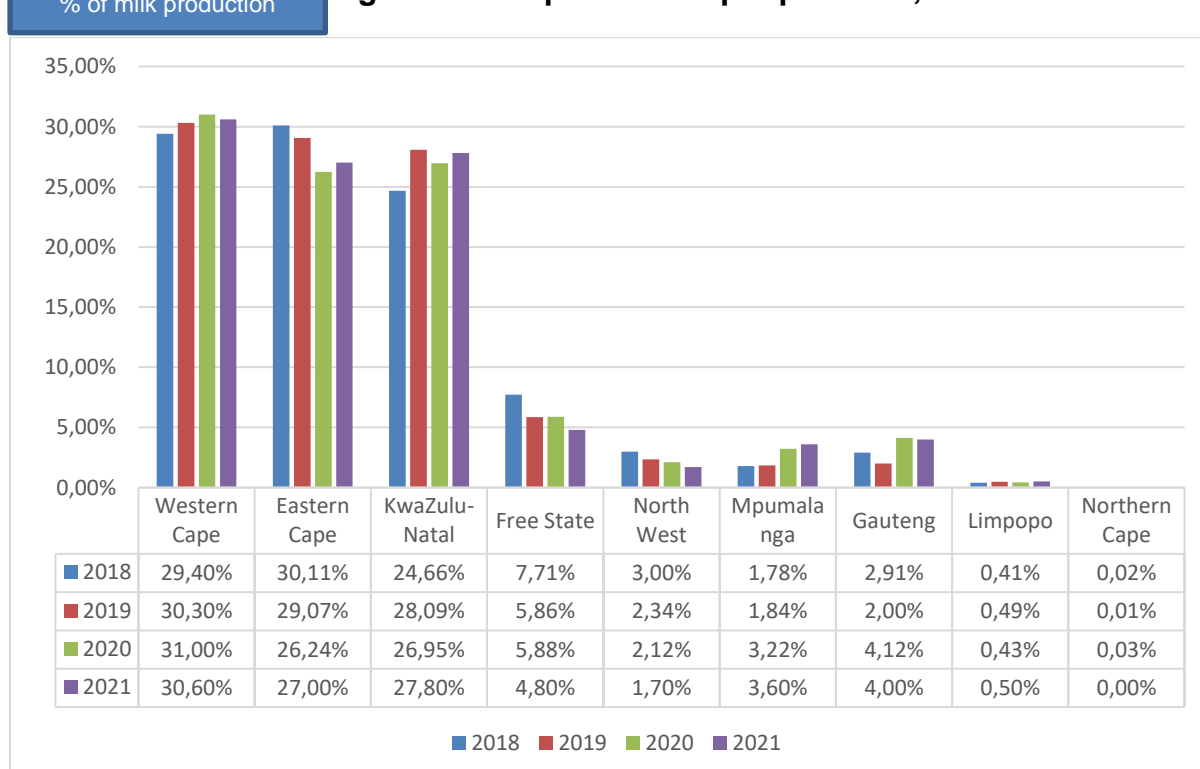
4. Geographical distribution of milk production

The geographical distribution of total milk production based on received questionnaires and additional information received from milk processors is shown in Table 10 and Figure 5. More than 85% of total milk is produced in the three coastal provinces (2009 = 74%).

Table 10: Geographical distribution of milk production per province, 2018 – 2021

Province	2018	2019	2020	2021
Western Cape	29,40%	30,30%	31,00%	30,6%
Eastern Cape	30,11%	29,07%	26,24%	27,0%
KwaZulu-Natal	24,66%	28,09%	26,95%	27,8%
Free State	7,71%	5,86%	5,88%	4,8%
North West	3,00%	2,34%	2,12%	1,7%
Mpumalanga	1,78%	1,84%	3,22%	3,6%
Gauteng	2,91%	2,00%	4,12%	4,0%
Limpopo	0,41%	0,49%	0,43%	0,5%
Northern Cape	0,02%	0,01%	0,03%	0,0%
Total	100,00%	100,00%	100,00%	100,00%

Figure 5: Milk production per province, 2018–2021



5. Geographical distribution of dairy cows

The geographical distribution of dairy cows (in milk and dry) per province is shown in Table 11. The cow distribution closely follows the distribution of total milk production. The total milking herd (cows in milk plus dry cows) is estimated at 623 000.

Table 11: Geographical distribution of dairy cows (in milk and dry), 2020 & 2021

Province	2020	2021
Western Cape	27,1%	26,3%
Eastern Cape	33,4%	35,4%
KwaZulu-Natal	27,1%	27,6%
Free State	4,2%	3,6%
North West	1,9%	1,6%
Mpumalanga	2,2%	1,6%
Gauteng	3,6%	3,4%
Limpopo	0,5%	0,4%
Northern Cape	0,09%	0,09%
Total	100,0%	100,0%

6. Herds per breed per province and national

The typical cow breeds in SA dairy are Holstein, Jersey, Ayrshire, Crossbreed, Guernsey, and Brown Swiss. In table 12 the number of dairy herds in respect of the different breeds of cattle on a provincial basis is illustrated.

Table 12: Analysis of dairy herds in South Africa															
	Holstein	Jersey	Combined herds (typical Holstein and Jersey)	Ayrshire	Cross	Guernsey	Brown Swiss	Total	Holstein %	Jersey %	Combined herds (typical Holstein and Jersey) %	Ayrshire %	Cross %	Guernsey %	Brown Swiss %
Western Cape	26	96	26	6	2	0	0	156	16.7	61.5	16.7	3.8	1.3	0.0	0.0
Eastern Cape	3	6	17	0	13	0	0	39	7.7	15.4	43.6	0.0	33.3	0.0	0.0
KZN	22	3	15	0	9	0	0	49	44.9	6.1	30.6	0.0	18.4	0.0	0.0
Free State	29	8	12	2	12	0	0	63	46.0	12.7	19.0	3.2	19.0	0.0	0.0
Gauteng	10	4	2	3	9	0	0	28	35.7	14.3	7.1	10.7	32.1	0.0	0.0
North West	30	7	8	1	7	0	0	53	56.6	13.2	15.1	1.9	13.2	0.0	0.0
Mpumalanga	11	4	6	0	4	0	0	25	44.0	16.0	24.0	0.0	16.0	0.0	0.0
Limpopo	4	1	0	0	0	0	0	5	80.0	20.0	0.0	0.0	0.0	0.0	0.0
Northern Cape	0	1	0	0	1	0	0	2	0.0	50.0	0.0	0.0	50.0	0.0	0.0
Total	135	130	86	12	57	0	0	420	32.1	31.0	20.5	2.9	13.6	0.0	0.0

7. Type of milk production system

The three systems analysed are the most common systems utilised in South Africa. Pasture-based production is where cows harvest forages through their grazing with the addition of small to moderate amounts of grain, nutrients and supplement pasture while partial mixed rations (PMR) Cows are fed a total mixed ration (TMR) in between bouts of grazing and total mixed rations (TMR) is a mixture of both the roughage and the processed ingredients, formulated and mixed to supply the cows requirements, in a form that precludes selection; and designed to be the sole feed source given over a 24 hour period and fed ad-lib. The Eastern Cape province is the province with the highest percentage of pasture-based production systems, while TMR is mostly utilised in the North West province. Table 13 provides the detail on a provincial basis.

Table 13: Analysis of the number of farmers per milk production system							
	Pastures	Total Mixed Rations (TMR)	Partial Mixed Rations (PMR)	Total	Pastures %	TMR %	PMR %
Western Cape	72	34	46	152	47.4	22.4	30.3
Eastern Cape	32	0	10	42	76.2	0.0	23.8
KZN	34	2	9	45	75.6	4.4	20.0
Free State	16	42	7	65	24.6	64.6	10.8
Gauteng	6	21	1	28	21.4	75.0	3.6
North West	2	43	7	52	3.8	82.7	13.5
Mpumalanga	5	17	3	25	20.0	68.0	12.0
Limpopo	1	3	1	5	20.0	60.0	20.0
Nothern Cape	0	1	2	3	0.0	33.3	66.7
Total	168	163	86	417	40.3	39.1	20.6

8. Management system

The province with the highest automated management systems is the Eastern Cape, with Mpumalanga employing the most hand management systems. The automated system refers to electronic cow identification, the hand system refers to visually identifying the cow and entering the details via an electronic pad, while the paper system entails capturing the data on paper to be transferred to a computer program manually or it could be only paper-based system. Table 14 provides the detail on a provincial basis.

Table 14: Analysis of the number of farmers per management									
	Hand	Auto	Paper	No reply	Total	Hand %	Auto %	Paper %	No reply %
Western Cape	50	68	33	0	151.0	33.1	45.0	21.9	0.0
Eastern Cape	6	32	4	0	42.0	14.3	76.2	9.5	0.0
KZN	15	26	5	0	46.0	32.6	56.5	10.9	0.0
Free State	24	28	12	0	64.0	37.5	43.8	18.8	0.0
Gauteng	9	13	6	0	28.0	32.1	46.4	21.4	0.0
North West	19	16	19	0	54.0	35.2	29.6	35.2	0.0
Mpumalanga	10	11	4	0	25.0	40.0	44.0	16.0	0.0
Limpopo	1	3	1	0	5.0	20.0	60.0	20.0	0.0
Nothern Cape	0	1	2	0	3.0	0.0	33.3	66.7	0.0
Total	134	198	86	0	418.0	32.1	47.4	20.6	0.0