



Report on a survey conducted in October and November 2020 in respect of 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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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 2020. 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 a telephone survey among persons who initially failed to respond and producers without email contact. Incomplete questionnaires were followed up by telephone in December 2020 through February 2021. In total 622 responses (59,1%) could be used. This is an improvement of 30% regarding the previous year responses received. 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 2021

Province	Responders	% of total responses	Registered producers	% of total registered producers	Response % of registered producers
North West	42	6,8%	84	8,0%	50,0%
Free State	54	8,7%	130	12,3%	41,5%
Mpumalanga	26	4,2%	46	4,4%	56,5%
Northern Cape	3	0,5%	4	0,4%	75,0%
Limpopo	6	1,0%	6	0,6%	100,0%
Western Cape	207	33,3%	348	33,0%	59,5%
Gauteng	33	5,3%	56	5,3%	58,9%
KwaZulu-Natal	124	19,9%	207	19,7%	59,9%
Eastern Cape	127	20,4%	172	16,3%	73,8%
Total	622	100,0%	1053	100,0%	59,1%

The response rate of the different regions varied between 41,5% and 100%. In the opinion of the Milk Producers' Organisation, the information in this report provides a reliable overview of the typical structure of 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, 2020

Province	Cows in milk	Dry cows	Heifers < 1 year	Heifers >1 year and pregnant	Heifers > 1 year	Total herd
Eastern Cape	797	83	267	150	115	1412
KwaZulu-Natal	664	68	207	67	128	1134
Western Cape	376	62	139	93	59	729
Limpopo	234	37	68	75	128	541
Free State	209	49	71	42	36	408
Northern Cape	64	41	12	62	30	178
Mpumalanga	246	39	97	70	32	484
Gauteng	294	67	103	64	62	590
North West	126	28	37	23	22	236
National herd	449	61	152	82	75	820

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 total dairy herd per province, 2020

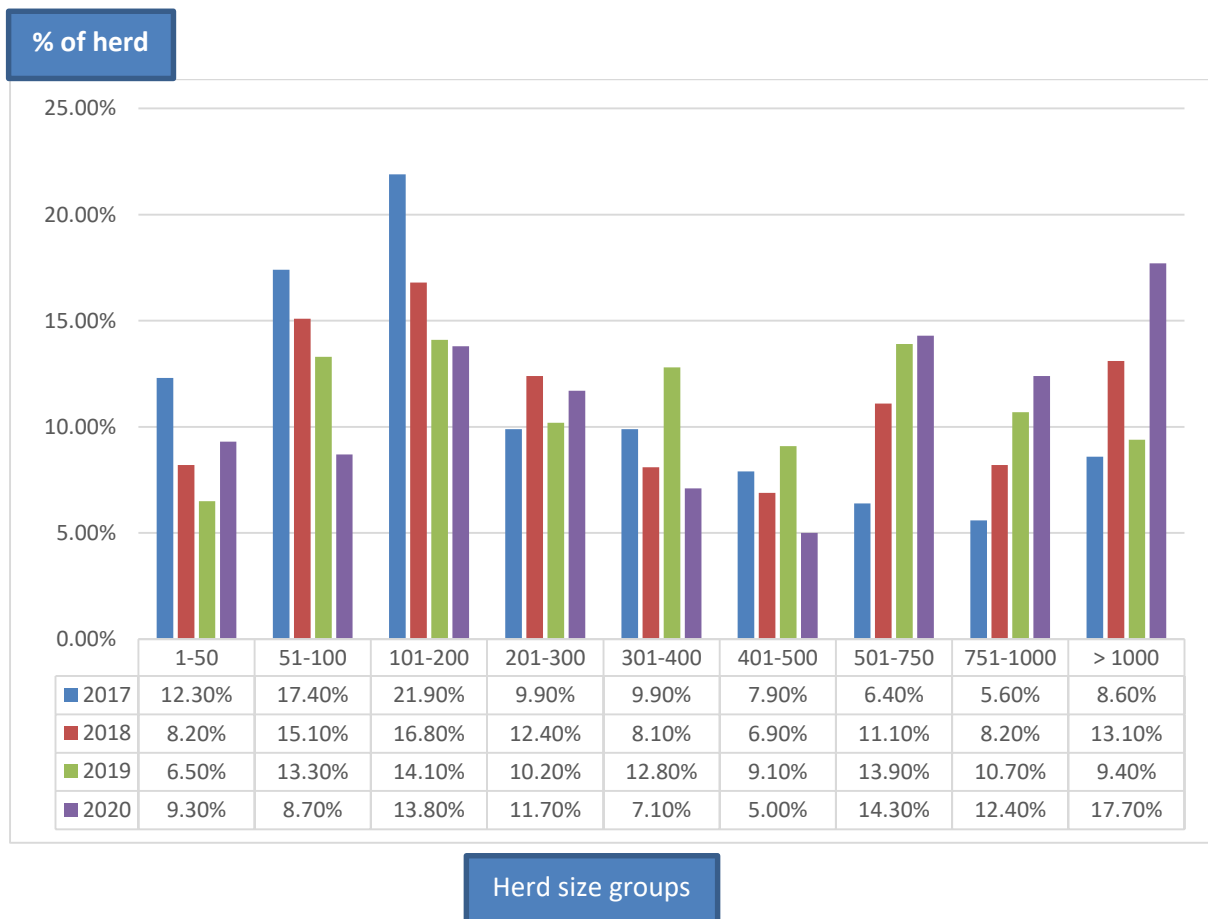
Province	Cows in milk	Dry cows	Heifers < 1 year	Heifers >1 year and pregnant	Heifers >< 1 year	Total herd
Eastern Cape	56,4%	5,8%	18,9%	10,7%	8,1%	100,0%
KwaZulu-Natal	58,5%	6,0%	18,3%	5,9%	11,3%	100,0%
Western Cape	51,5%	8,5%	19,1%	12,8%	8,1%	100,0%
Limpopo	43,2%	6,9%	12,5%	13,8%	23,6%	100,0%
Free State	51,3%	12,0%	17,5%	10,2%	9,0%	100,0%
Northern Cape	36,0%	22,8%	6,6%	17,8%	16,9%	100,0%
Mpumalanga	50,9%	8,1%	20,0%	14,4%	6,6%	100,0%
Gauteng	49,9%	11,3%	17,5%	10,9%	10,4%	100,0%
North West	53,3%	12,0%	15,8%	9,7%	9,2%	100,0%
National herd	54,7%	7,5%	18,6%	10,0%	9,2%	100,0%

The distribution of dairy herds per herd size interval is shown in Table 4 and Figure 1. Forty –four per cent of the dairy herds comprise 300 or fewer cows in the herd while 49% of the herds have more than 500 cows.

Table 4: Distribution of dairy herds per herd size group (cows in herd), 2017 – 2020

Cows in herd	% of herds				Cumulative % of herds			
	2017	2018	2019	2020	2017	2018	2019	2020
1-50	12,3%	8,2%	6,5%	9,3%	12,3%	8,2%	6,5%	9,3%
51-100	17,4%	15,1%	13,3%	8,7%	29,7%	23,3%	19,8%	18,0%
101-200	21,9%	16,8%	14,1%	13,8%	51,6%	40,1%	33,9%	31,8%
201-300	9,9%	12,4%	10,2%	11,7%	61,5%	52,5%	44,1%	43,5%
301-400	9,9%	8,1%	12,8%	7,1%	71,4%	60,6%	56,9%	50,6%
401-500	7,9%	6,9%	9,1%	5,0%	79,3%	67,5%	66,0%	55,6%
501-750	6,4%	11,1%	13,9%	14,3%	85,7%	78,6%	79,9%	69,9%
751-1000	5,6%	8,2%	10,7%	12,4%	91,3%	86,8%	90,6%	82,3%
> 1000	8,6%	13,1%	9,4%	17,7%	99,9%	99,9%	100,0%	100,0%
Total	100%	100%	100%	100%				

Figure 1: Distribution of herds per herd size group (cows in herd), 2017 – 2020

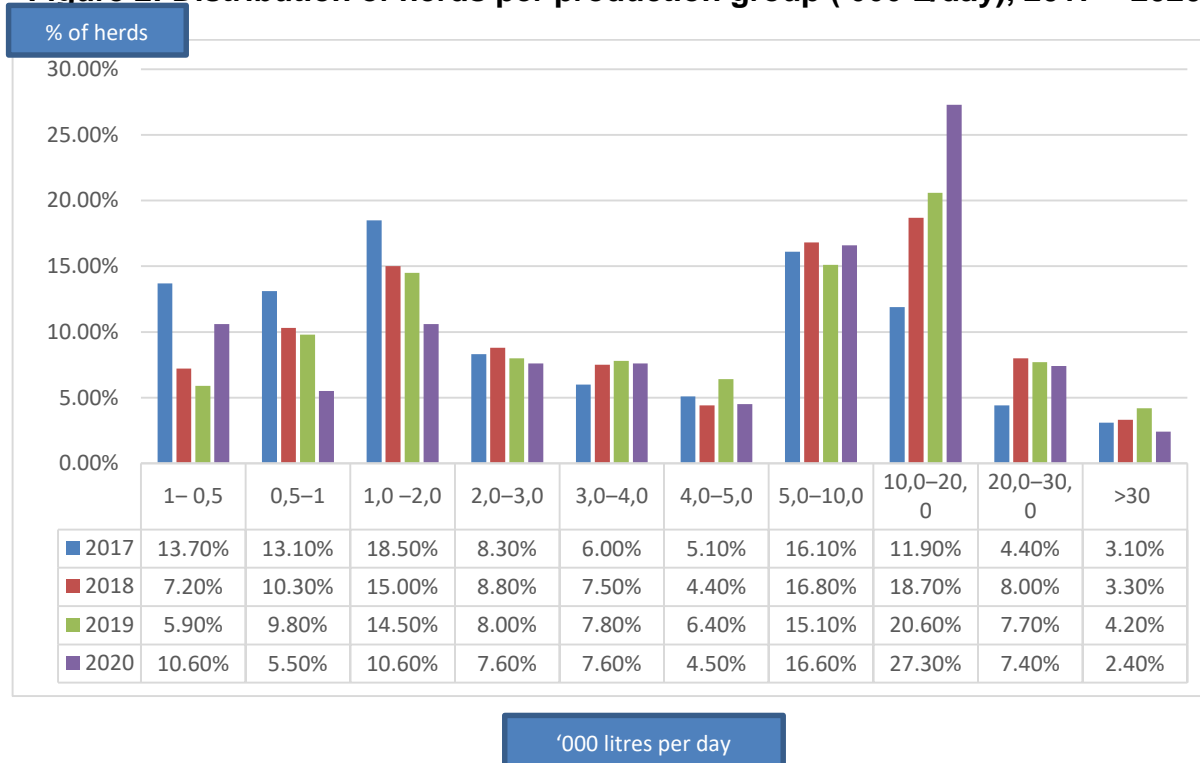


The distribution of herds based on total daily production per herd is shown in Table 5 and Figure 2. Forty Six per cent of the herds produce 5 000L and less per day, 43,9% of the herds produce between 5001L and 20 000L and 9,8% produce more than 20 000L per day.

Table 5: Distribution of herds per production group, 2017 – 2020

Daily production	% of dairy herds				Cumulative %			
	2017	2018	2019	2020	2017	2018	2019	2020
1– 500	13,70%	7,2%	5,9%	10,6%	13,70%	7,2%	5,9%	10,6%
501–1 000	13,10%	10,3%	9,8%	5,5%	26,70%	17,6%	15,7%	16,1%
1 001–2 000	18,50%	15,0%	14,5%	10,6%	45,20%	32,6%	30,2%	26,7%
2 001–3 000	8,30%	8,8%	8,0%	7,6%	53,50%	41,4%	38,2%	34,3
3 001–4 000	6,00%	7,5%	7,8%	7,6%	59,40%	48,9%	46,0%	41,9
4 001–5 000	5,10%	4,4%	6,4%	4,5%	64,50%	53,3%	52,4%	46,4%
5 001–10 000	16,10%	16,8%	15,1%	16,6%	80,70%	70,1%	67,5%	63,0%
10 001–20 000	11,90%	18,7%	20,6%	27,3%	92,60%	88,7%	88,1%	90,3%
20 001–30 000	4,40%	8,0%	7,7%	7,4%	96,90%	96,7%	95,8%	97,7%
>30 000	3,10%	3,3%	4,2%	2,4%	100,00%	100,0%	100,0%	100,1%
Total	100,00%	100,0%	100,0%	100,1%				

Figure 2: Distribution of herds per production group ('000 L/day), 2017 – 2020



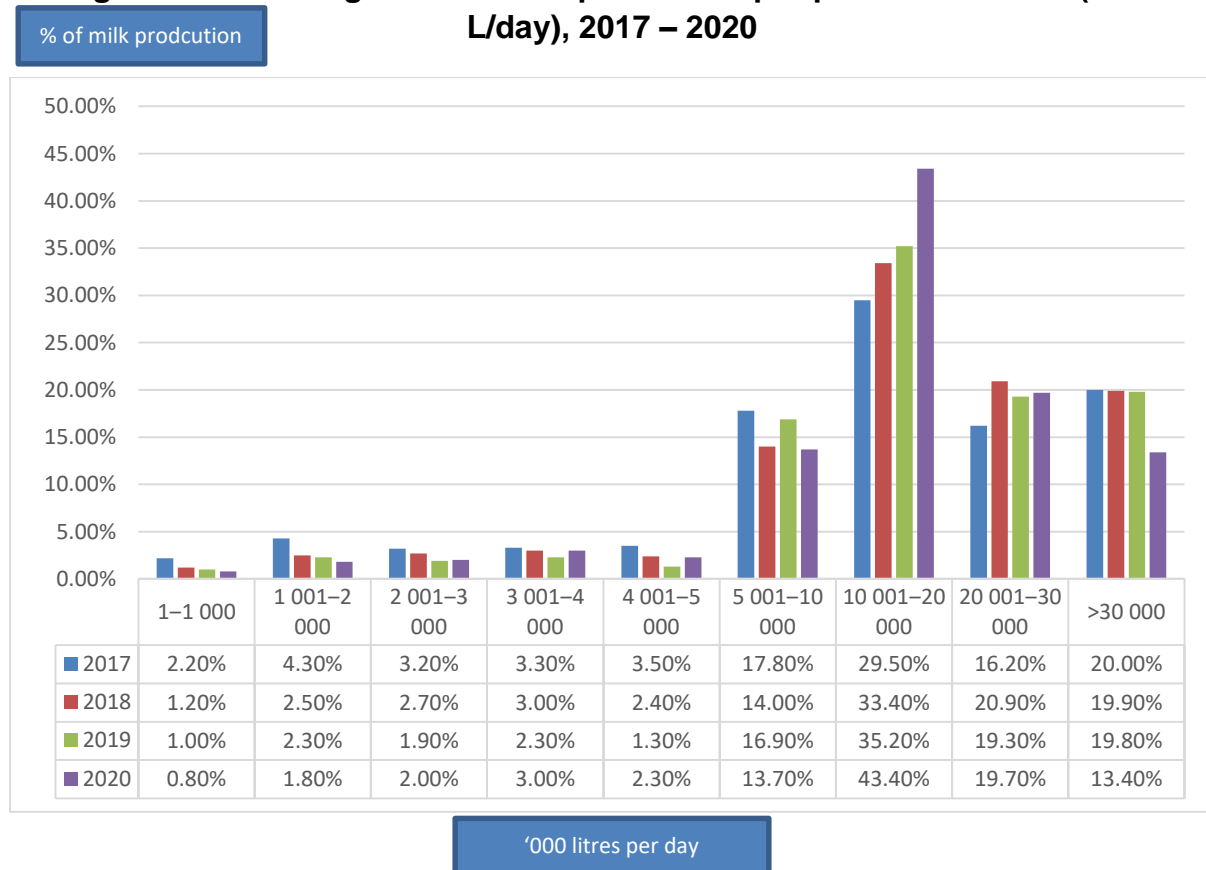
2. Milk production

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 76% of the total volume of milk in South Africa.

Table 6: Percentage of total milk production per production class (1000 L/day), 2017 – 2020

Daily production	% of total milk production				Cumulative %			
	2017	2018	2019	2020	2017	2018	2019	2020
1–1 000	2,20%	1,2%	1,0%	0,8%	2,20%	1,2%	1,0%	0,8%
1 001–2 000	4,30%	2,5%	2,3%	1,8%	6,40%	3,7%	3,3%	2,6%
2 001–3 000	3,20%	2,7%	1,9%	2,0%	9,70%	6,4%	5,2%	4,6%
3 001–4 000	3,30%	3,0%	2,3%	3,0%	13,00%	9,4%	7,5%	7,6%
4 001–5 000	3,50%	2,4%	1,3%	2,3%	16,50%	11,8%	8,8%	9,9%
5 001–10 000	17,80%	14,0%	16,9%	13,7%	34,20%	25,9%	25,7%	23,6%
10 001–20 000	29,50%	33,4%	35,2%	43,4%	63,80%	59,2%	60,9%	67,0%
20 001–30 000	16,20%	20,9%	19,3%	19,7%	80,00%	80,1%	80,2%	86,7%
>30 000	20,00%	19,9%	19,8%	13,4%	100,00%	100,00%	100,0%	100,1%
Total	100,00%	100,00%	100,0%	100,1%				

Figure 3: Percentage of total milk production per production class (1000 L/day), 2017 – 2020



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, 2020

Province	Daily production	Delivered to market	On-farm use	% Delivered
Eastern Cape	13 581	13 407	174	98,7%
KwaZulu-Natal	11 567	11 409	158	98,6%
Western Cape	7 888	7 828	60	99,2%
Limpopo	6 393	6 319	74	98,8%
Free State	4 064	3 975	89	97,8%
Northern Cape	739	695	44	94,0%
Mpumalanga	6 174	6 147	27	99,6%
Gauteng	6 494	6 461	33	99,5%
North West	2 254	2 219	35	98,4%
National herd	8 435	8 338	97	98,9%

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, 2020

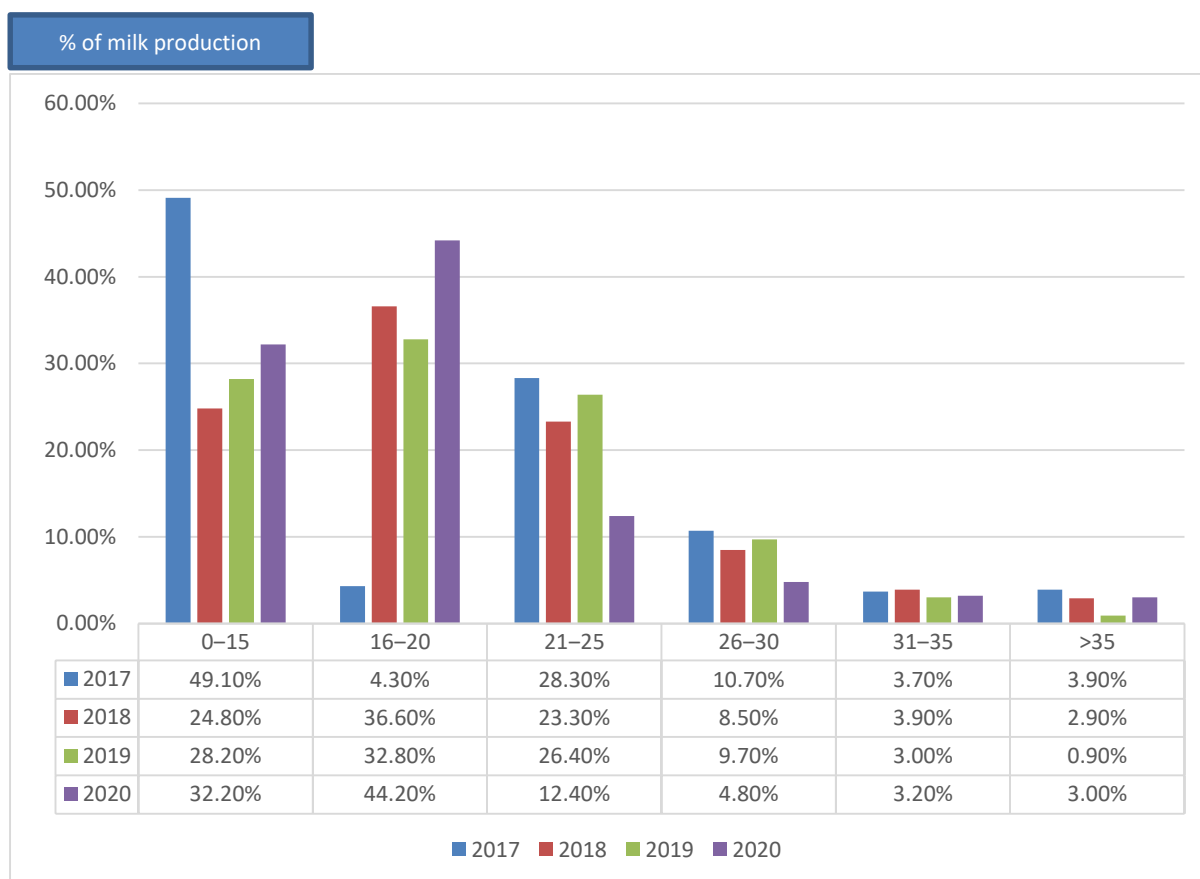
Province	Average Production l/cow/day
Eastern Cape	17,1
KwaZulu-Natal	17,4
Western Cape	21,0
Limpopo	27,3
Free State	19,4
Northern Cape	11,5
Mpumalanga	25,0
Gauteng	22,1
North West	17,9
National herd	18,6

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			
	2017	2018	2019	2020
0–15	49,10%	24,8%	28,2%	32,2%
16–20	4,30%	36,6%	32,8%	44,2%
21–25	28,30%	23,3%	26,4%	12,4%
26–30	10,70%	8,5%	9,7%	4,8%
31–35	3,70%	3,9%	3,0%	3,2%
>35	3,90%	2,9%	0,9%	3,0%

Figure 4: Herd distribution, based on average production per cow in milk per day, 2017–2020



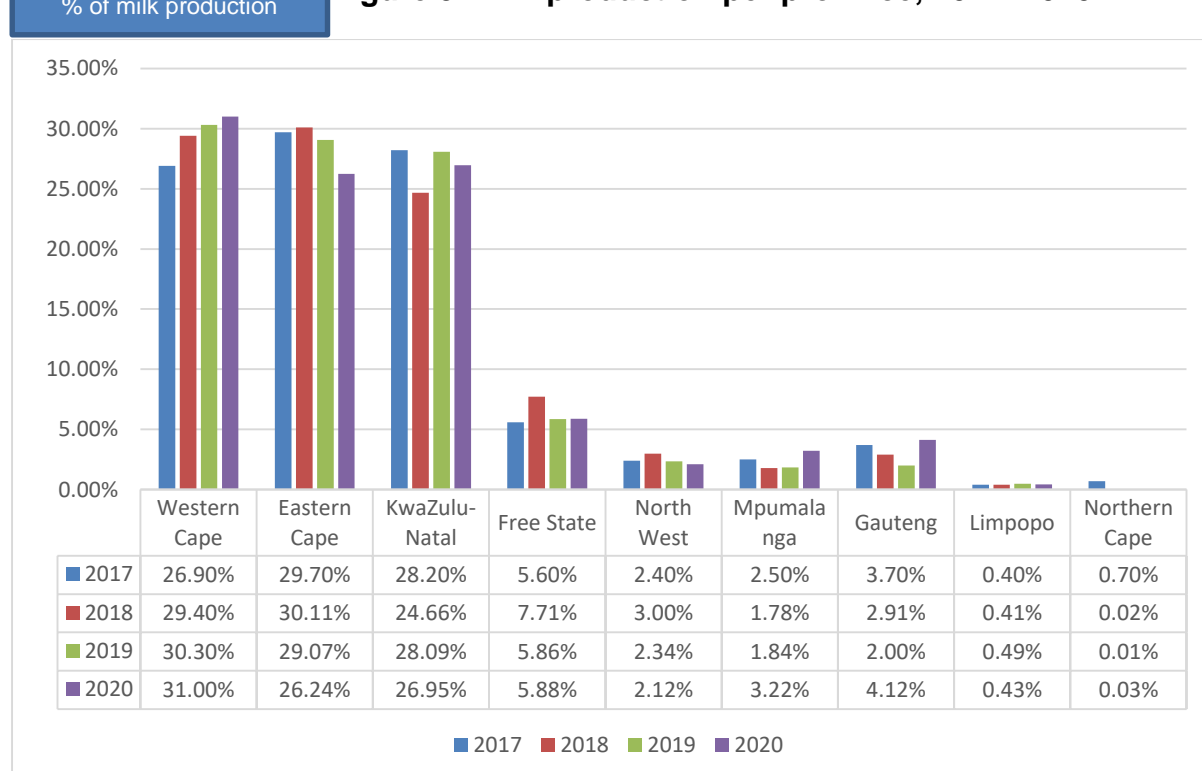
4. Geographical distribution of milk production

The geographical distribution of total milk production based on received questionnaires and on additional information received from milk processors is shown in Table 10 and Figure 5. More than 84% of total milk is produced in the three coastal provinces (2009 = 74%).

Table 10: Geographical distribution of milk production per province, 2017 – 2020

Province	2017	2018	2019	2020
Western Cape	26,90%	29,40%	30,30%	31,00%
Eastern Cape	29,70%	30,11%	29,07%	26,24%
KwaZulu-Natal	28,20%	24,66%	28,09%	26,95%
Free State	5,60%	7,71%	5,86%	5,88%
North West	2,40%	3,00%	2,34%	2,12%
Mpumalanga	2,50%	1,78%	1,84%	3,22%
Gauteng	3,70%	2,91%	2,00%	4,12%
Limpopo	0,40%	0,41%	0,49%	0,43%
Northern Cape	0,70%	0,02%	0,01%	0,03%
Total	100,00%	100,00%	100,00%	100,00%

Figure 5: Milk production per province, 2017–2020



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. Total milking herd (cows in milk plus dry cows) is estimated at 594 000.

Table 11: Geographical distribution of dairy cows (in milk and dry), 2019 & 2020

Province	2019	2020
Western Cape	23,5%	27,1%
Eastern Cape	32,5%	33,4%
KwaZulu-Natal	25,9%	27,1%
Free State	8,1%	4,2%
North West	3,1%	1,9%
Mpumalanga	3,2%	2,2%
Gauteng	3,5%	3,6%
Limpopo	0,5%	0,5%
Northern Cape	0,0%	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, Cross, Guernsey and Brown Swiss. In table 12 the number of herds per dairy breed on a provincial basis are illustrated.

Table 12: Analysis of dairy breeds in South Africa															
	Holstein	Jersey	Combined Herds (typical Holstein and Jersey)	Ayrshire	Cross	Guernsey	Brown Swiss	Total	Holstein %	Jersey %	Combined herds %	Ayrshire %	Cross %	Guernsey %	B/Swiss %
Western Cape	20	113	53	13	3	3	0	205	9,8	55,1	25,9	6,3	1,5	1,5	0,0
Eastern Cape	9	14	15	0	88	0	0	126	7,1	11,1	11,9	0,0	69,8	0,0	0,0
KZN	44	5	10	1	66	0	1	127	34,6	3,9	7,9	0,8	52,0	0,0	0,8
Free State	26	5	4	4	13	0	1	53	49,1	9,4	7,5	7,5	24,5	0,0	1,9
Gauteng	13	5	4	3	10	0	0	35	37,1	14,3	11,4	8,6	28,6	0,0	0,0
North West	15	7	6	1	7	0	0	36	41,7	19,4	16,7	2,8	19,4	0,0	0,0
Mpumalanga	11	3	8	0	5	0	0	27	40,7	11,1	29,6	0,0	18,5	0,0	0,0
Limpopo	4	1	0	0	1	0	0	6	66,7	16,7	0,0	0,0	16,7	0,0	0,0
Northern Cape	0	1	0	0	2	0	0	3	0,0	33,3	0,0	0,0	66,7	0,0	0,0
TOTAL	142	154	100	22	195	3	2	618	23,0	24,9	16,2	3,6	31,6	0,5	0,3

7. Type of milk production system

The three systems analysed is the most common systems utilised in South Africa. Pasture based production is a combination of dryland and irrigated pastures while partial mixed rations (PMR) is a combination of pastures and mixed rations and total mixed rations (TMR) is only mixed rations. The KZN province is the province with the highest percentage pasture based production systems, while TMR is mostly utilised in the North West province. Table 13 provide the detail on a provincial basis.

Table 13: Analysis of number of farmers per milk production system							
	Pastures	Total mixed rations (TMR)	Partial mixed rations (PMR)	Total	Pastures %	TMR %	PMR %
Western Cape	110	30	65	205	53,7	14,6	31,7
Eastern Cape	97	1	28	126	77,0	0,8	22,2
KZN	114	2	11	127	89,8	1,6	8,7
Free State	15	30	8	53	28,3	56,6	15,1
Gauteng	8	21	6	35	22,9	60,0	17,1
North West	4	27	5	36	11,1	75,0	13,9
Mpumalanga	8	16	3	27	29,6	59,3	11,1
Limpopo	0	4	2	6	0,0	66,7	33,3
Northern Cape	1	1	1	3	33,3	33,3	33,3
TOTAL	357	132	129	618	57,8	21,4	20,9

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. Table 14 provide the detail on a provincial basis.

Table 14: Analysis of number of farmers per management sysytem									
	Hand	Auto	Paper	No reply	Total	Hand %	Auto %	Paper %	No reply %
Western Cape	82	81	42	0	205	40,0	39,5	20,5	0,0
Eastern Cape	28	95	3	0	126	22,2	75,4	2,4	0,0
KZN	36	80	8	2	126	28,3	63,0	6,3	1,6
Free State	20	15	14	3	52	37,7	28,3	26,4	5,7
Gauteng	12	14	9	0	35	34,3	40,0	25,7	0,0
North West	15	13	9	1	38	41,7	36,1	25,0	2,8
Mpumalanga	13	7	5	2	27	48,1	25,9	18,5	7,4
Limpopo	1	3	2	0	6	16,7	50,0	33,3	0,0
Northern Cape	1	0	2	0	3	33,3	0,0	66,7	0,0
TOTAL	208	308	94	8	618	33,7	49,8	15,2	1,3