

The international competitiveness of the South African primary dairy
sector, 2014



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1. Introduction

This report is based on the research done within the International Farm Comparison Network in 2014. The comparison of farms is based on the actual income and cost figures for the 2013 year. The International Farm Comparison Network is a network of dairy experts in many countries. The IFCN mission is to create a better understanding of milk production worldwide. Scientists from 95 countries cooperated in the work of IFCN in 2014. It analysed the production and cost of 172 typical dairy farms in 54 countries and published the results in the 2014 Report.

The IFCN is managed by a group of dedicated dairy scientists at the IFCN Dairy Research Centre in Kiel in Western Germany. The Milk Producers' organization has been involved in the work of IFCN since 1998. South Africa became a full member of the IFCN in 2008. South Africa's participation in the IFCN work is partially sponsored by Milk SA.

2. Country comparison

The work of IFCN is based on two different comparisons namely a country comparison where total country statistics are used and a farm comparison where typical dairy farms from the different countries are compared. One hundred countries featured in the 2014 country analysis.

2.1 Size of dairy farms

The average dairy farm internationally has 2,8 cows. Larger dairy farms are found in Saudi Arabia, New Zealand, South Africa, Argentina, the USA and Canada. The 2013 South African average herd size of 238 is the third largest in the world. Average herd sizes (cows in herd) for selected countries are shown in Table 1.

Table 1: Average herd size, selected countries 2013/14

Country	Average herd size
Saudi Arabia	8 125
New Zealand	410
Australia	241
South Africa	375
Czech Republic	185
USA	175
Argentina	155
Denmark	149
Israel	134
United Kingdom	128
Uruguay	102
Canada	85

2.2 Milk production

IFCN estimates total world milk production during 2013 at 755 million tonnes. Of this total 33% is produced in Asia and 21% in the EU. Only 62% of total milk production reaches processors. While India is the world's largest milk producer, less than half the total milk production is processed. South Africa delivers nearly 98% of total commercial milk production to processors. The top 20 cow and buffalo milk producing countries in 2013 are shown in Table 2.

Table 2: Milk production for the top 10 milk producing countries and South Africa in 2013

	Country	Milk produced Mil.Ton	Milk to market Mil.Ton
1	India	149,0	22,3
2	USA	87,0	86,5
3	Pakistan	45,2	1,4
4	Brazil	34,8	23,1
5	Germany	31,9	31,0
6	China	31,4	27,0
7	Russian Federation	29,1	17,9
8	France	24,8	24,3
9	New Zealand	22,7	22,7
10	Turkey	17,8	7,7
	South Africa	2,9	2,8

2.3 Dairy trade

Only about 9% of total world milk production is traded internationally. The major exporting and importing countries are listed in Table 3.

Table 3: Major dairy exporting and importing countries*, 2013

Exporting countries	Importing countries
New Zealand	China
EU-28	Russian Federation
USA	Mexico
Belarus	Japan
Argentina	Algeria
Australia	Saudi Arabia
Uruguay	Indonesia
India	Venezuela
Ukraine	Phillipines
Switzerland	Republic of Korea
Costa Rica	Hong Kong

Source: IFCN, 2014

* Based on net trade surplus

3. Farm comparison

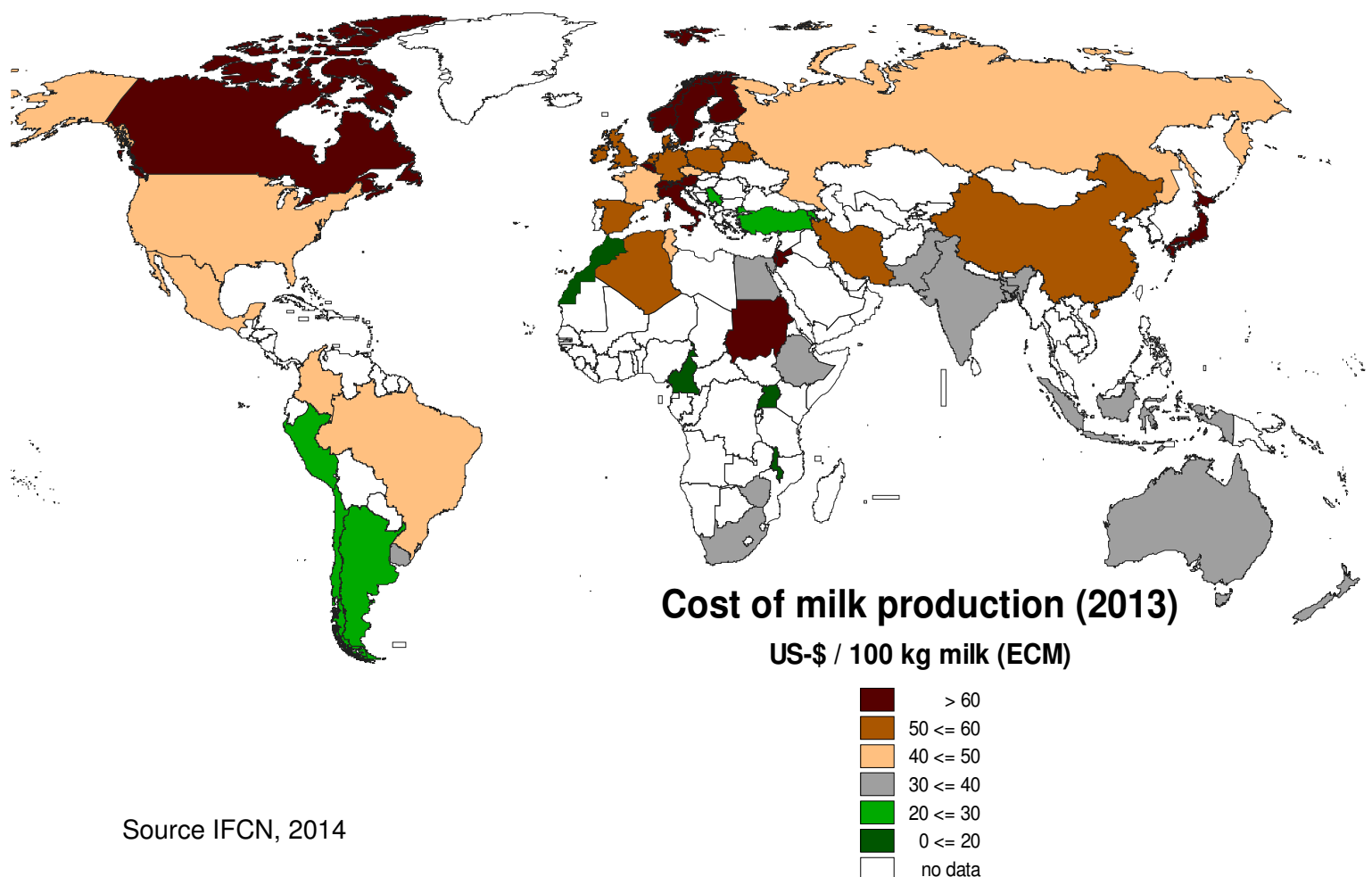
One hundred and seventy two different typical farms from 54 countries were compared in the farm comparison. Three South African typical farms namely a 230 cow mixed farm¹, a 520 cow grazing farm and a 630 cow intensive total mixed ration farm were included in the farm comparison. These three typical farms are representative of farms that produce an estimated 80% of milk produced in South Africa and are thus typical of the South African primary sector.

¹ Mixed farm is a farm that farms dairy cattle in addition to other enterprises.

3.1 Cost of milk production

Cost of milk production varies widely between countries. Lower production cost occurs in countries where very little extra concentrates and forage are fed, where the owners' opportunity cost of labour is low and where the bulk of milk is not sold to the market. The average production cost for the analysed farms was on a level of R 4,34 per litre. The average cost level increased by 1,5% from 2012 to 2013. Countries in Africa, South America, Asia and Oceania managed to produce milk at or below the average level. The average cost level for typical farms in Western Europe, North America and the mid-east was at R5,37 per litre, significantly above the global average. Cost of milk production in different countries are shown in Figure 1.

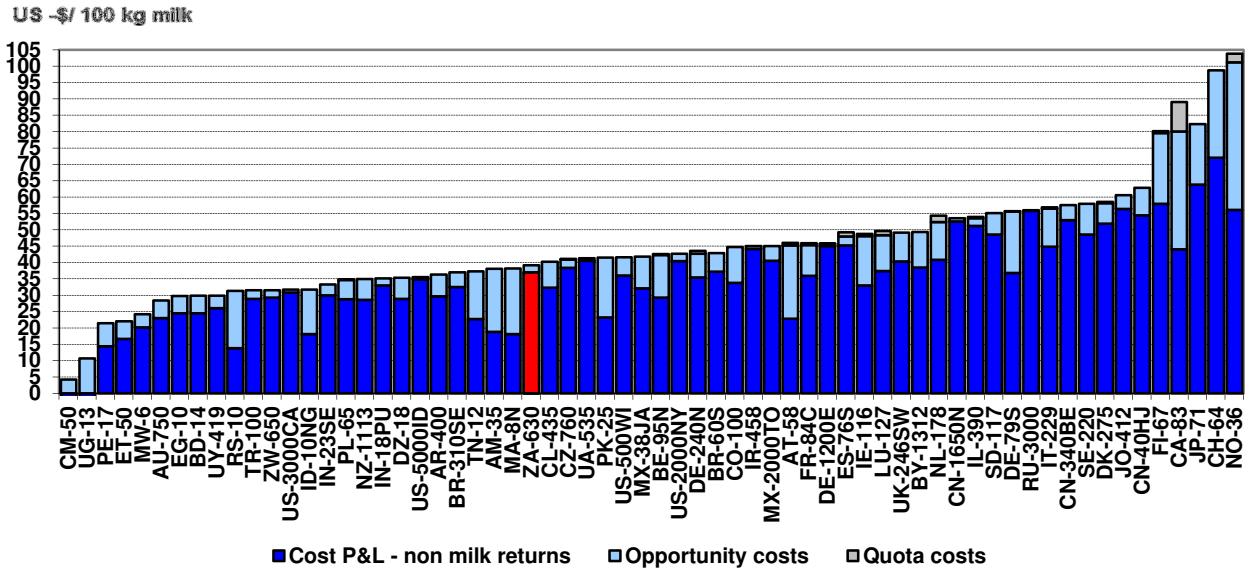
Figure 1: Cost of milk production per country, 2013



Source IFCN, 2014

The following Figure 2 shows the cost of milk production for larger sized farms in different countries in 2013. South Africa's 630 cow total mixed ration herds had higher production cost than the same type of farms in the US, mainly as a result of import parity based grain prices.

Figure 2: Cost of milk production, larger farms per country, 2013

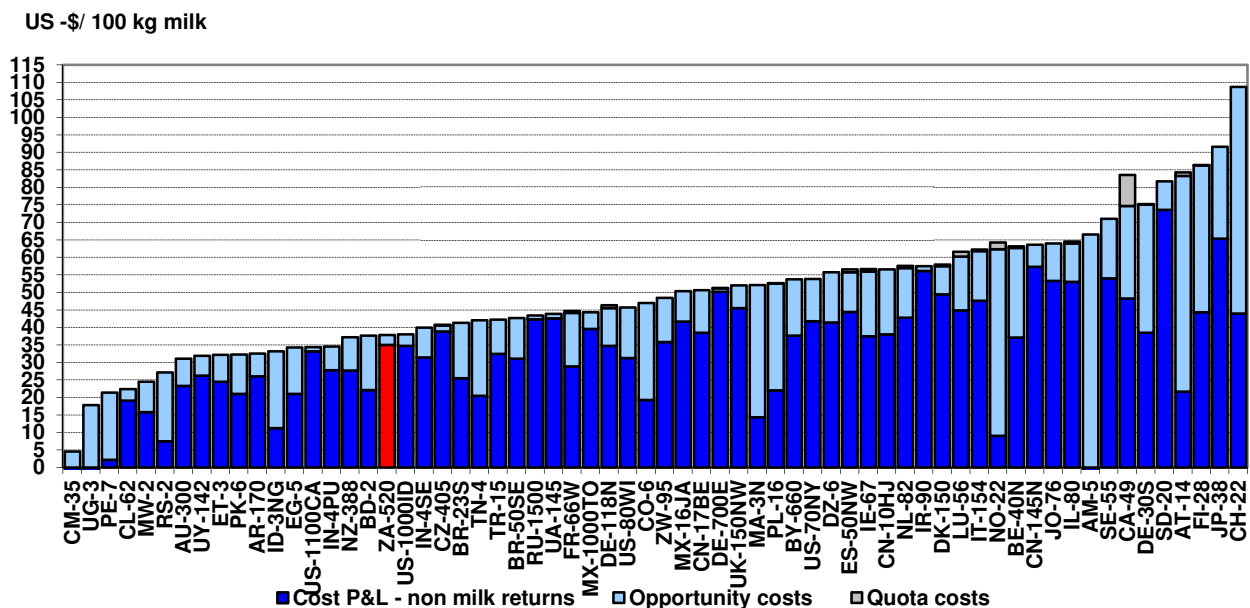


Source: IFCN, 2014

Cost P & L = Total production cost, Quota cost = cost to obtain milk quota, Opportunity cost – cost of using own inputs

The following Figure 3 compares total cost of milk production on average farms in different countries in 2013. South Africa's typical pasture farms produce milk at comparable cost levels to pasture farms in other countries.

Figure 3: Cost of milk production for average farms, 2013



Source: IFCN 2014

Cost to P&L = total production cost, quota cost = cost of obtaining production quota, opportunity cost = cost of own inputs

3.2 Detailed analysis of selected farms

In this section the performance of the three typical South African farms are compared with similar farms from Argentina, New Zealand and the USA. The following figures 4 - 6 indicates the comparable variables for these farms. In addition to the three SA farms (ZA-230, ZA-520 and ZA-630) a 400-cow Argentinian (pasture plus concentrate), a 500-cow US farm (TMR) and a 388-cow New Zealand pasture farm was used.

Figure 3: Farm size (number of cows in herd) comparison

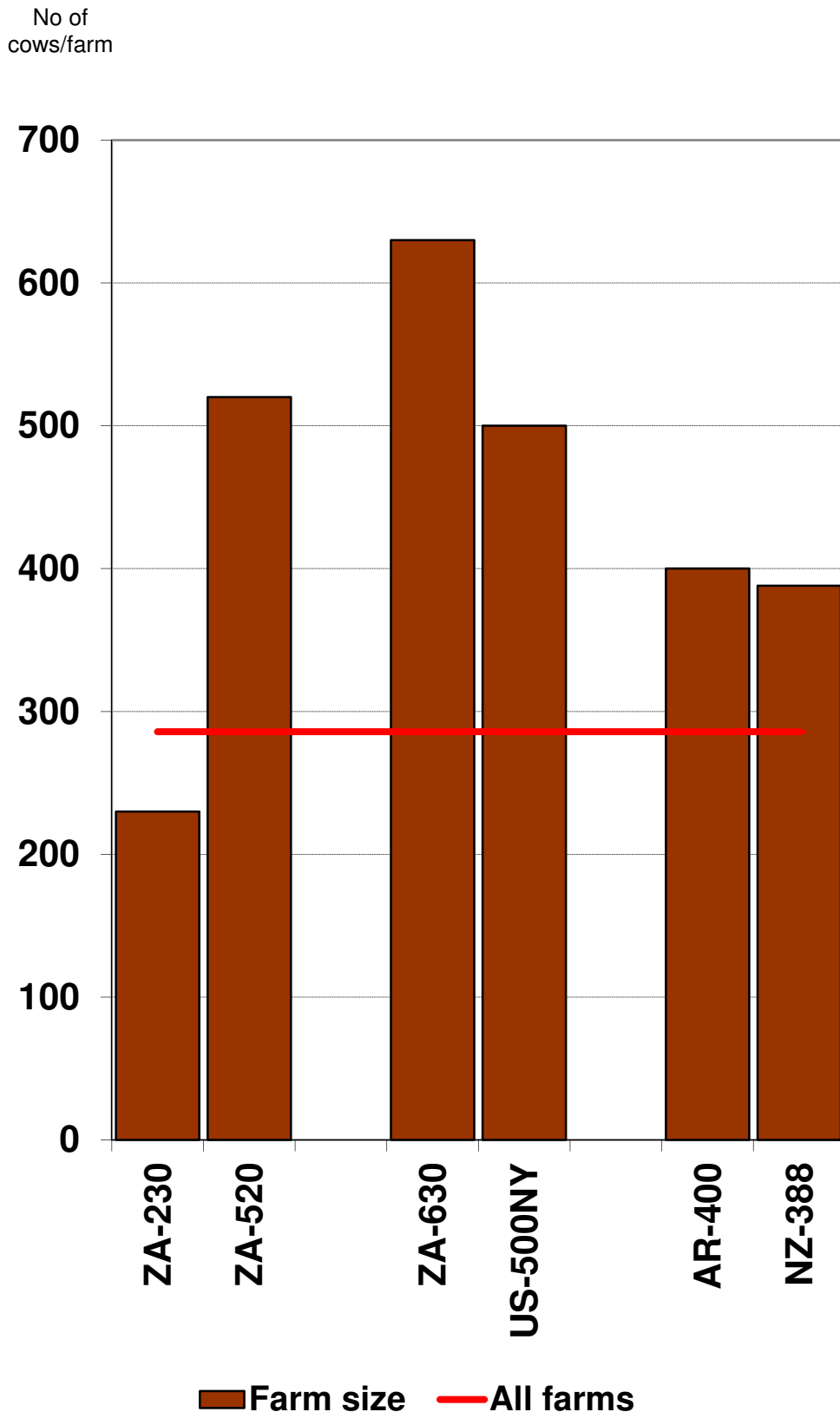


Figure 5: Milk yield (1 000 kg of energy corrected milk per year) comparison

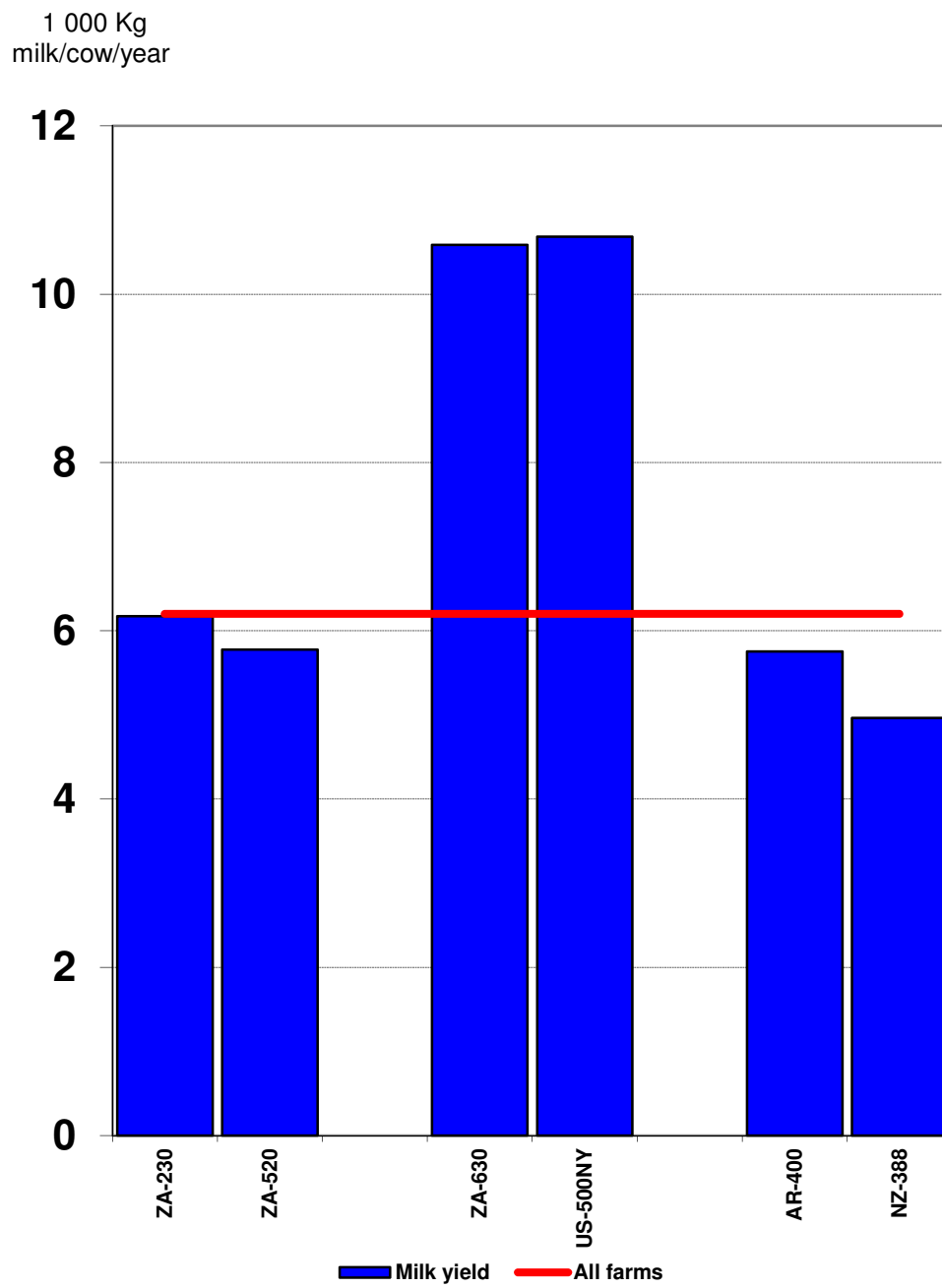
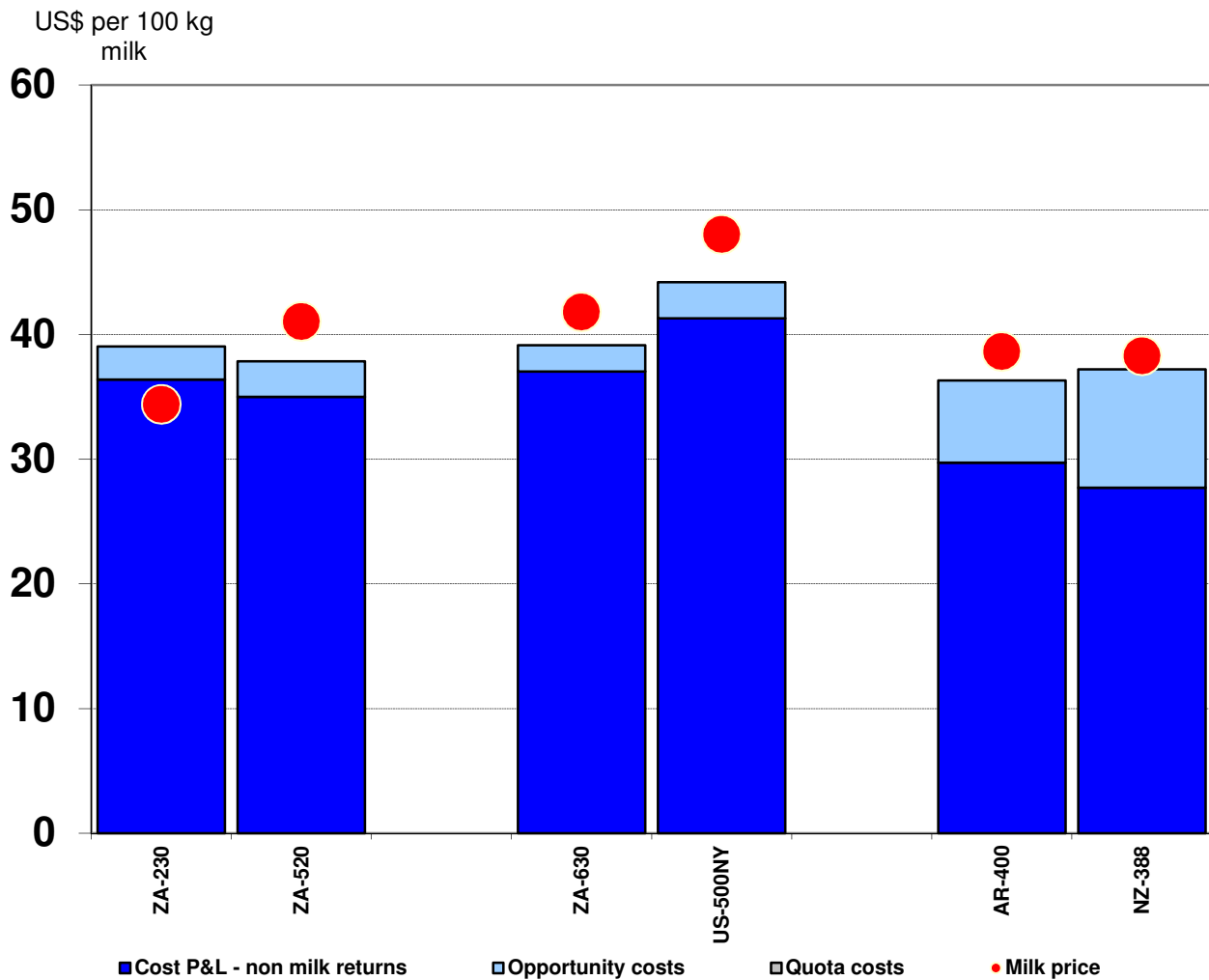


Figure 6: Production cost (US\$ per 100 kg energy corrected milk) comparison



Source: IFCN 2014

Cost to P&L = total production cost, quota cost = cost of obtaining production quota, opportunity cost = cost of own inputs

Summary

The average South African dairy farm is larger than average dairy farms in many other countries. Milk yield and cost of production is comparable to dairy farms in developed countries. However production cost is higher than in South America and New Zealand. Argentinian dairy farmers pay less for grain as there is an export tariff on grain while South African farmers buy grain at import parity prices. Both the large TMR and large pasture farm in South Africa can compete with similar farms in other countries.