

SOUTH AFRICAN FERTILIZERS MARKET ANALYSIS REPORT

2020



Directorate Marketing
Private Bag X 15
Arcadia
0007

Tel: 012 319 8455
Fax: 012 319 8131
E-mail: MogalaM@daff.gov.za
www.daff.gov.za



**agriculture,
forestry & fisheries**

Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

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1. DESCRIPTION OF THE INDUSTRY

Fertilizer consumption in South Africa represents about 0.5% of the total global consumption and as such the local fertilizer industry is a price taker. For this reason it is important to study the international fertilizer supply and demand balances and other factors which influence this market as they have a direct impact on the domestic market. The South African fertilizer industry is fully exposed to world market forces and operates in a totally deregulated environment with no import tariffs or government sponsored support measures. In this deregulated market environment, fertilizer prices are strongly influenced by international prices, currency exchange rates (R/US\$) and shipping costs. Farm gate prices of fertilizer evidently include the cost of distribution, intermediate storage and packaging.

Maize accounts for 41% of total fertilizer application while the second largest fertilizer consumer is sugar cane at 18%. The horticultural and fruit crop sectors account for 20 percent of fertilizer consumption but their contribution to the total value of crop production is much greater. The South African fertilizer market is very competitive, with a handful of national and regional operators. Competition is driven through price incentives, product differentiation and specialized services such as individual agronomic advice, custom blending and application. South Africa is a net importer of fertilizers. All of our potassium, as well as 60% to 70% of our nitrogen requirements are imported. This means that the local prices would be subjected to the same supply and demand drivers as in the international industry. Local prices are therefore also influenced by the shipping costs and the rand/dollar exchange rate. Most of the international fertilizer prices (dollar per ton) increased on an annual basis and due to the significant depreciation of the exchange rate international fertilizer prices increase even more.

2. GLOBAL FERTILISER PRODUCTION AND CONSUMPTION

Table 1 below presents the top-ten fertilizer producers in the world during 2019, with China occupying the top spot with approximately 103 million tons while Russia occupied the tenth spot with 40 million tons.

Table 1: Global fertilizer production rankings - 2019

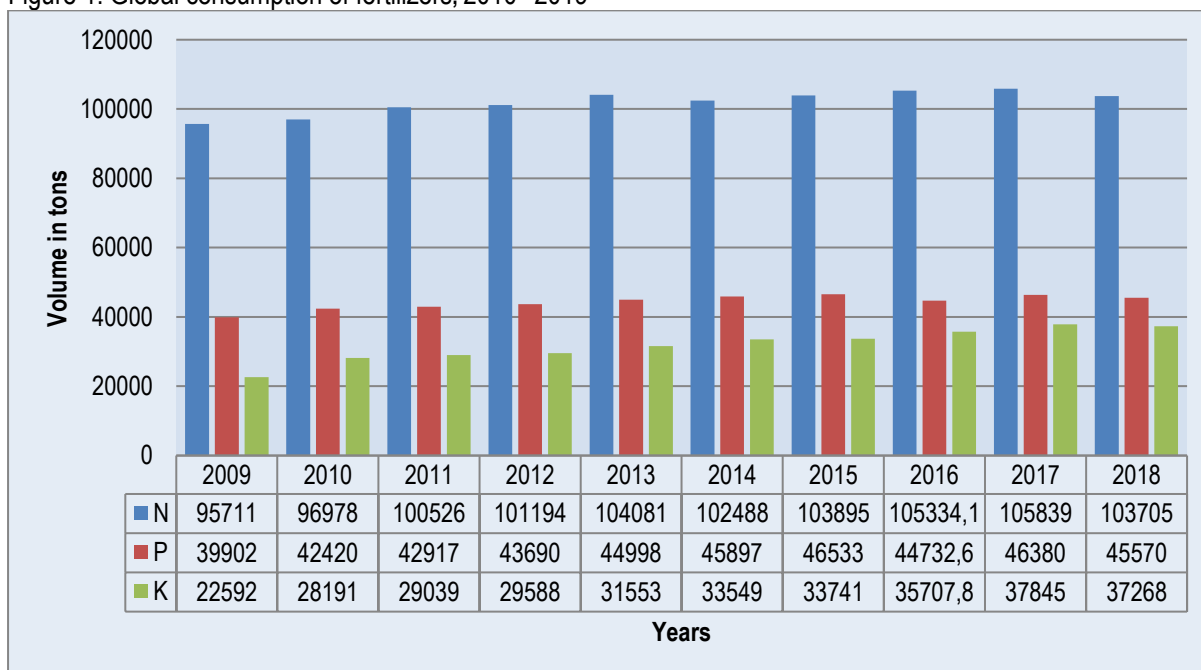
Rank	Country	Tons (thousands)
1	China	103 916
2	Russia	40 479
3	United States of America	37 131

Rank	Country	Tons (thousands)
4	India	35 854
5	Canada	35 259
6	Belarus	19 672
7	Morocco	9 701
8	Indonesia	8 593
9	Saudi Arabia	8 474
10	Pakistan	8 326

Source: IFADATA, 2019

Figure 1 below shows the global consumption of fertilizers based on the three major nutrients namely, Nitrogen (N), Phosphorus (P) and Potassium (K) between 2009 and 2018 marketing seasons.

Figure 1: Global consumption of fertilizers, 2010 - 2019



Source: IFADATA, 2019

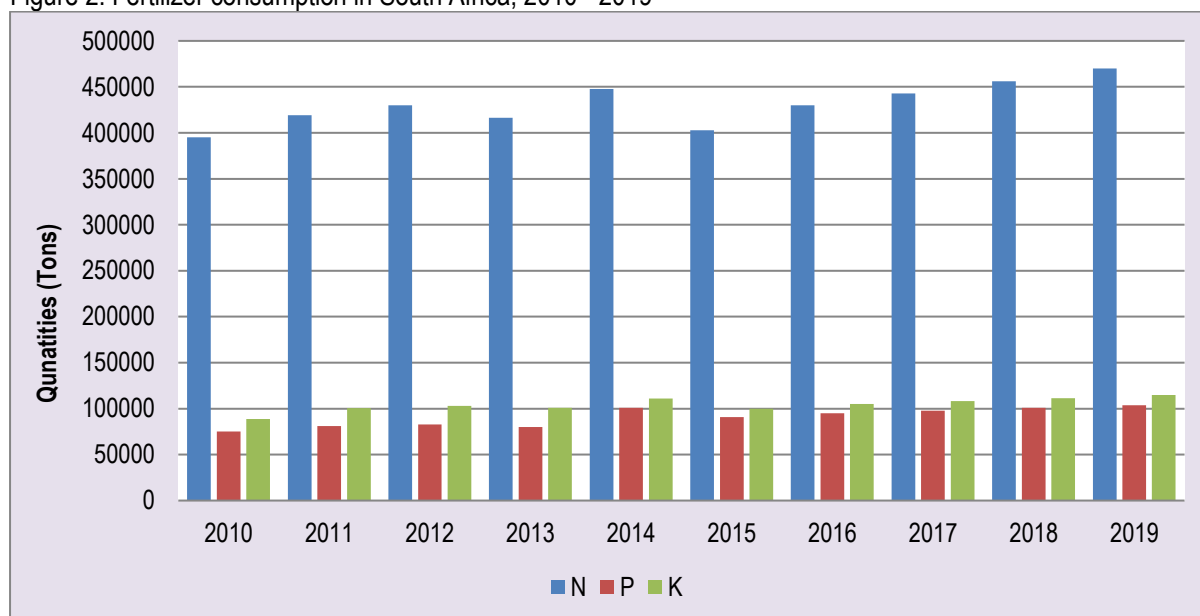
It is quite clear from the Figure 1 above that, generally fertilizer consumption increased marginally over the period between 2009 and 2018. The demand for nitrogen fertilizers was high over the past ten years under review, followed by potassium and phosphorus respectively. The figure also shows that global consumption of nitrogen fertilizer consistently increased from 2009 to 2018, except for a slight decline in 2014. In 2018, the demand for nitrogen, phosphorus and potassium fertilizers decreased slightly by 2%, 1.8% and 1.5% respectively. Nitrogen fertilizer peaked at approximately 105.8 million tons in 2017. Globally, the demand for phosphorus and potassium fertilizers was very low compared to Nitrogen during the ten year period under review and not more than 50 million tons per annum. Nitrogen-based fertilizers

are the most used for crop production. The international price of nitrogen fertilizer automatically went up because of high demand for the product. During the same period, the price of phosphorus and potassium fertilizers declined substantially due to very low demand globally.

3. SOUTH AFRICAN FERTILISER CONSUMPTION

The utilisation of fertilisers in South Africa between 2010 and 2019 is depicted in Figure 2 below.

Figure 2: Fertilizer consumption in South Africa, 2010 - 2019



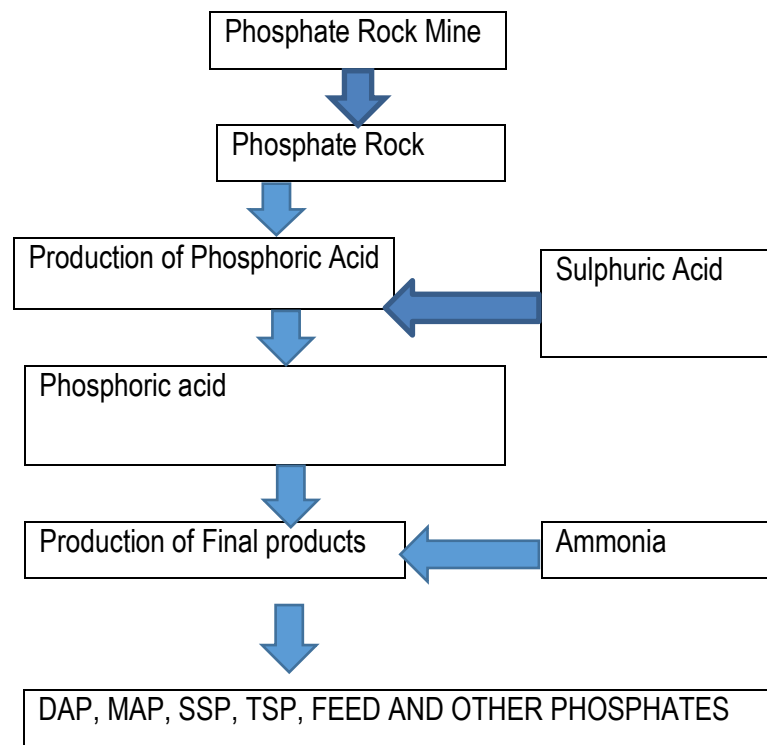
Source: FERTASA

It is quite clear from Figure 2 above that nitrogen fertilizers were stable and the mostly used fertilizers throughout the period under review, followed by potassium and phosphorus. The figure also shows that South Africa's consumption of fertilizer was relatively stable during the period under review. Domestically, the demand for phosphorus and potassium fertilizers was very low during the ten year period under review and remained on average at 100 000 tons per annum. During 2019 season, consumption volumes for NPK fertilizers increased slightly. All NPK fertilizers consumption quantities increased by 3% in 2019 compared to 2018 season.

3. MANUFACTURING OF FERTILIZER

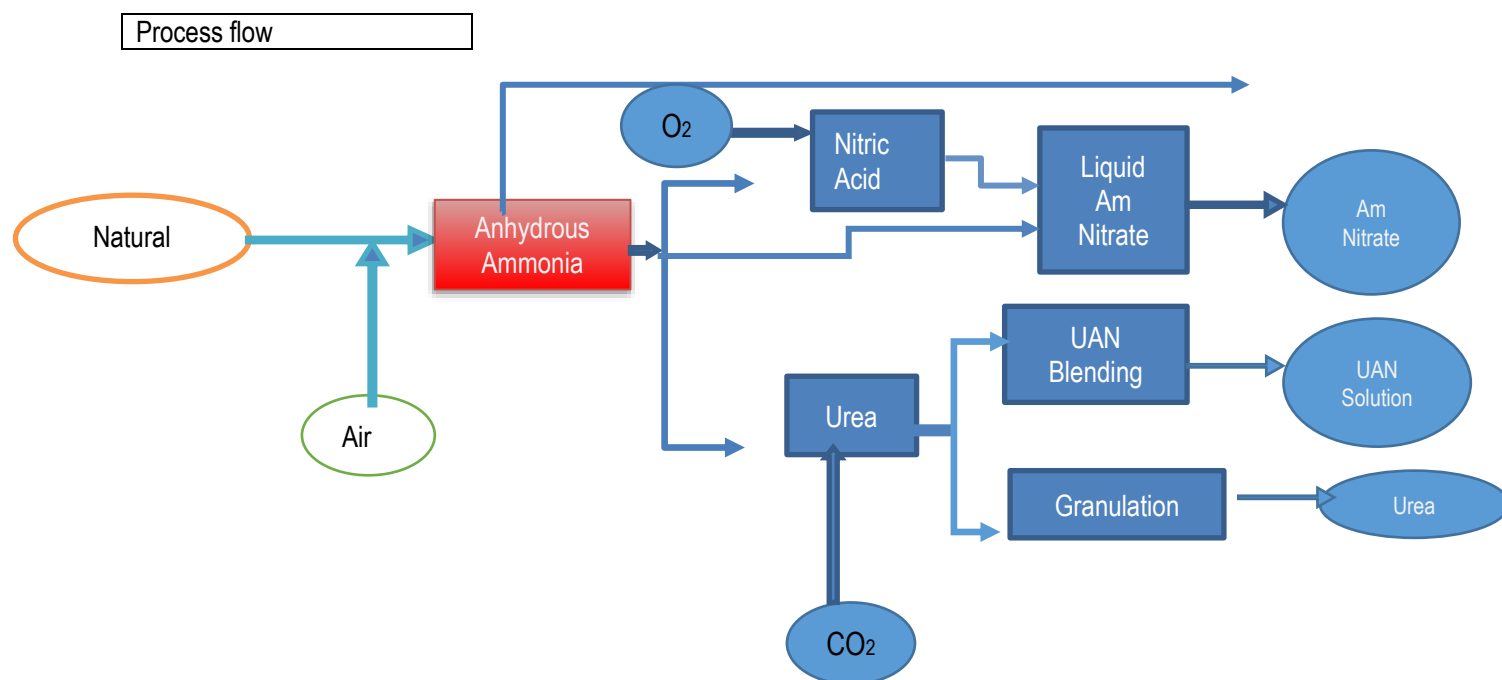
The phosphate fertiliser manufacturing process is depicted in Figure 3 below.

Figure 3: Phosphate fertilizer manufacturing process



The manufacturing process of phosphate fertilizers involves different ingredients. In this process, first stage shows that phosphate fertilizer is from phosphate mine that transforms it into phosphate rock which is then mixed with phosphoric acid and ammonia salts and gas and as a result, a complete product becomes phosphate fertilizer that is used in the production of food crops such as maize. The nitrogen fertiliser manufacturing process is depicted in Figure 4 below.

Figure 4: Nitrogen fertilizer manufacturing process



In this process, natural gas and steam are pumped into a large vessel. Next, air is pumped into the system, and oxygen is removed by the burning of natural gas and steam. This leaves primarily nitrogen, hydrogen, and carbon dioxide. The carbon dioxide is removed and ammonia is produced by introducing an electric current into the system. Any impurities are removed from the ammonia, and it is stored in tanks until it is further processed. While ammonia itself is sometimes used as a fertilizer, it is often converted to other substances for ease of handling. Nitric acid is produced by first mixing ammonia and air in a tank. In the presence of a catalyst, a reaction occurs which converts the ammonia to nitric oxide. The nitric oxide is further reacted in the presence of water to produce nitric acid. Nitric acid and ammonia are used to make ammonium nitrate. This material is a good fertilizer component because it has a high concentration of nitrogen. The two

materials are mixed together in a tank and a neutralization reaction occurs, producing ammonium nitrate. This material can then be stored until it is ready to be granulated and blended with the other fertilizer components. The potash fertiliser manufacturing process is depicted in Figure 5 below.

Figure 5: Potash fertilizer manufacturing process

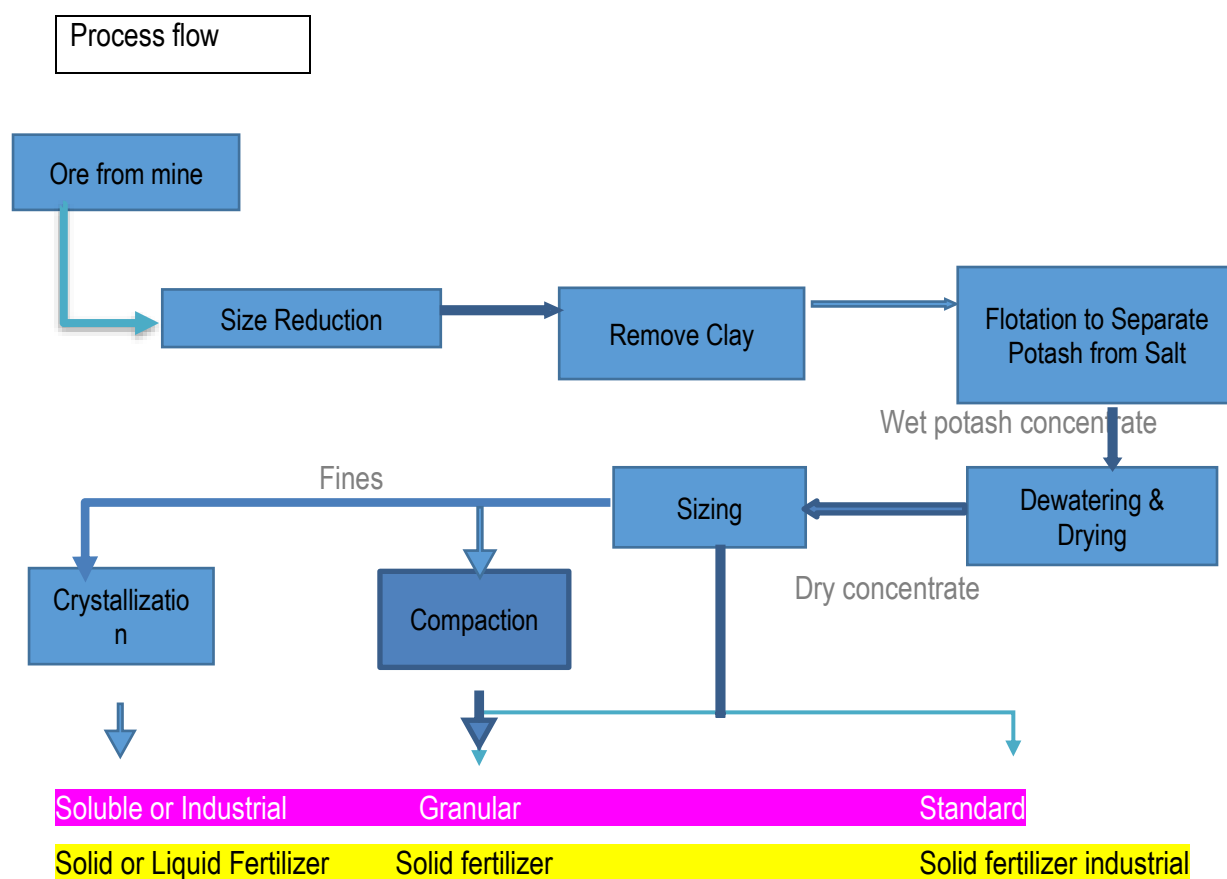


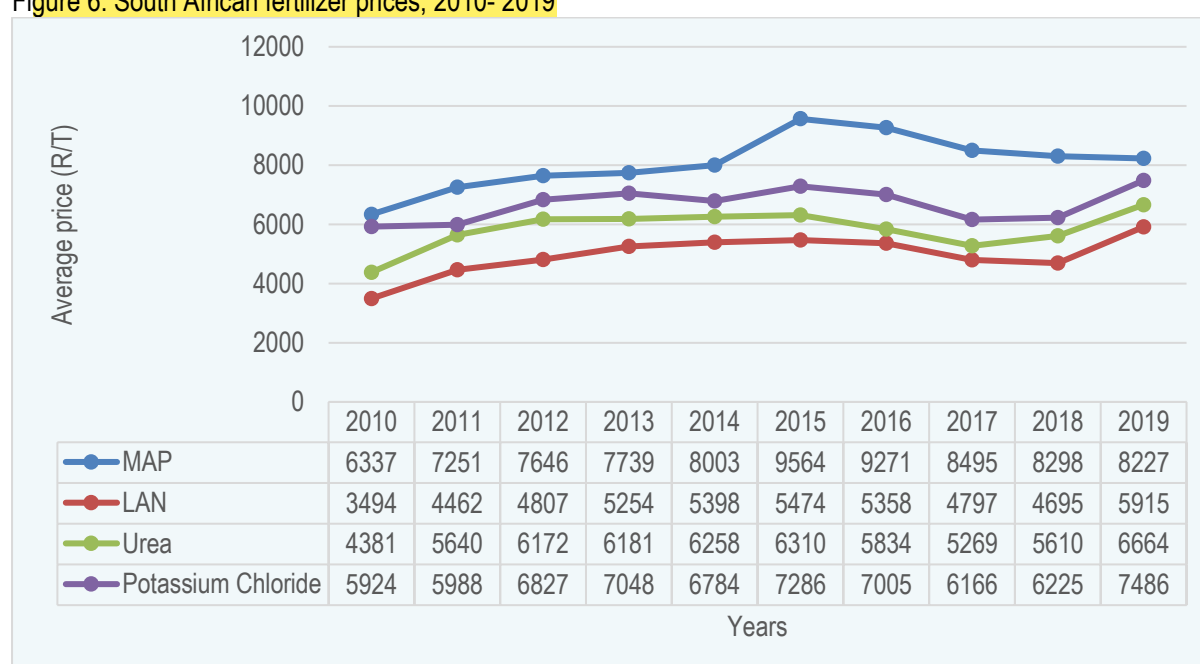
Figure 5 above indicates the manufacturing process of different types of potash fertilizers and stages / phases of manufacturing. The figure further indicates that potash fertilizer is manufactured from ore from the mines and it is then reduced in size before removing the clay content. The next stage is to separate potash from salts and wet potash concentrate becomes clear. The watering and drying phase takes place in preparation for the final stages of different types of potash fertilizer. The next stage of manufacturing is sizing, compaction and crystallization of the primary product which leads to either soluble or industrial (solid/ liquid) fertilizer, granular (solid) fertilizer or standard fertiliser.

4. FERTILIZER MARKET AND PRICING

Figure 6 shows average fertilizer prices in South Africa for the period under scrutiny (2010 to 2019). Prices of all fertilizers experienced a significant drop in 2017 season. Average fertilizer prices of Mono-Ammonium Phosphate (MAP) have been the highest over the past decade attaining a peak in 2015 at approximately R9 564.00 per ton. Although there was a sharp decline in average fertilizer prices of MAP in 2017, positive trends were observed again between 2018 and 2019 for LAN, potassium chloride and

urea. Over the past two years, prices of LAN, Urea and KCL increased slightly by 26%, 19% and 20% respectively. Potassium Chloride average prices attained a peak in 2019 at approximately R7 486.00. Prices of Potassium Chloride have been fairly stable between 2012 and 2017, maintaining an average of R6 852.66 per ton. The average prices of Urea (46) and Limestone Ammonium Nitrate (LAN) attained their peaks also in 2019 at approximately R6 664.00 and R5 915.00. Generally, it is evident from the figure below that between 2010 and 2019, average prices of fertilizers in South Africa increased although at slow increasing trends. In 2015, farmers had to deal with high average prices which had an impact on production and farm income.

Figure 6: South African fertilizer prices, 2010- 2019



Source: GrainSA

5. LOCAL FERTILIZER PRICES VS INTERNATIONAL FERTILIZER PRICES

Tables 2 and 3 below show the relationships between local and international fertilizer prices. It can be observed from the tables that there exists symmetric price transmission between local prices and international prices. This mainly due to the fact that domestic prices responded positively to changes in the international fertilizer prices over the past two years. The tables also show that there is a price gap between local and international fertilizer prices and this could be largely due to fluctuations in the exchange rate between the rand and other currencies globally.

Table 2: Local fertilizer prices in Rand terms

Fertilizers	October 2019	October 2020	% CHANGE
	R/ton	R/ton	
LAN (28)	5 915	6 258	5.6
Urea(46)	6 664	7 062	6.0
MAP	8 227	9 499	15.5
Potassium chloride	7 486	6 632	-11.5

Source: GrainSA

* Estimated Import parity price (*thus the c.i.f. import price plus tariff and transport cost to the purchaser's location*)

Table 3: International fertilizer prices in Rand terms

Fertilizers	October 2019	October 2020	% CHANGE
	R/ton	R/ton	
Ammonia	3 544	4 030	13.7
Urea(46)	3 425	4 326	26.3
DAP	4 497	5 807	29.1
Potassium chloride	3 633	3 323	-8.5

Source: Grain SA

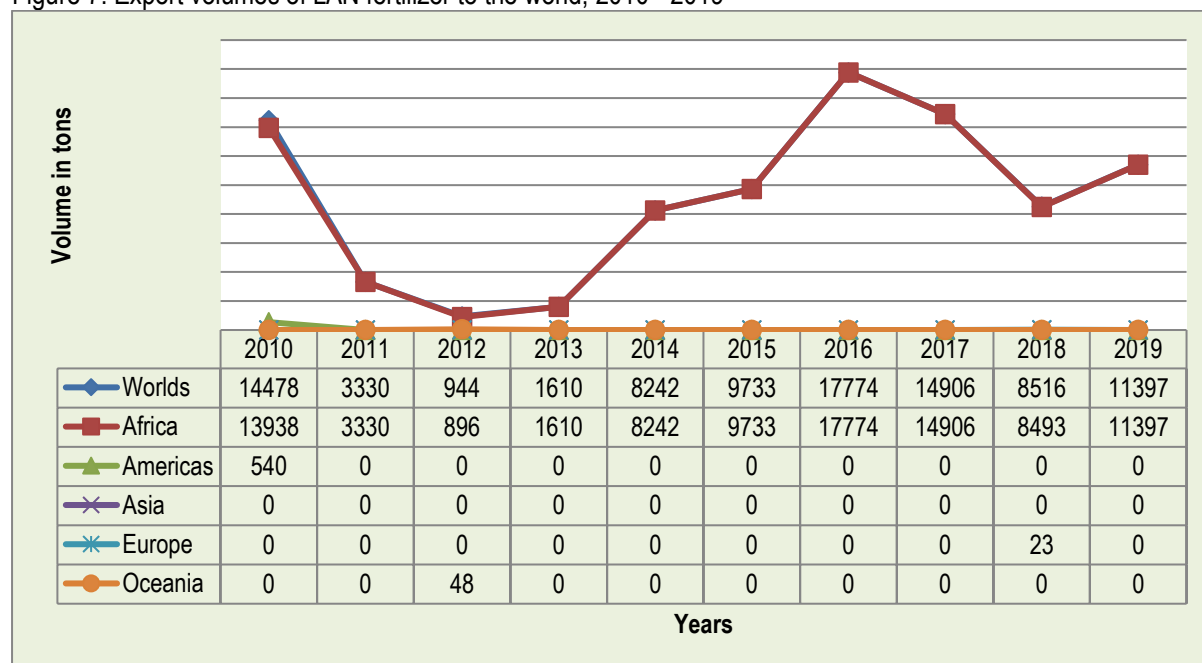
* FOB per ton (Rand)

6. EXPORT VOLUMES OF FERTILIZERS

6.1 Limestone Ammonium Nitrate (LAN)

Export volumes of limestone ammonium nitrate (LAN) fertilizers from South Africa to the world during the past ten years are shown in Figure 7. The most important South African LAN destination during the period under review remains Africa. Almost all of the export volumes of LAN from South Africa to the world went to Africa followed by minimal exports to the Americas, Europe, Oceania and Asia. It is worth noting that export of LAN to various regions of the world has been unstable during the past ten years. Export volumes of LAN to Africa attained a peak in 2017 at approximately 17 774 tons followed by a 52% decrease between 2016 and 2018 in 2010. In 2019, LAN exports increased significantly by 52% compared o the previous season. Exports of LAN to Africa reached its lowest point at approximately 896 tons. There was a 544% increase in export volumes of LAN from South Africa to Africa in 2014 as compared to 2013 marketing season.

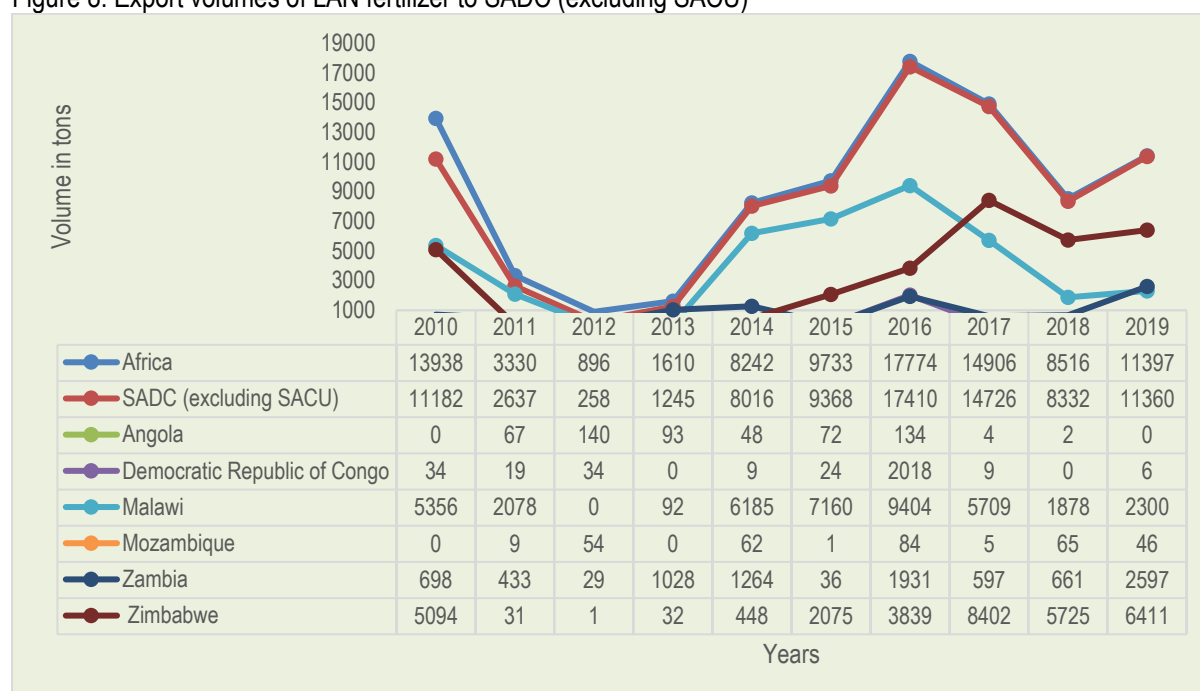
Figure 7: Export volumes of LAN fertilizer to the world, 2010 - 2019



Source: Quantec EasyData

Figure 8 indicates export volumes of limestone ammonium nitrate (LAN) fertilizer to Africa particularly the SADC region over the past decade. The major export market for LAN fertilizer to SADC was Zimbabwe, followed by Zambia during most part of the past decade. Export volumes of LAN fertilizer from South Africa to Zimbabwe attained a peak in 2016 at approximately 17 774 tons. Malawi surpassed Zimbabwe as the top importer of LAN in 2014, which was before Zimbabwe reclaimed in top position in 2014. There was a 1 300% increase in export volumes of LAN fertilizer to Zimbabwe in 2014 as compared to 2013. During the past four years, Malawi has been the top market for South African LAN fertilizers, accounting for 20% of South African total LAN exports to SADC (11 360 tons) in 2019.

Figure 8: Export volumes of LAN fertilizer to SADC (excluding SACU)

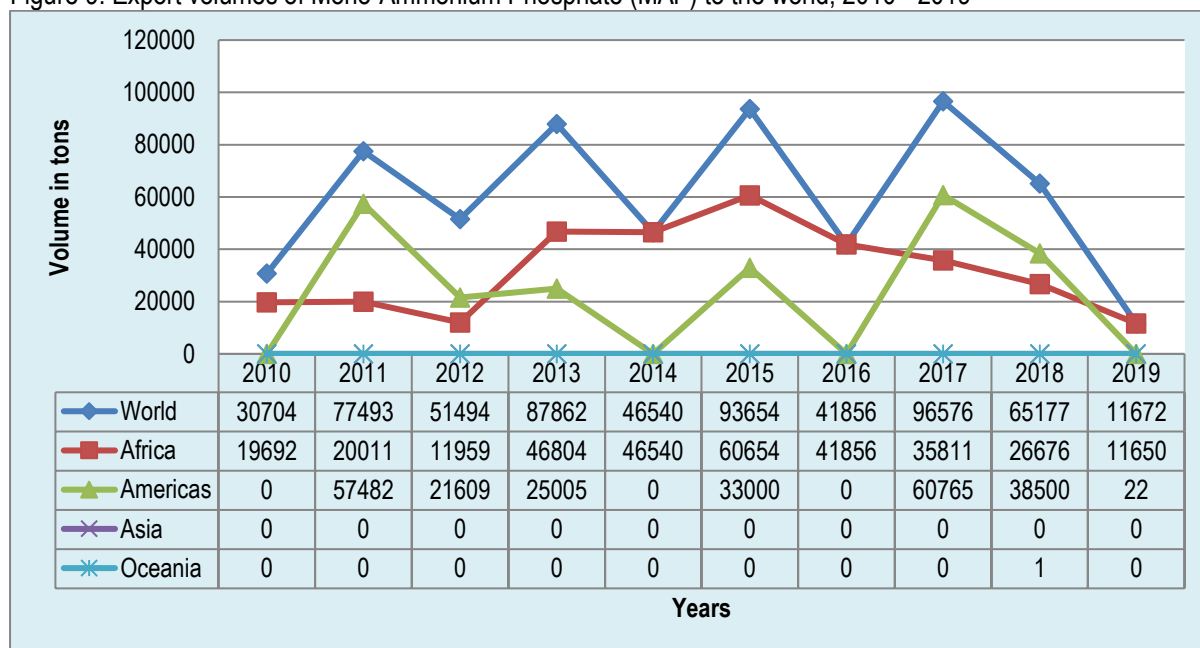


Source: Quantec EasyData

6.2 Mono-Ammonium Phosphate (MAP)

Figure 9 represents export volumes of Mono-Ammonium Phosphate (MAP) fertilizer to the world between 2010 and 2019 marketing seasons. During the past decade, exports of MAP significantly unstable. The major export market for MAP fertilizer during the past decade was mainly Africa, followed by Americas and Oceania over the past decade. During 2019, all MAP exports were destined to the African and Americas continent. Export volumes of MAP fertilizer from South Africa to Africa attained a peak in 2015 at 60 654 tons, while export volumes of MAP fertilizers to Americas attained a peak in 2017 at approximately 60 765 tons. In 2019, export to Africa fell significantly from 26 676 tons in 2018 to 11 650 in 2019 tons, a 56% decline when compared to 2018 season.

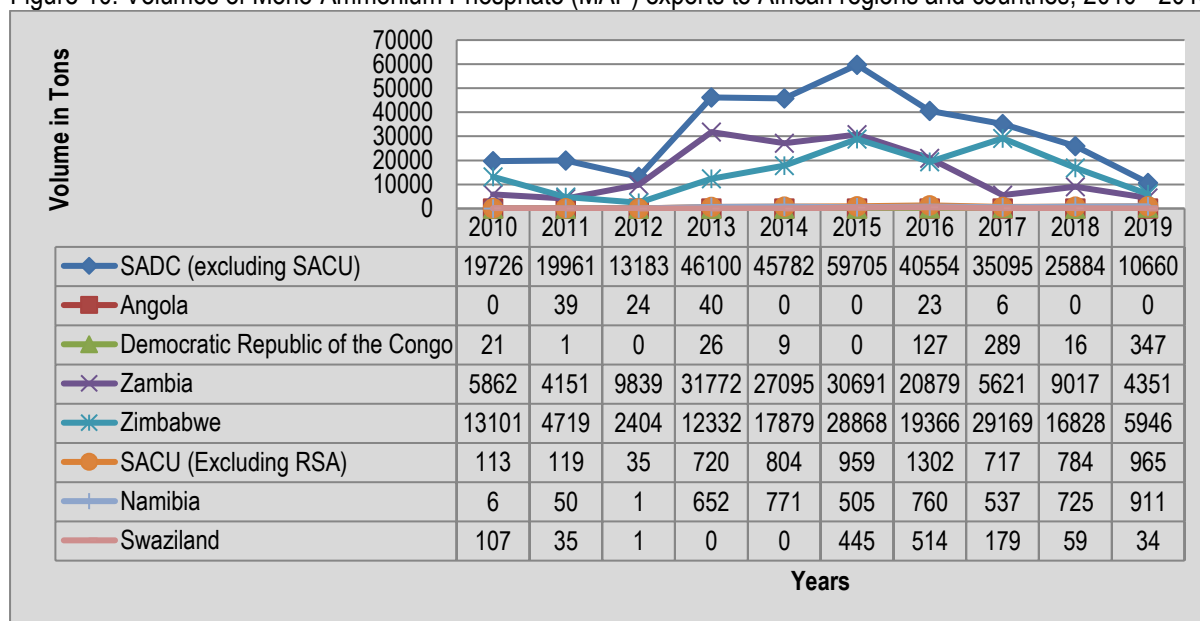
Figure 9: Export volumes of Mono-Ammonium Phosphate (MAP) to the world, 2010 - 2019



Source: Quantec EasyData

Export volumes of Mono-Ammonium Phosphate (MAP) fertilizer to Africa are depicted in Figure 10. Over the past decade, exports of MAP have been exported mainly to SADC region. Volumes of MAP fertilizer exports from South Africa to SADC went mainly to Zimbabwe and Zambia during the period under observation. Volumes to Zambia were from a high based during the second half (2013-2017) of the ten year period attaining a peak in 2013 at approximately 31 756 tons. MAP exports to Zambia have been declining over the past five. Other notable importer over the past ten years is DRC. The countries had very low or minimal volumes of MAP fertilizer of not more than 10 000 tons per annum over the past five years. It is also clear from the figure that there was a 59% decrease in export volumes of MAP fertilizer from South Africa to SADC in 2019 as compared to the 2018 marketing season. In the SACU region, Namibia is the dominant destination of the MAP fertilizer exports, accounting for 94% of South African MAP exports to SACU area. Exports to SACU increased significantly by 23% in 2019 when compared to 2018 season.

Figure 10: Volumes of Mono-Ammonium Phosphate (MAP) exports to African regions and countries, 2010 - 2019



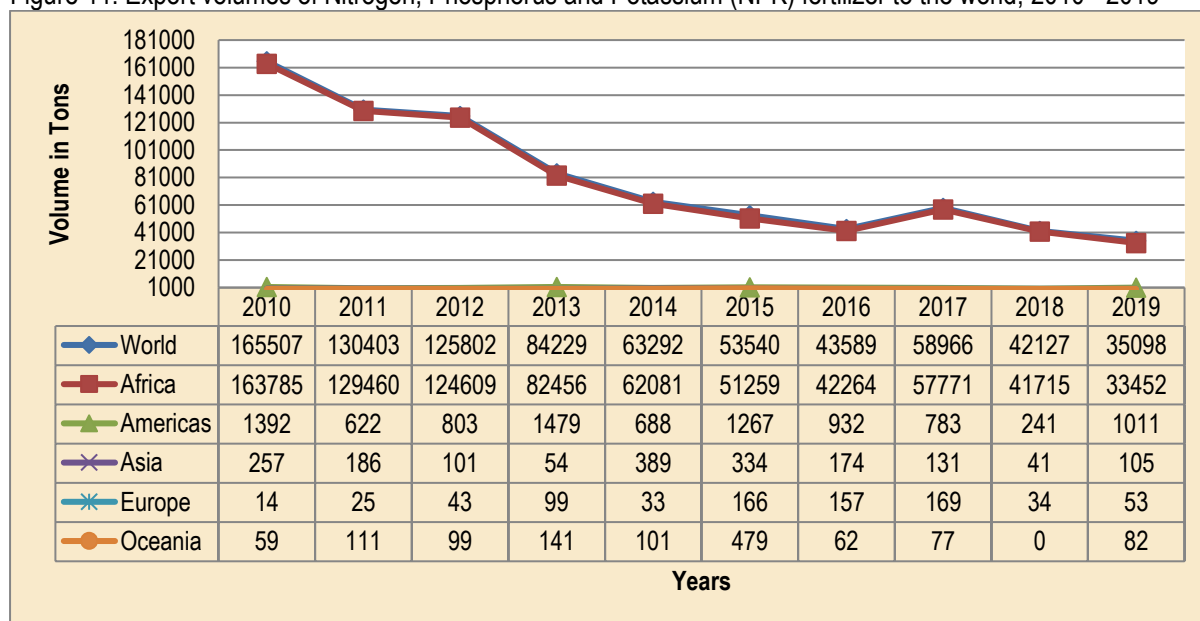
Source: Quantec EasyData

6.3 Nitrogen, Phosphorus and Potassium (NPK)

Figure 11 presents export volumes of Nitrogen, Phosphorus and Potassium (NPK) fertilizers to the world between 2010 and 2019 marketing seasons. It is clear from the figure 10 below that exports of NPK have been declining ten years. Most of the exports of NPK fertilizers to the world went to Africa and Americas to a lesser extent. Over 95% of the export volumes of NPK produced in South Africa went to Africa. Export volumes of NPK to Africa were from a high base during the first half of the ten year period (2010-2014) attaining a peak in 2010 at approximately 163 785 tons. There was 19% decrease in export volumes of NPK fertilizers to Africa in 2019 as compared to 2018 and a fall of 79% in export volumes of NPK fertilizers to Africa in 2019 compared to 2010. Asia and Europe recorded NPK exports over the past ten years although with minimal quantities.

Figure 11 presents export volumes of Nitrogen, Phosphorus and Potassium (NPK) fertilizers from South Africa to Africa to the regions of the world over the past decade.

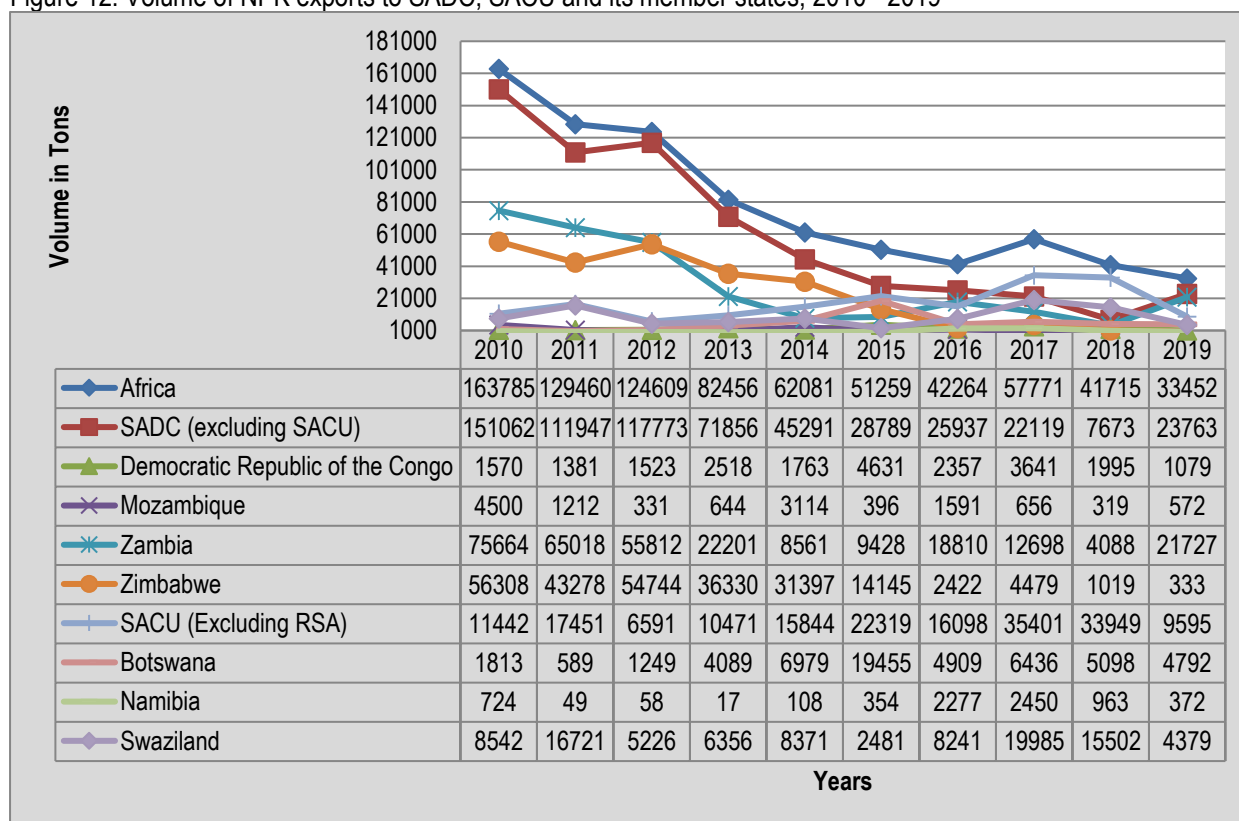
Figure 11: Export volumes of Nitrogen, Phosphorus and Potassium (NPK) fertilizer to the world, 2010 - 2019



Source: Quantec EasyData

Figure 12 presents export volumes of Nitrogen, Phosphorus and Potassium (NPK) fertilizers from South Africa to Africa particularly the SADC region over the past decade.

Figure 12: Volume of NPK exports to SADC, SACU and its member states, 2010 - 2019



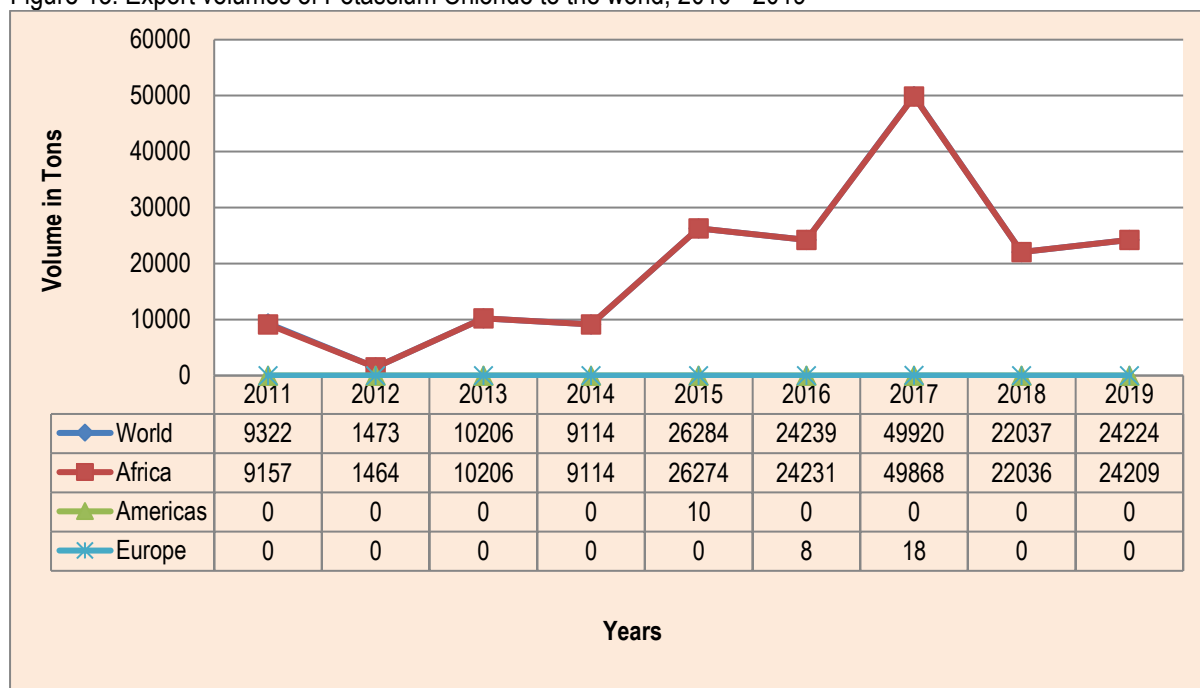
Source: Quantec EasyData

Export volumes of NPK fertilizers from South Africa to the SADC went mainly to Zambia, followed by DRC and Mozambique. Volumes of NPK fertilizers to Zambia were from a high base during the first half of the ten year period (2010 - 2014) under observation attaining a peak in 2010 at approximately 75 664 tons. Volumes of NPK fertilizers to Zimbabwe were also from a high base during the first half of the ten year period (2008-2012) under observation attaining a peak in 2010 at approximately 56 308 tons. Exports to Mozambique have been fairly stable during the past ten years averaging 1 333 tons. Export volumes of NPK fertilizers from South Africa to Zambia increased significantly by 431% in 2019 as compared to the 2018 marketing season. Countries from the SACU block have also been notable importers of NPK fertilizers from South Africa. In SACU, Botswana has been the leading importer during 2019 season, absorbing 50% of the NPK exports. Botswana was followed by Swaziland and Namibia accounting for 46% and 4% of NPK fertilizer exports to SACU respectively.

6.4 Potassium Chloride

Figure 13 presents export volumes of potassium chloride from South Africa to the world during the past decade. Most of the exports of potassium chloride from South Africa went to Africa, followed by very minimal exports of potassium chloride to Europe between 2010 and 2019. South African KCL exports to the world were unstable during the period under review. During period between 2010 and 2012, exports of KCL were at their lowest, reaching trough at 1 473 in 2012 and attaining a peak in 2017 at 49 920 tons. In 2019, almost all (99.9%) KCL exports from South Africa went to Africa. The remaining went to the European region. There was a 10% increase in export volumes of potassium chloride from South Africa to Africa in 2019.

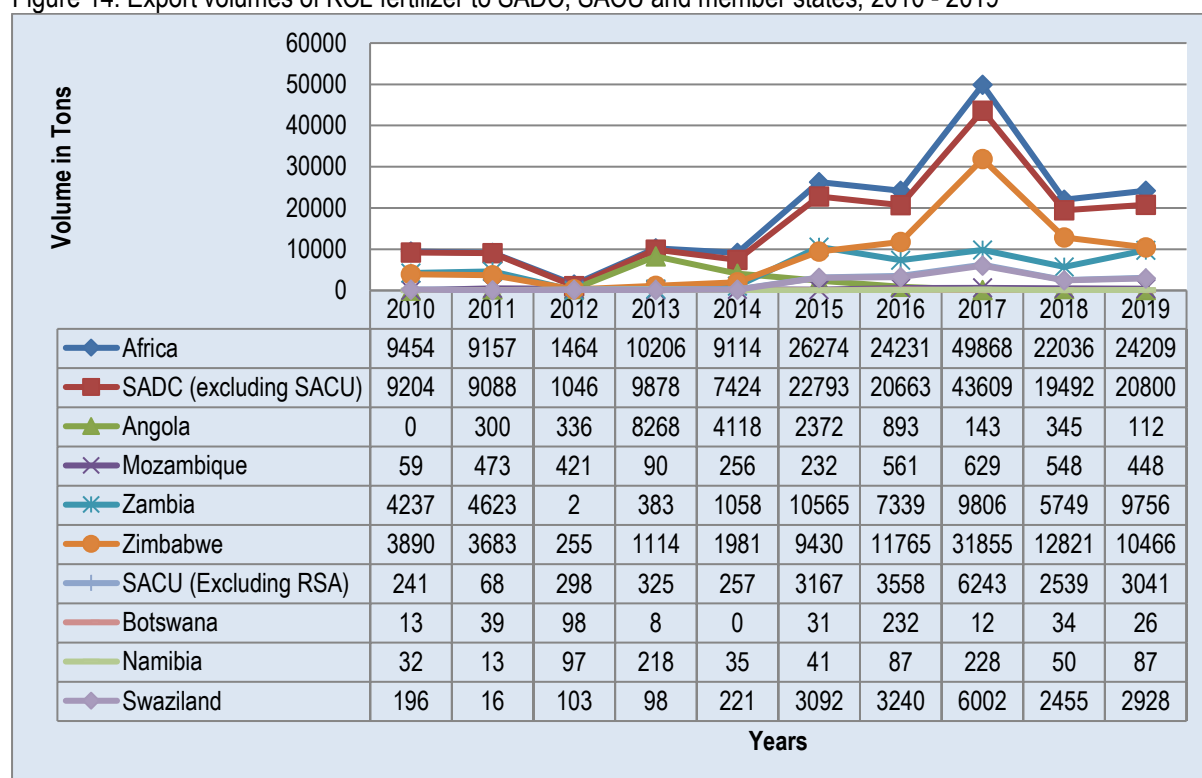
Figure 13: Export volumes of Potassium Chloride to the world, 2010 - 2019



Source: Quantec EasyData

Figure 14 presents export volumes of potassium chloride from South Africa to Africa particularly the SADC region over the past decade. It is clear from figure 14 below that exports of KCL fertilizers to Africa, mainly went to SADC region. Export volumes of potassium chloride from South Africa to SADC went mainly to Zimbabwe, followed by Zambia and Mozambique. Exports to SADC and its member states have been fairly unstable during the period under review. Exports to Zimbabwe declined rapidly between 2010 and 2012, moving from 3 839 tons in 2010 to 255 tons in 2012. Zambia followed the same trends until reaching a trough of 2 tons in 2012. Between 2013 and 2017, export to Zimbabwe and Zambia increased by 2 759% and 2 460% respectively. This was before exports to the two countries declined by 60% and 41% respectively. In 2019, exports to Zimbabwe declined by 18% while those to Zambia increased by 70% during the same period. Exports to SACU region mainly destined for Swaziland. Other notable importers of KCL fertilizer from South Africa are Namibia and Botswana, but usually register minimal quantities.

Figure 14: Export volumes of KCL fertilizer to SADC, SACU and member states, 2010 - 2019

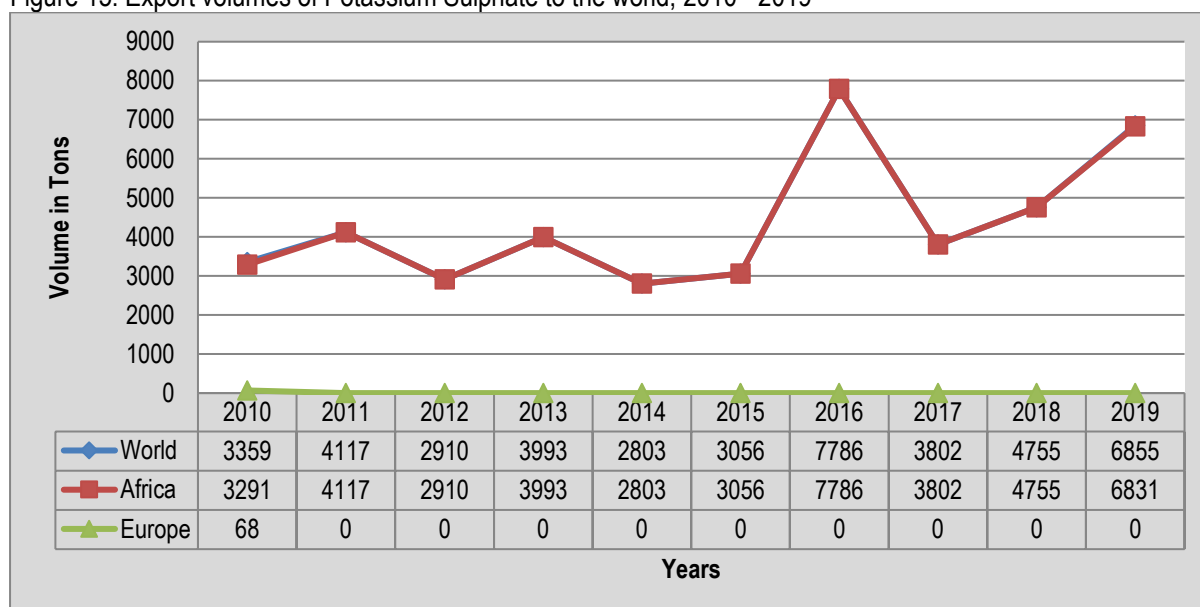


Source: Quantec EasyData

6.5 Potassium Sulphate

Figure 15 shows export volumes of potassium sulphate from South Africa to the world between 2010 and 2019.

Figure 15: Export volumes of Potassium Sulphate to the world, 2010 - 2019

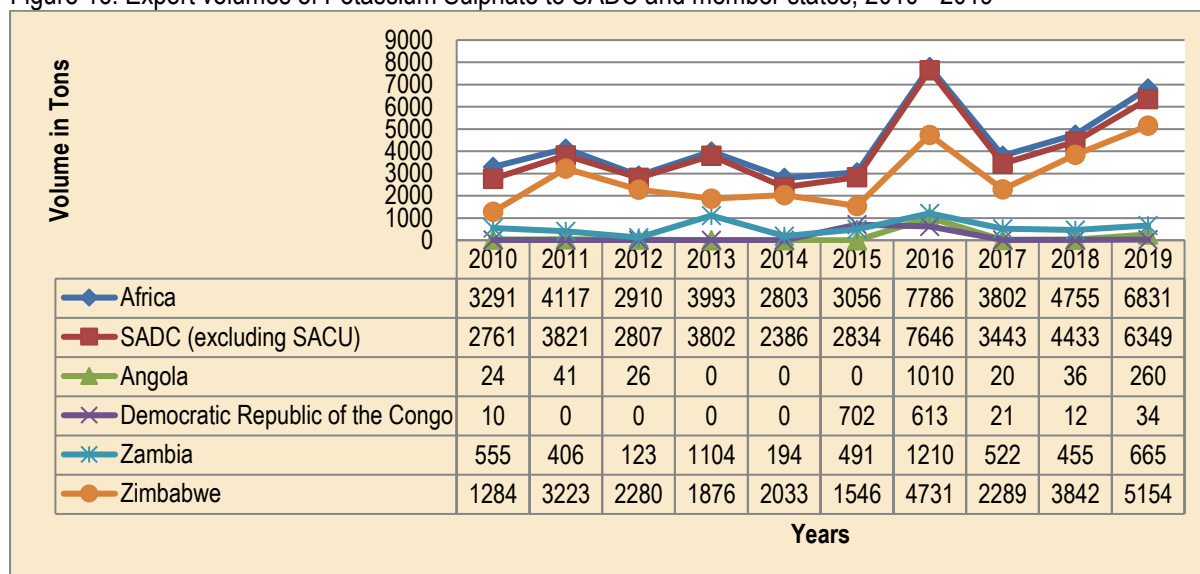


Source: Quantec EasyData

It is clear from Figure 15 that export volumes of potassium sulphate to the world went mainly to Africa, followed by minimal export volumes to Europe. During the period between 2010 and 2015, exports volumes of potassium sulphate remained stable. Export volumes of potassium sulphate to the world increased significantly from 3 056 tons in 2015 to 7 786 tons in 2016, representing 154% increase during the same period. However, exports declined rapidly by 51% in 2017. In 2019 export to Africa increased exponentially by 44% compared to 2018 season. During the past decade African Potassium Sulphate exports reached a maximum of approximately 7 786 tons in 2016. Europe only managed to import potassium sulphate from South Africa in 2010 at an export quantity of 68 tons.

Figure 16 below illustrates export volumes of potassium sulphate from South Africa to the SADC region over the past ten years. The major export market for potassium sulphate from South Africa to SADC was Zimbabwe, followed by Zambia and to a lesser extent by Angola and DRC. On average, South Africa exported 2 826 tons of potassium sulphate to Zimbabwe over the past decade. Exports of potassium sulphate from South Africa to Zimbabwe attained a peak in 2016 at approximately 4 731 tons in the past ten years. During the second half of the ten-year period (2013-2017), exports of potassium sulphate to Zimbabwe were from a high base. In 2019, Zambia was the destination for the 75% of the potassium sulphate exports from South Africa. Exports to Zambia increased by 34 percent in 2019 compared to 2018 season.

Figure 16: Export volumes of Potassium Sulphate to SADC and member states, 2010 - 2019

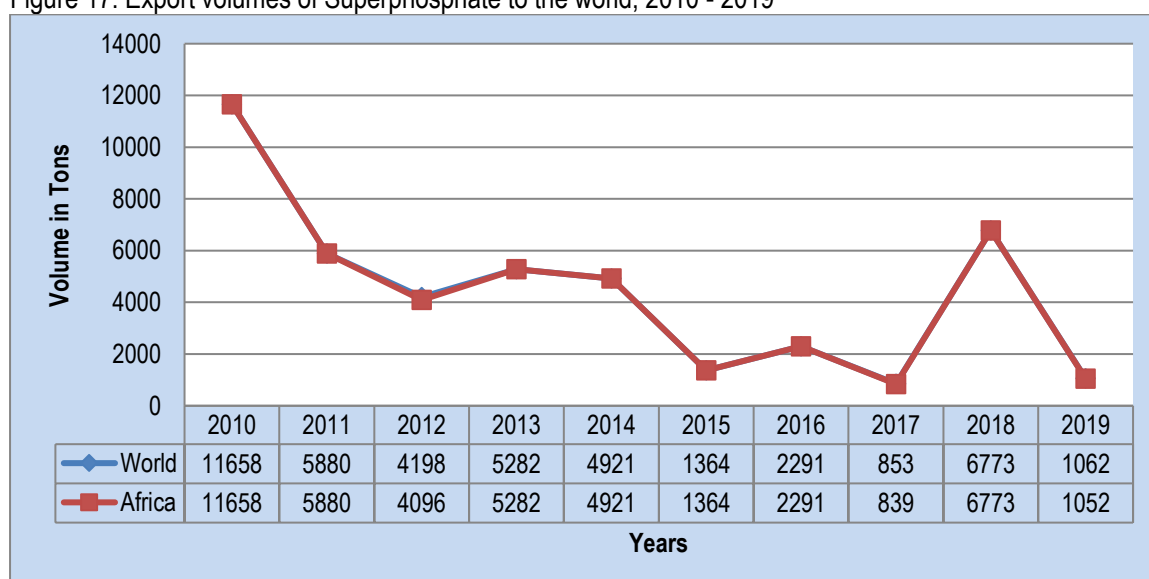


Source: Quantec EasyData

6.6 Superphosphate

Figure 17 presents export quantities of superphosphate fertilizers from South Africa to the world during the past decade. The only export market for superphosphate fertilizer during the past decade was Africa, mainly the SADC region. On average, South Africa exported 4 416 tons of superphosphate fertilizer to Africa over the past decade. Export volumes of superphosphate from South Africa to Africa were from a high base during the first half of the ten year period 2010-2014) attaining a peak in 2010 at export quantity of 11 658. There was a 84% decrease in export quantity of superphosphate fertilizer from South Africa to Africa in 2019 as compared to 2018.

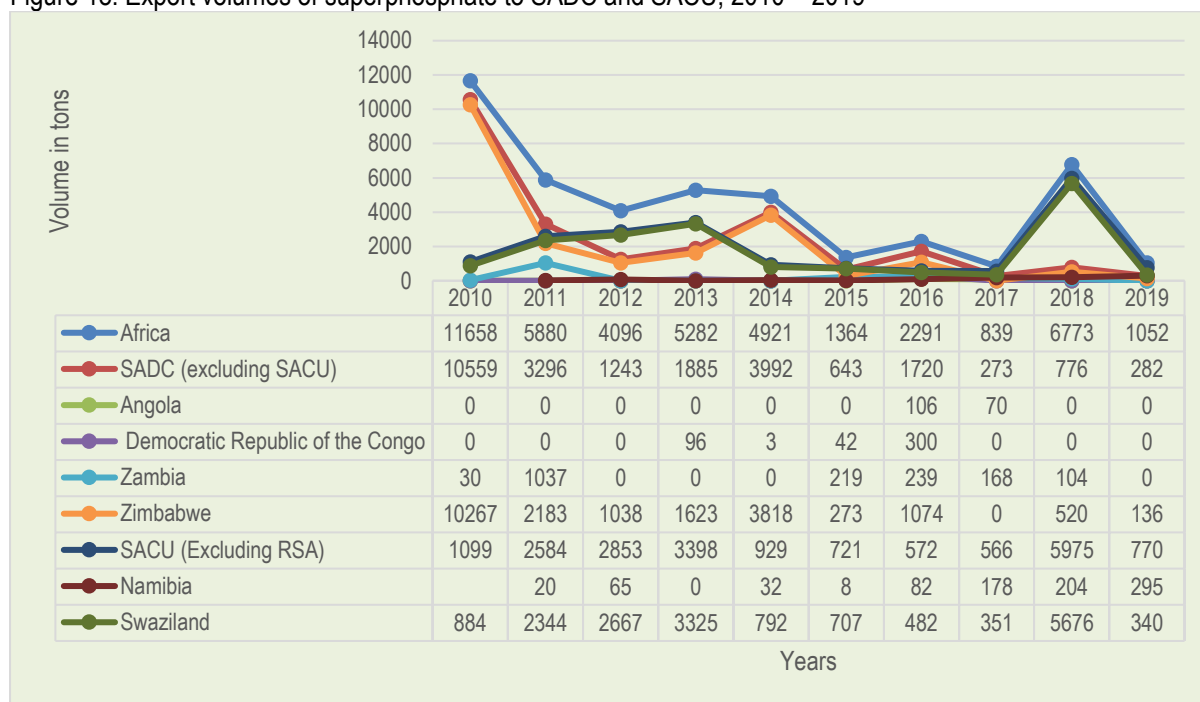
Figure 17: Export volumes of Superphosphate to the world, 2010 - 2019



Source: Quantec EasyData

Export volumes of superphosphate fertilizer from South Africa to the SADC region are shown in Figure 18 below.

Figure 18: Export volumes of superphosphate to SADC and SACU, 2010 – 2019



Source: Quantec EasyData

Most of superphosphate fertilizer exports from South Africa to SADC went to Zimbabwe in 2019. On average, South Africa exported 2 046 tons of superphosphate fertilizer to Zimbabwe over the past ten years. Export volumes of superphosphate fertilizers to Zimbabwe were from a high base during the first half of the ten year period (2010-2014) attaining a peak in 2010 at approximately 10 267 tons. Exports to Angola and DRC were very low and not more than 700 tons per annum. There was a 73% decrease in exports of superphosphate fertilizers from South Africa to Zimbabwe in 2019 as compared to 2018.

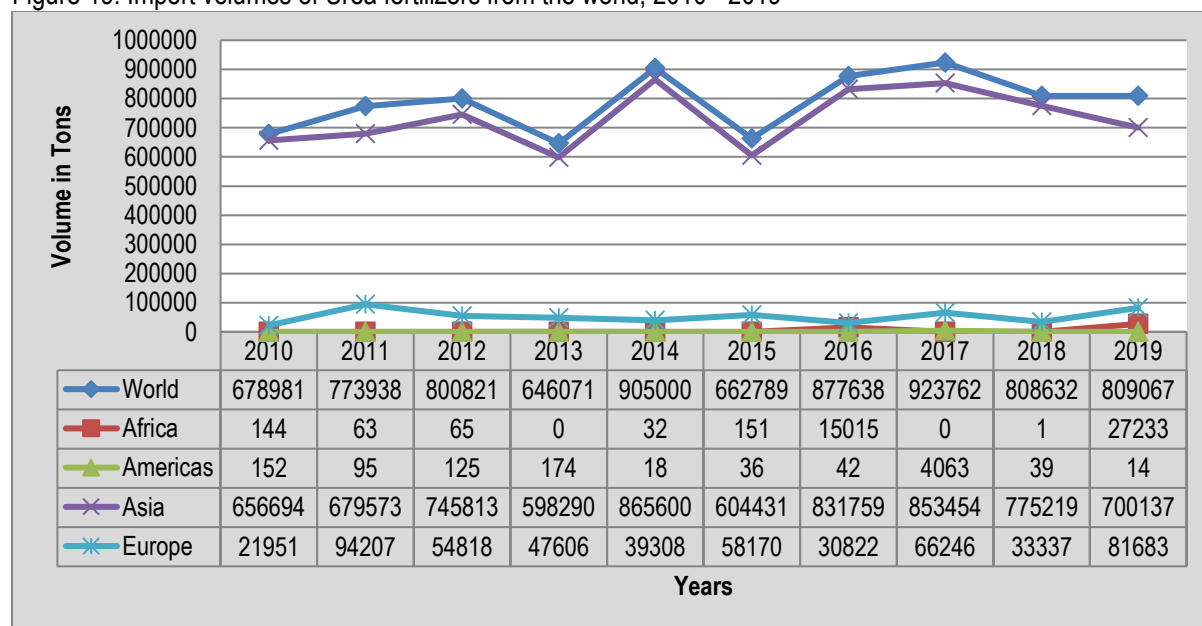
7. IMPORT VOLUMES OF FERTILIZERS

7.1 Urea

Import volumes of Urea fertilizers from the world into South Africa over the past ten years are shown in Figure 19. Most of the Urea fertilizers from the world into South Africa over the past decade were mainly from Asia, followed by minimal import volumes from Europe and Africa. On average, South Africa imported 688 414 tons of Urea fertilizer from Asia over the past ten years. Imports of Urea fertilizers from

Asia into South Africa were from a low base during the first half of the ten year period (2008-2012) attaining a maximum of 745 813 tons in 2012 while the imports were from a high base during the second half of the ten year period (2013-2017) attaining a peak in 2014 at an import volume of approximately 865 600 tons. Imports from Europe and Africa were very intermittent over the same ten year period under review. There was a 3% increase in import volumes of Urea from Asia into South Africa during 2017 as compared to 2016.

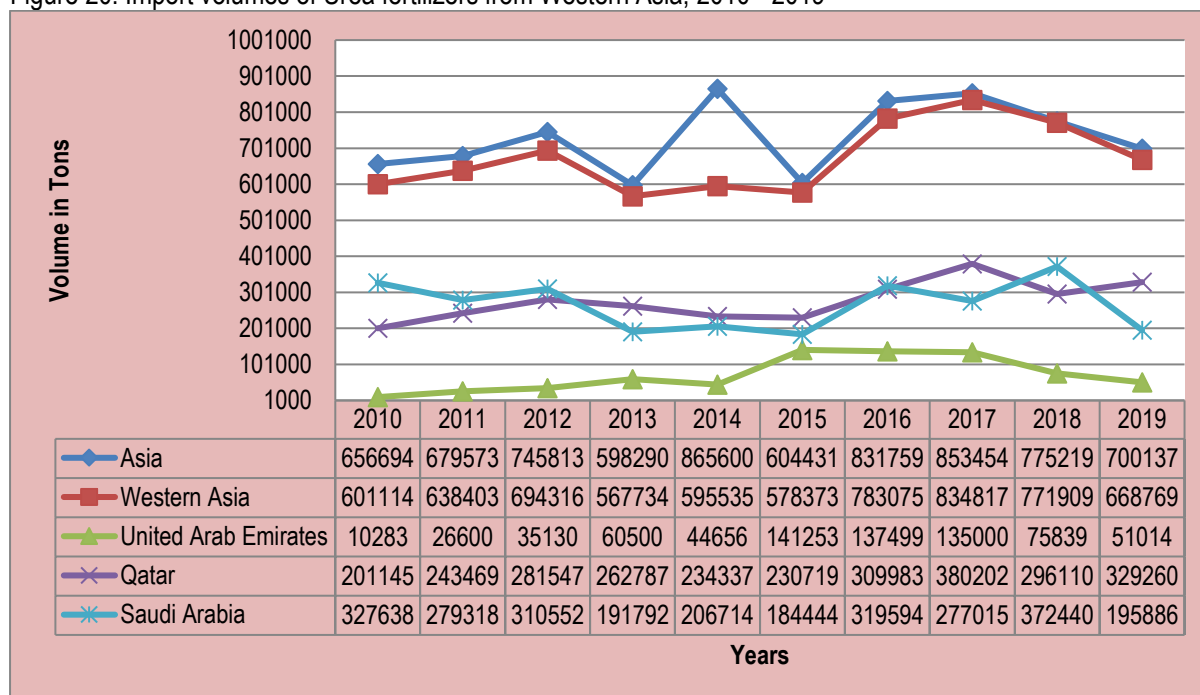
Figure 19: Import volumes of Urea fertilizers from the world, 2010 - 2019



Source: Quantec EasyData

Figure 20 presents import volumes of Urea fertilizers from Western Asia into South Africa during the past decade. Saudi Arabia was the major supplier for Urea fertilizers imported by South Africa, followed by Qatar between 2008 and 2017 marketing season. On average, South Africa imported 263 600 tons of Urea fertilizers from Saudi Arabia over the past ten years. Imports from Saudi Arabia into South Africa attained a peak in 2016 at approximately 319 594 tons. On average, South Africa imported 255 373 tons of Urea fertilizers from Qatar over the past decade. Imports from Qatar into South Africa attained a peak in 2017 at approximately 380202 tons. In 2017, there was a 23% increase in import volume of urea fertilizers into South Africa Qatar and 13% decrease in import volumes of urea fertilizers into South Africa from Saudi Arabia. There was a 2% decline in import volumes of urea fertilizers from United Arab Emirates into South Africa during 2017 as compared to 2016 marketing season.

Figure 20: Import volumes of Urea fertilizers from Western Asia, 2010 - 2019

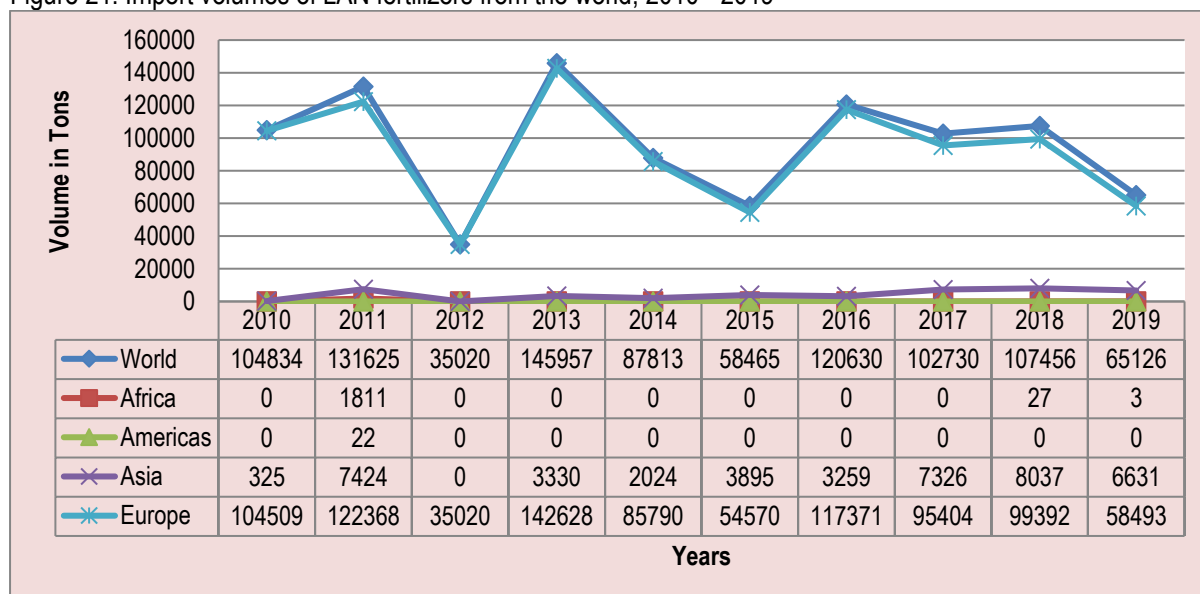


Source: Quantec EasyData

7.2 Limestone Ammonium Nitrate (LAN)

Figure 21 presents import volumes of Limestone Ammonium Nitrate (LAN) fertilizers from the world into South Africa between 2008 and 2017 marketing seasons. The major supplier of LAN fertilizers from the world into South Africa was Europe, followed by minimal import volumes from Asia, Americas and Africa to a lesser extend over the past decade. On average, South Africa imported 93 416 tons of LAN fertilizers from Europe over the past ten years. Imports from Europe into South Africa attained a peak in 2008 and again in 2013 at approximately 151 046 and 146 828 tons respectively. Imports of LAN from Europe to South Africa were unstable during the past decade, Africa only supplied LAN to South Africa once during the past decade in 2011, and Americas are also inconsistent and lesser supplier of LAN to South Africa. In 2015, Imports of LAN from Europe into South Africa increased by more than 100%. In 2017 after a successive one year increase. Within Europe, the major supplier region of LAN is the European Union. Figure 22 below disaggregates the region.

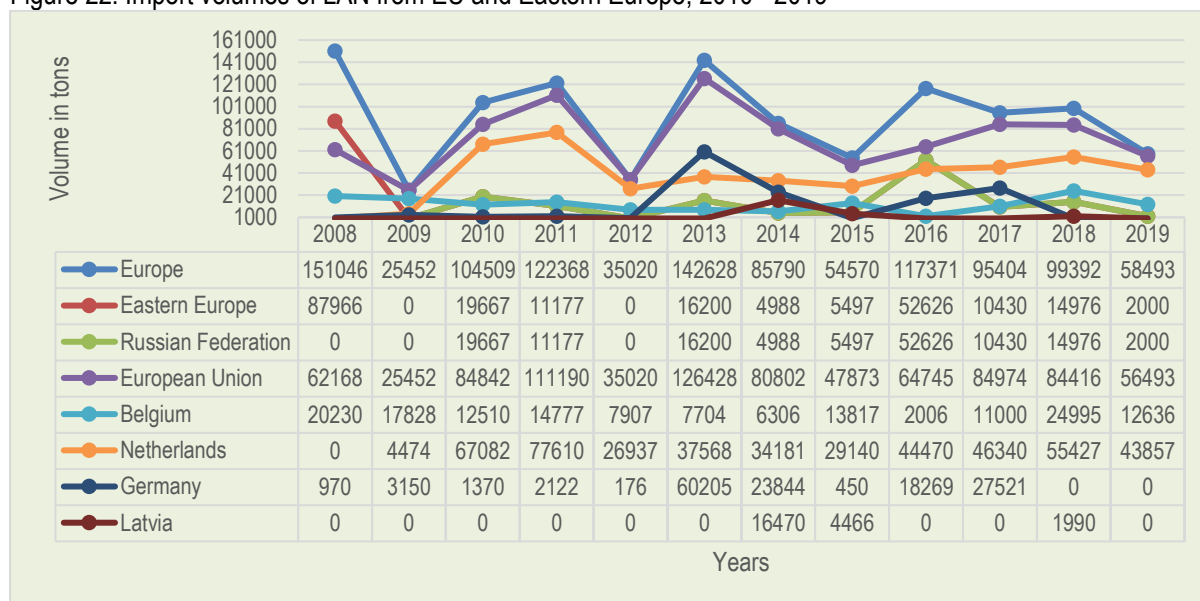
Figure 21: Import volumes of LAN fertilizers from the world, 2010 - 2019



Source: Quantec EasyData

Figure 22 shows import volumes of Limestone Ammonium Nitrate (LAN) fertilizers from the European Union into South Africa over the past ten years. The major supplier of LAN fertilizers from European Union into South Africa was from the Netherlands, Germany and Belgium over the past ten years. In 2017, Netherlands, Germany, Belgium and Spain accounted all (100%) LAN imports to South Africa from the European Union. The Eastern Europe also accounted for 11% of all LAN imports to South Africa. In Eastern Europe, all imports of LAN destined to South Africa came from Russian Federation. On average, South Africa imported 36 780 tons of LAN fertilizers from the Netherlands over the past ten years. Import volumes of LAN fertilizers from the Netherlands into South Africa attained a peak in 2011 at approximately 77 610 tons, while import volumes of LAN fertilizers from Germany attained a peak in 2013 at approximately 60 205 tons and those from Russia peaked in 2016 at 52 626 tons. There was a 4% increase in import volumes of LAN fertilizers from Netherlands into South Africa during 2017 as compared to 2016. Imports from Russia decreased by 98% and Germany increased by 51% in 2017 as compared to 2016.

Figure 22: Import volumes of LAN from EU and Eastern Europe, 2010 - 2019

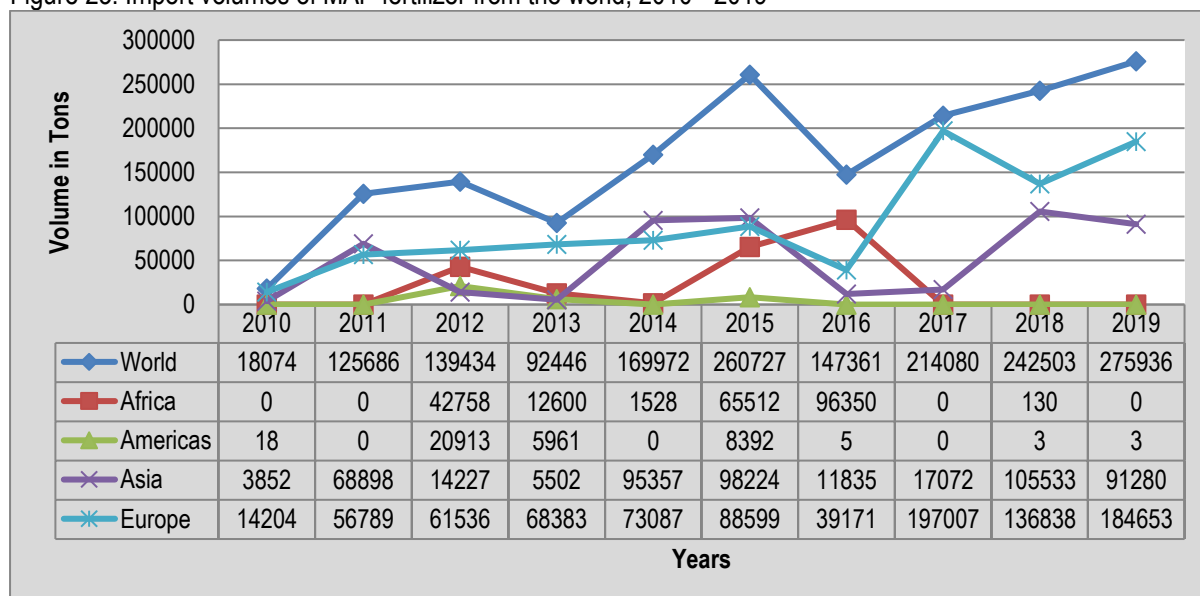


Source: Quantec EasyData

7.3 Mono-Ammonium Phosphate (MAP)

Import volumes of Mono-Ammonium Phosphate (MAP) fertilizers from the world into South Africa are depicted in Figure 23. Most of the import volumes of MAP fertilizers from the world into South Africa during the period under scrutiny were mainly from Europe, followed by Asia and minimal import volumes from Americas and Africa. On average, South Africa imported 62 869 tons of MAP fertilizers from Europe over the past decade. Imports from Europe into South Africa attained a peak in 2017 at approximately 197 007 tons, while imports from Asia into South Africa attained a peak also in 2015 at approximately 98 224 tons. There was 402% increase in export volumes of MAP fertilizers from Europe into South Africa during 2017 as compared to 2016.

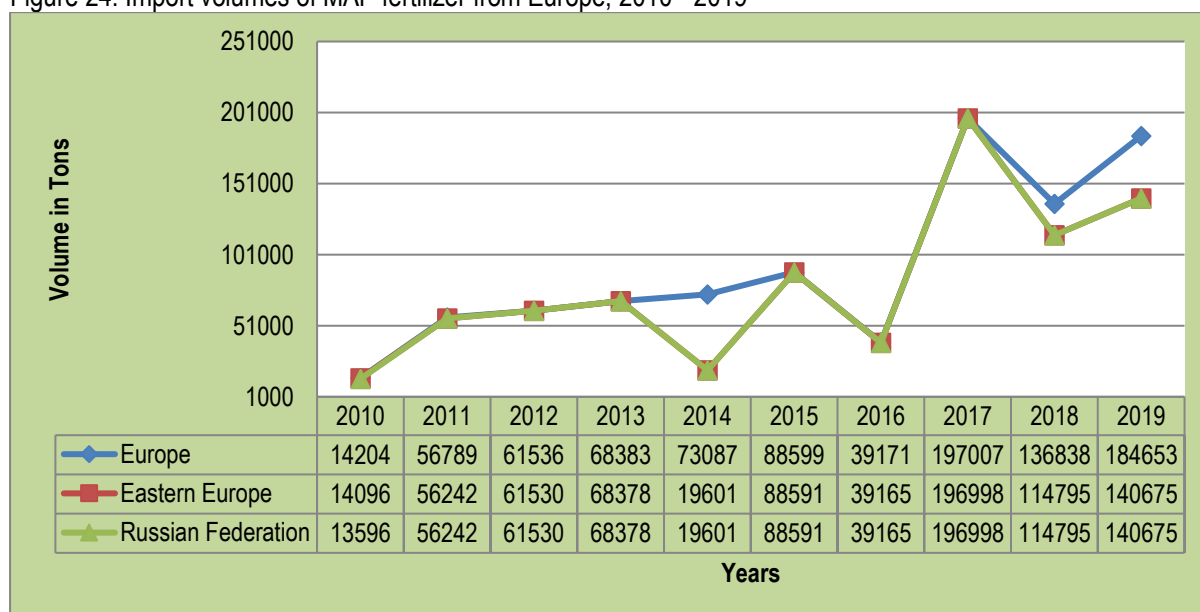
Figure 23: Import volumes of MAP fertilizer from the world, 2010 - 2019



Source: Quantec EasyData

Figure 24 illustrates import volumes of Mono-Ammonium Phosphate (MAP) fertilizers from European regions and its member states into South Africa over the past ten years.

Figure 24: Import volumes of MAP fertilizer from Europe, 2010 - 2019



Source: Quantec EasyData

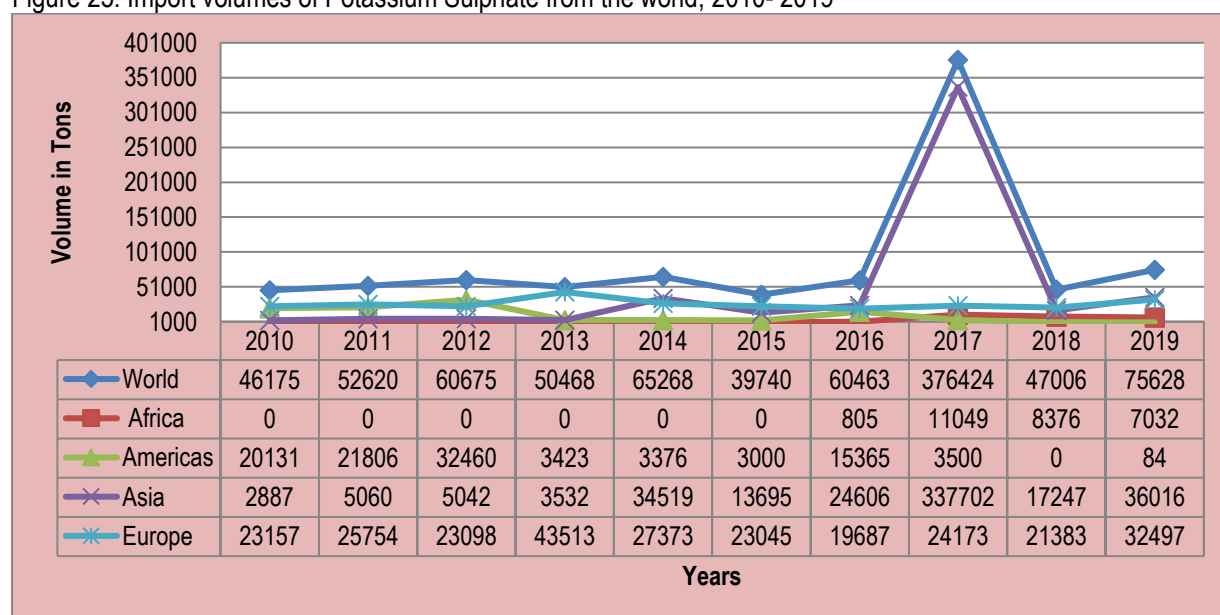
As it can be seen from the figure above (Figure 21), all imports of MAP fertilizers originates from Eastern Europe in particular the Russian Federation.. Between 2008 and 2009, European Union, in particular Netherlands, Belgium and France were one of the major suppliers of MAP fertilizers into South Africa. With the exception 2009, Russia has been the major supplier. On average, South Africa imported 54 746 tons of MAP fertilizers from Russian Federation over the past decade. Imports from Russian Federation

into South Africa were from a high base during the second half of the ten year period (2013-2017) under review attaining a peak in 2017 at approximately 196 998 tons. Between 2008 and 2009, import volumes of MAP fertilizers from the Russian Federation into South Africa were low and not more than 30 000 tons per annum. There was a 403% increase in import volumes of MAP fertilizers from the Russian Federation into South Africa during 2017 as compared to 2016.

7.4 Potassium Sulphate

Import volumes of potassium sulphate from the world into South Africa over the past ten years are shown in Figure 25. The major supplier of potassium sulphate fertilizers from the world into South Africa was Europe, followed by the Americas and Asia over the same period under examination. Americas surpassed Europe as the leading supplier of South African Potassium Sulphate on two occasions that is in 2009 and 2012 while Asia claimed the top spot in 2014, 2016 and 2017. On average, South Africa imported 24 602 tons of potassium sulphate fertilizers from Europe over the past ten years. Imports from Europe into South Africa attained a peak in 2013 at approximately 43 513 tons, while imports from the Americas into South Africa attained a peak in 2012 at approximately 32 460 tons. Imports from Asia into South Africa attained a peak in 2017 at approximately 337 702 tons. It is also clear from Figure 25 that there was a 23% decline in import volumes of potassium sulphate from Europe into South Africa during 2017 as compared to 2016 and also those from Americas decreased by 77% and Asia increased by 1272% during the same period.

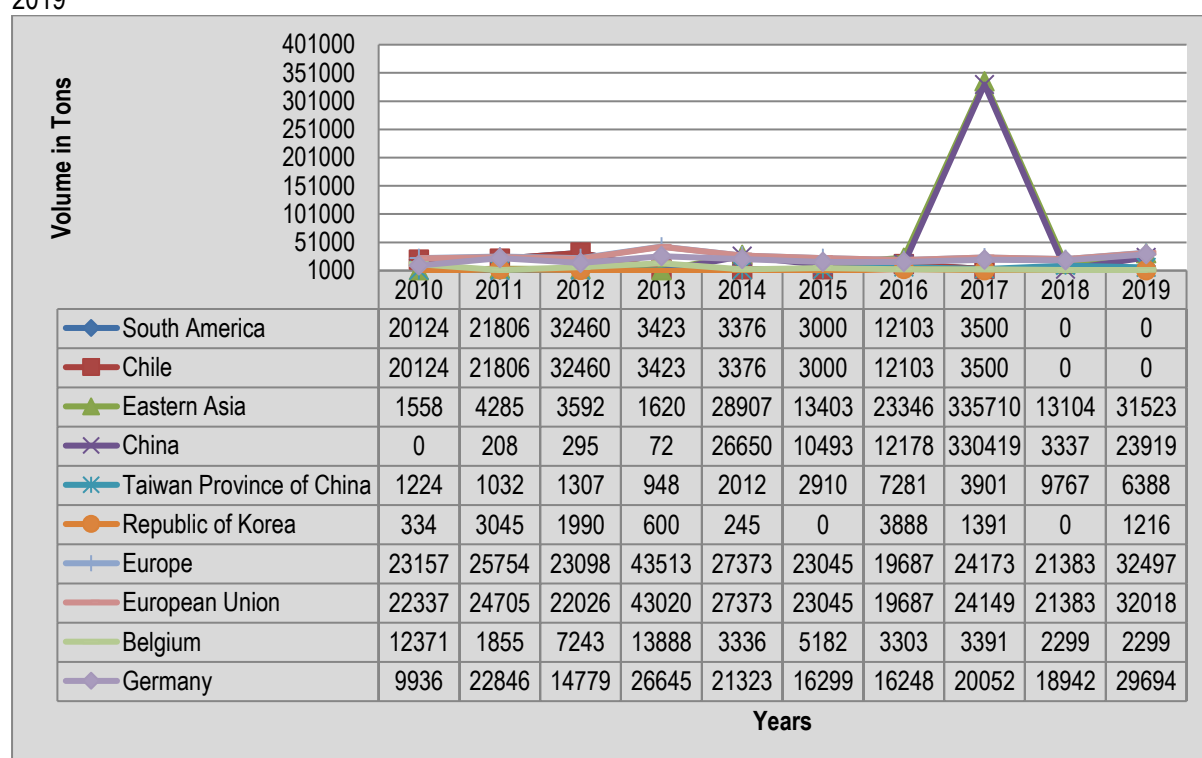
Figure 25: Import volumes of Potassium Sulphate from the world, 2010- 2019



Source: Quantec EasyData

Import volumes of potassium sulphate from European Union, South America and Eastern Asia into South Africa over the past decade are illustrated in Figure 26. Most of potassium sulphate fertilizer imports from the European Union into South Africa were from Germany, followed by Belgium over the past ten year period under review. Other dominant suppliers over the period under review was Eastern Asia and South America regions. In the Eastern Asia, China, Taiwan and Republic of Korea have been dominant counties that supplied South Africa with potassium sulphate fertilizer. In 2017, according to ranks, China was the top supplier followed by Germany and Taiwan. On average, South Africa imported 38 043 tons of potassium sulphate fertilizers from China over the past decade. Imports from China into South Africa attained a peak in 2017 at approximately 330 419 tons, while imports from Germany into South Africa attained a peak in 2008 at approximately 30 339 tons. There was a more than hundred percent increase in import volumes of potassium sulphate fertilizers from China into South Africa during 2017 as compared to 2016 while those from Germany increased by 23% and Taiwan decreased by 46%.

Figure 26: Import volumes of Potassium Sulphate from EU, South America and Eastern Asia countries, 2010 - 2019

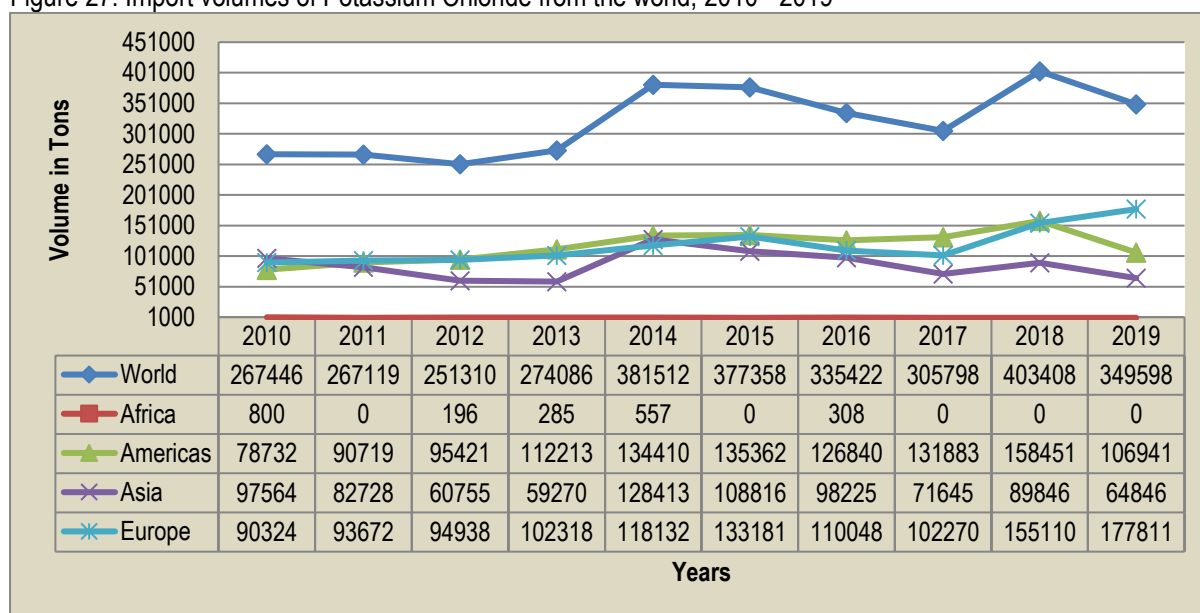


Source: Quantec EasyData

7.5 Potassium Chloride

Import volumes of potassium chloride from the world into South Africa during the past ten years are depicted in Figure 27.

Figure 27: Import volumes of Potassium Chloride from the world, 2010 - 2019



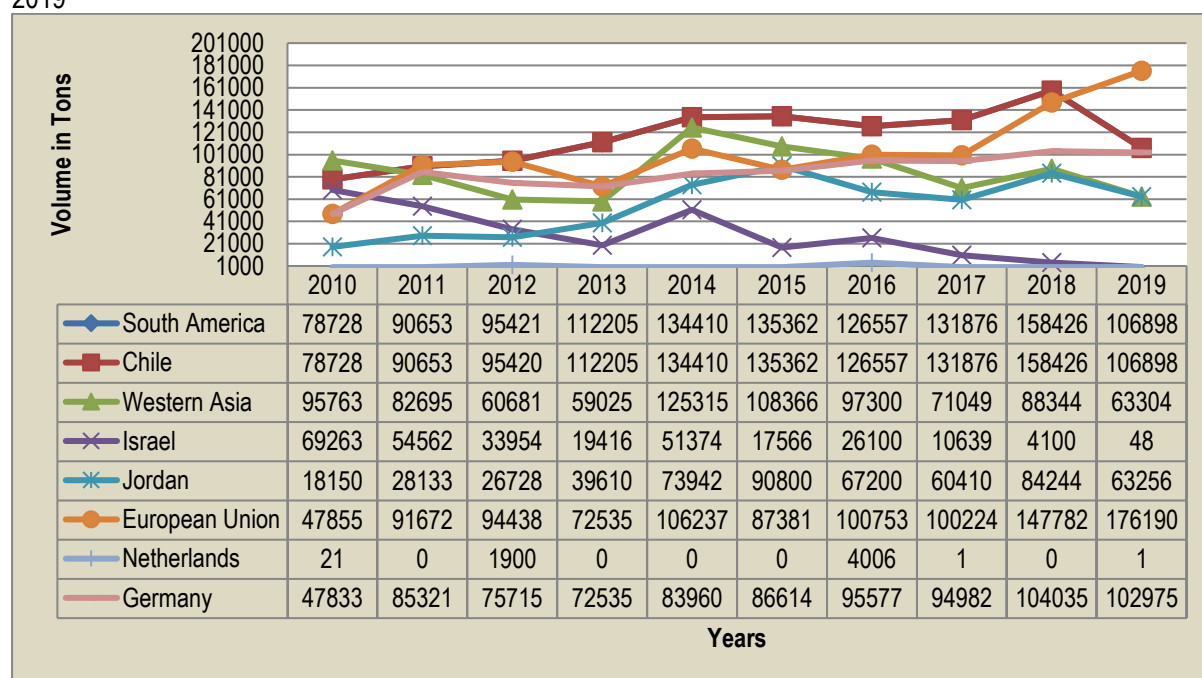
Source: Quantec EasyData

The major supplier for potassium chloride fertilizers from the world into South Africa in the past ten years was Europe, followed by Asia, Americas and minimal import volumes from Africa. On average, South Africa imported 105 603 tons of potassium chloride fertilizers from Europe between 2008 and 2017 marketing seasons. Import volumes of potassium chloride from Europe into South Africa have been fairly stable, averaging 105 603 and attaining a peak in 2008 at approximately 150 728 tons. Imports from Asia into South Africa attained a peak in 2014 at approximately 128 428 tons. There was a 7% decrease in import volumes of potassium chloride from Europe into South Africa during 2017 as compared to 2016.

Figure 28 presents import volumes of potassium chloride fertilizers from the European Union, South America and Western Asia into South Africa over the past ten years. The three regions have been the top exports of potassium chloride to South Africa of the past decade. Most of the potassium chloride fertilizers from the European Union into South Africa were mainly from Germany, followed by very minimal imports from Netherlands over the same period under scrutiny while those from South Africa have been coming solely from Chile. In the Western Asian region, Israel and Jordan have been the main suppliers of potassium chloride fertilizer into South Africa. On average, South Africa imported 97 905 tons, 80 541 tons and 38 421 tons of potassium chloride fertilizers from Chile, Germany and Israel respectively between 2008 and 2017 marketing seasons. Imports from Chile and Jordan into South Africa were from a high base during the second half of the ten year period (2013-2017) under review both attaining a peaks in 2015 at approximately 135 362 tons and 90 800 tons respectively. There was a 4% increase in import

volumes of potassium chloride fertilizers from Chile and 10% increase in import volumes of potassium chloride fertilizers from Jordan in 2017. Imports from Germany and Israel decreased by 1% and 59% respectively during the same period.

Figure 28: Import volumes of Potassium Chloride from South America, EU and Western Asia countries, 2010 - 2019

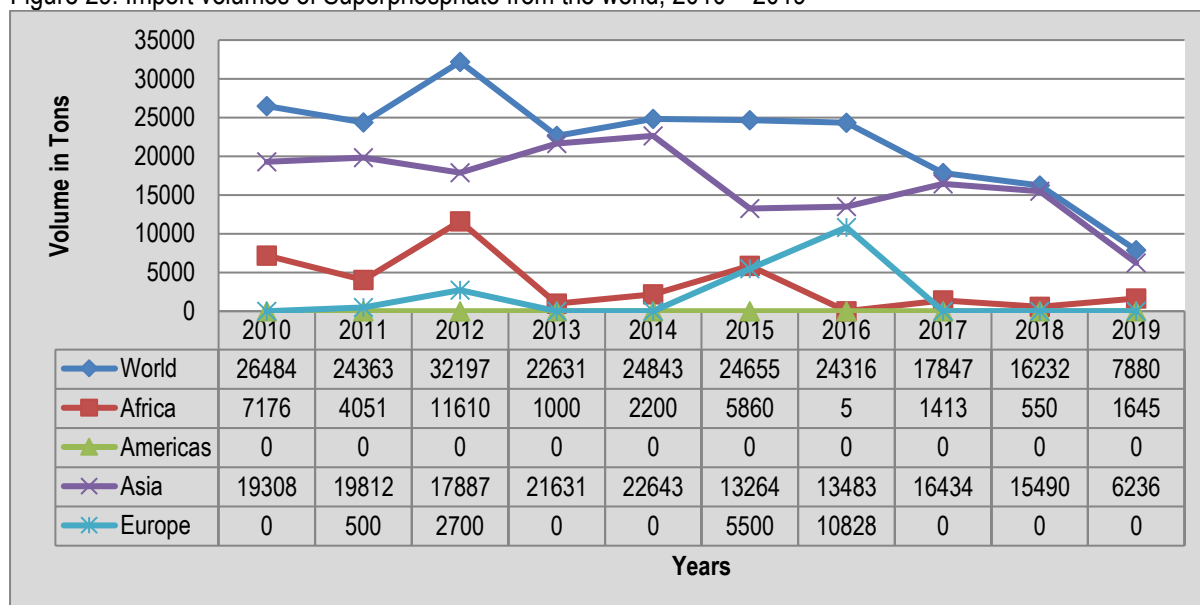


Source: Quantec EasyData

7.6 Superphosphate

Figure 29 presents import volumes of superphosphate fertilizers from the world into South Africa over the past decade. The major supplying market for superphosphate fertilizers from the world into South Africa was Asia, followed by very minimal imports from Africa and Europe over the same period under review. On average, South Africa imported 21 223 tons of superphosphate fertilizers from Asia between 2008 and 2017 marketing seasons. Imports from Asia into South Africa attained a peak in 2008 at approximately 58 698 tons. There were no imports of superphosphate fertilizers from Africa into South Africa in 2009 while Europe did not register any exports to South Africa in 2009, 2010, 2013 and 2014. Imports from Asia have been fairly stable between 2009 and 2017. In 2017, import volumes of superphosphate fertilizers from Asia into South Africa increased by 22% as compared to 2016.

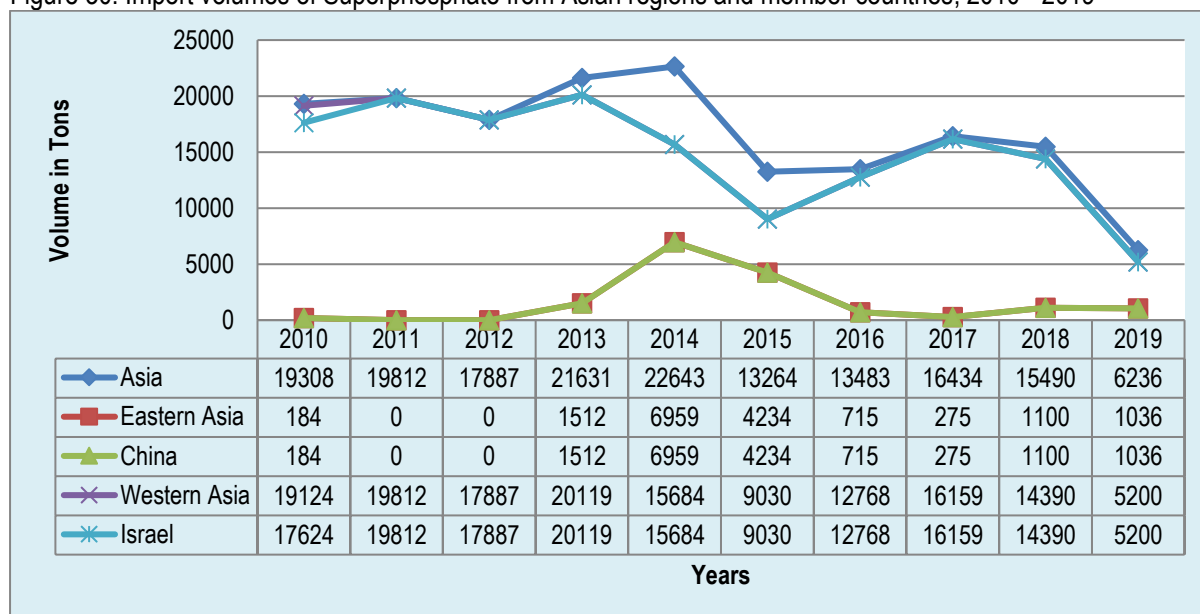
Figure 29: Import volumes of Superphosphate from the world, 2010 – 2019



Source: Quantec EasyData

Import volumes of superphosphate fertilizers from Western and Eastern Asia into South Africa during the past ten years are indicated in Figure 30. The major supplying market for superphosphate fertilizers from Western Asia into South Africa was Israel and China in the Eastern Asian region. On average, South Africa imported 18 724 tons of superphosphate fertilizers from Israel between 2008 and 2017. Imports from Israel into South Africa attained a peak in 2008 at approximately 51 948 tons. During the second half of the ten year period (2013-2017), imports from Israel into South Africa were stable, averaging 14 752 tons. There was a 27% increase in import volumes of superphosphate fertilizers from Israel into South Africa during 2017 as compared to 2016.

Figure 30: Import volumes of Superphosphate from Asian regions and member countries, 2010 - 2019



Source: Quantec EasyData

8. SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats)

Strengths

- Financial leverage – ability for farmers to use debt to expand business and increase profits;
- Customer loyalty- customers are loyal to manufacturer/blender according to additional service provided;
- Customer services manufacturers/blenders often supply technical assistance;
- Brand name- consumers place value in the brand name.

Opportunities

- Online market- online markets offers the industry to expand by reaching much broader audience;
- Innovation – space remains for innovations to produce unique products or service that meet customer needs;
- Loosening regulations- South Africa 's fertilizer industry operates in a free market;
- New markets- a great opportunity are the African countries and exports to India, Japan and Columbia.; and

Weaknesses

- High debt burden – A total growth in total farm debt;
- Out-dated technology- South Africa's infrastructure that is used to produce primary fertiliser materials is very old and very expensive to replace;
- Weak supply chain - a highly concentrated fertiliser supply chain;

Threats

- Volatile currency- price differences are also caused by factors such as the volatile exchange rate;
- Natural factors -Seasonal variations are caused by regional droughts and short term fluctuations in the financial position of the farm sector;
- Intense competition- The South African fertilizer market face stiff competition from overseas countries;
- Volatile revenue - fertilizer is a vitally important determinant of the profitability; and
- Political risk- policy uncertainty and political will to invest fertilizer exploration and capacity expansion programmes.

9. ROLE PLAYERS IN THE FERTILIZER INDUSTRY

Table 4: Key Stakeholders

Fertilizer industries	Type of fertilizers	Physical Address	Postal Address	Telephone number	Email address
8.1 Kynoch	Liquid, Granular and water soluble fertilizers	Ross street Johannesburg 2125 South Africa		011 317 2000	info@kynoch.co.za
8.2 Sasol	Granular and Liquid fertilizers	1 Sturdee Avenue Rosebank Johannesburg(SA) 2196	P.O Box 5486 Johannesburg(SA) 2000	011 441 3111	
8.3 Omnia (Nutriology- Nutrilogie)	Liquid, Granular and specialty fertilizers	Omonia house Epsom Downs office park 13 Sloane st Bryanston	P.O .Box 69888 Bryanston 2021	011 709 8888	Fertilizer@omnia.co.za
8.4 Profert	Granular and Liquid fertilizers	43 Ross street Potchefstroom North West (SA) 2531		018 293 3530	info@profert.co.za
8.5 TRIOMF	Granular, Liquid and Specialty fertilizers	TRIOMF road Potchefstroom 2531 North West (SA)	P.O Box 505 Potchefstroom 2520	086 187 4663/ 018 285 1291	info@triomfsa.co.za

Fertilizer industries	Type of fertilizers	Physical Address	Postal Address	Telephone number	Email address
8.6 Nutri-flo	Granular and Liquid fertilizers		P.O Box 242 Umhlali 4390	032 947 0211	info@nutriflo.co.za
8.7 Greenlands		2 Michelin street, N.W 7 Vanderbijlpark 1911	P.O Box 6852 Vanderbijlpark 1900	016 986 0130	info@greenlands-kunsmis.co.za
8.9 Nitrophoska (PTY) Ltd	Liquid, Granular and other fertilizers	Showgrown, George 6529, SA Western Cape	P.O Box 1138 George 6530	044 873 6221/ 044 873 6261	
8.10 Jara	Liquid and Granular fertilizers	5167 Russel street George 6529 SA Western Cape		044 514 3185	

10. ACKNOWLEDGEMENTS

The following organizations are acknowledged:

9.1 Quantec Easy Data

www.easydata.co.za

9.2 Grain SA

www.grainsa.co.za

9.3 Fertilizer Association of Southern Africa (FERTASA)

www.fertasa.co.za

9.4 Statistical and Economic Analysis, DAFF

www.daff.gov.za