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# The Economic Contribution of the South African Blueberry Industry

July 2019

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This report was compiled by the Division for Macro & Resource Economics of the Western Cape Department of Agriculture in collaboration with the South African Berry Producers' Association (SABPA)

Contributors: Louw Pienaar; Mzwanele Lingani; Philip Swart

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## EXECUTIVE SUMMARY

The South African blueberry industry is one of the fastest growing horticultural industries in South Africa, both in terms of hectares planted and gross value of production. In line with several policy documents that suggest that high-value, labour-intensive and exported crops should be targeted for growth, this industry is particularly well-positioned to drive inclusive development and has created more than 4 000 jobs in the past five years. In this report, the economic contribution of the blueberry industry was estimated and shows that for every hectare under production, blueberry growers employs an average of 2.64 workers on farms, whilst another 0.22 jobs per hectare is created for those packing the fruits and those supervising or managing teams. In terms of generating export earnings, the industry has managed to grow its export base from 634 tons in 2008 to more than 8 000 tons in 2018. In value terms, this translates into exports to the world growing from R133 million in 2013 to R1.058 billion in 2018; an annual growth rate of 51% in this period.

Blueberries are not only very profitable from an investment point of view, but it also contributes to the economy through its linkages with upstream and downstream industries. In 2018, inputs used by the industry was valued at R570 million, whilst direct investment in newly established orchards in the past year adding another R421 million in the form of direct investment. With an increasing world demand for this “super fruit” which is high in anti-oxidants, the growth of South Africa's berry industry is set to also boost job creation and growth for input sectors.

Since around 70% of all blueberries grown in South Africa get exported, the industry's future growth is dependent on having access to markets, in particular China and South Korea. Despite the limited access to these two markets compared to the industry's major Southern Hemisphere competitors such as Peru and Chile, the South African blueberry industry has managed to diversify its export market basket of countries with increases in the number of destinations over time, whilst a smaller share of the total exports have gone to the United Kingdom, whilst still growing in absolute terms. The findings in this report suggest that the berry industry, and particularly blueberries as the leader, should be prioritised for market access to further extend its economic and socio-economic contribution to the South African economy.

## **1. Introduction**

The South African blueberry industry is one of the fastest growing agricultural industries in the country, creating economic opportunities and jobs. This report sets out to quantify the economic and socio-economic contribution of South Africa's berry industry, with specific emphasis on blueberries. In recent years, various studies have highlighted the opportunities that exist for this industry to expand production, create new jobs and investment, and to increase export revenue in support of the economy (Troskie, 2014; FAS-USDA, 2017; Pienaar, 2018). The National Development Plan (NDP), alongside several other policy plans, has earmarked the agricultural sector to drive development, based on a strategy to expand high-value, labour-intensive, export-focussed crops (NGP, 2011; NPC, 2011; IGDP, 2012; APAP, 2015).

Understanding the blueberry industry's potential contribution to this mandate requires a clear and detailed analysis of its overall economic contribution. Current statistics from the National Department of Agriculture's production accounts does not accurately reflect current industry trends, the structure of the industry nor have statistics that characterise this industry and its contribution towards development.

This report then sets out to quantify the overall contribution of the blueberry industry towards South Africa's economy. This is done by analysing the current performance with regards to production, employment, exports, value chain linkages and investment. Once this is assessed, the overall economic impact of the blueberry industry is given to provide agricultural stakeholders, potential investors and policy makers with the necessary information to support future decision making. This comes at a time when the country is in desperate need of economic growth and job creation to stimulate development, especially in rural areas.

The information that follows in this report is based on various sources available from the South African Berry Producers' Association (SABPA), as well as some additional secondary sources. However, the bulk of the analysis provided here is informed by semi-structured interviews conducted between January and March 2019. The research team visited a number of farms to collect detailed accounts of production, employment and marketing, alongside interviews with agribusinesses participating in the market value chain. Finally, some key challenges faced by the industry will also be discussed, of which market access and chemical registrations are at the top of the list. This is followed by some concluding remarks.

## **2. The South Africa Blueberry Industry**

Within the family of different berries grown in South Africa, blueberry production is the biggest by a significant margin, taking up around 74% of the total area planted under berries. With blueberries being rich in antioxidants and thus marketed as a

“super fruit”, these soft-skinned fruits are becoming increasingly popular and world demand in the form of global imports is growing at around 12% per annum since 2013 (ITC, 2019). The health benefits associated with blueberries and its increased use in processed food products such as juices and deserts as well as in the baking industry are driving increased consumption of South African blueberries both local and abroad.

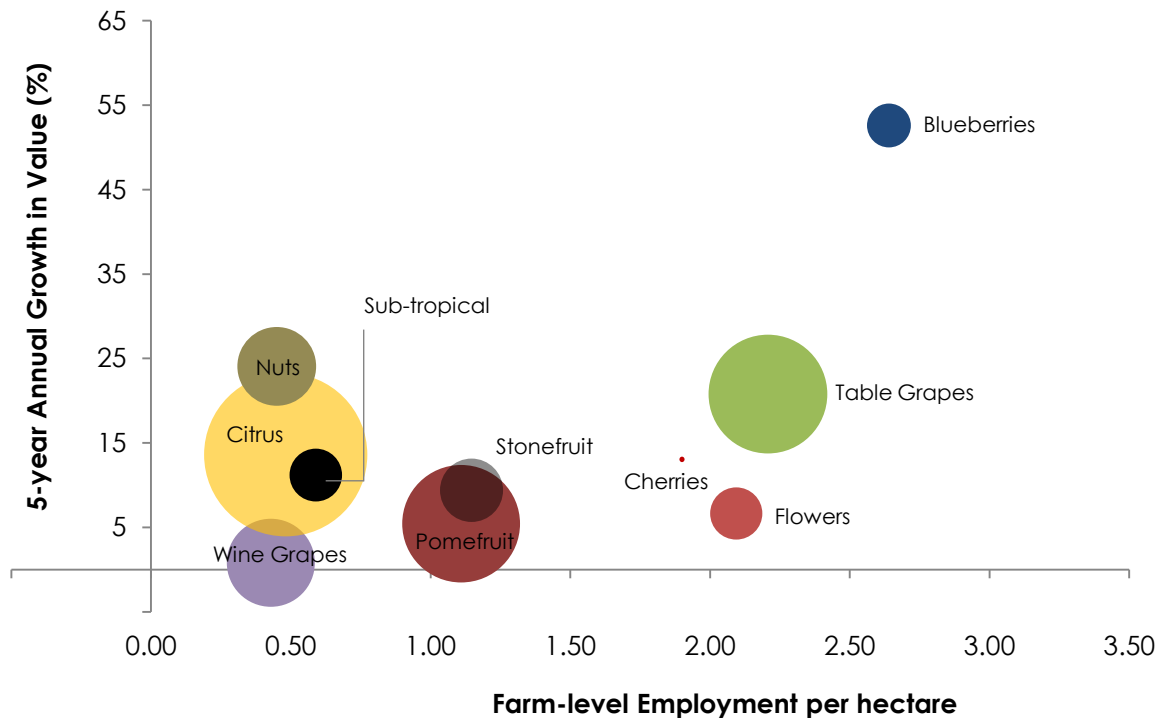
The South African blueberry industry started in Mpumalanga's Lydenburg district during the 1970's, and by 1987 blueberry cultivation reached the Western Cape. The first recorded batch of blueberries exported from South Africa was in 1992 which was valued at R9 780 and shipped to Zambia. By 2001 this value reached R5 million, and in the past year, blueberry exports moved past the one billion Rand mark for the first time (Quantec, 2019). New orchards are still being established across the country, especially in regions where early-season frost damage is unlikely. Profitability in the export driven South African blueberry industry is dependent on early spring harvests, the introduction of new cultivars and expertise are driving productivity and competitiveness.

Blueberry production, measured in Rand value terms, made up around 1.5% of the total value of horticultural production in South Africa in 2018 (DAFF, 2018). Though a relatively small industry, its contribution to economic growth and job creation in the past decade has been unlike any other agricultural industry. To put this in perspective, Figure 1 reveals multiple attributes amongst the leading horticultural crops grown in the country with regards to their relative size in gross value of production (size of the bubble), their five year annual growth in value from 2013 to 2018 (y-axis) and the employment potential in the form of the amount of jobs needed per hectare planted (x-axis).

Starting with employment, each hectare of blueberries planted results in the direct employment of 2.64 fulltime equivalent workers, on average. This is the highest employment intensity amongst the major fruits grown in South Africa. As expected, other industries with high employment potential were table grapes (2.2), flowers (2.1) and cherries (1.9), whilst pome (apples & pears) and stone fruit (apricots, plums, prunes, peaches & nectarines) created 1.1 jobs per hectare planted. At the lower end of the spectrum, crops such as nuts, sub-tropical fruit and citrus have employment multipliers of around 0.5. Wine grapes had the lowest employment multiplier, only adding 0.4 jobs per hectare since around 58% of all these grapes are mechanically harvested (Vinpro, 2019).

In terms of economic growth, the blueberry industry has significantly outperformed other fruit industries by growing its gross value of production from an estimated value of R15.8 million in 2008 to R1.25 billion in 2018 (WCDoA, 2019). This growth, and in particular that of the past four years, has seen the industry's value double every

season as many of the newly established orchards are coming into production. Other good performers over the same period were table grapes and nuts, expanding in value by 24% and 21% respectively per annum. Pome and stone fruit had moderate growth over this period with 6% per annum, whilst the wine grape industry came under severe pressure lately with annual growth of 0.8% (DAFF, 2018).



**Figure 1: Comparison of growth and jobs in crop industries**

Source: Own Compilation from DAFF, 2018; FruitSA, 2019, WCDoA, 2019

Finally, the size of the bubbles indicates that citrus, table grapes and pome fruit were the biggest industries in value terms in 2018. These industries remain important contributors to the agricultural economy. The next section will provide the details of the main drivers behind the growth in the blueberry industry and the contribution to the economy.

### 3. Economic Contribution of the Industry

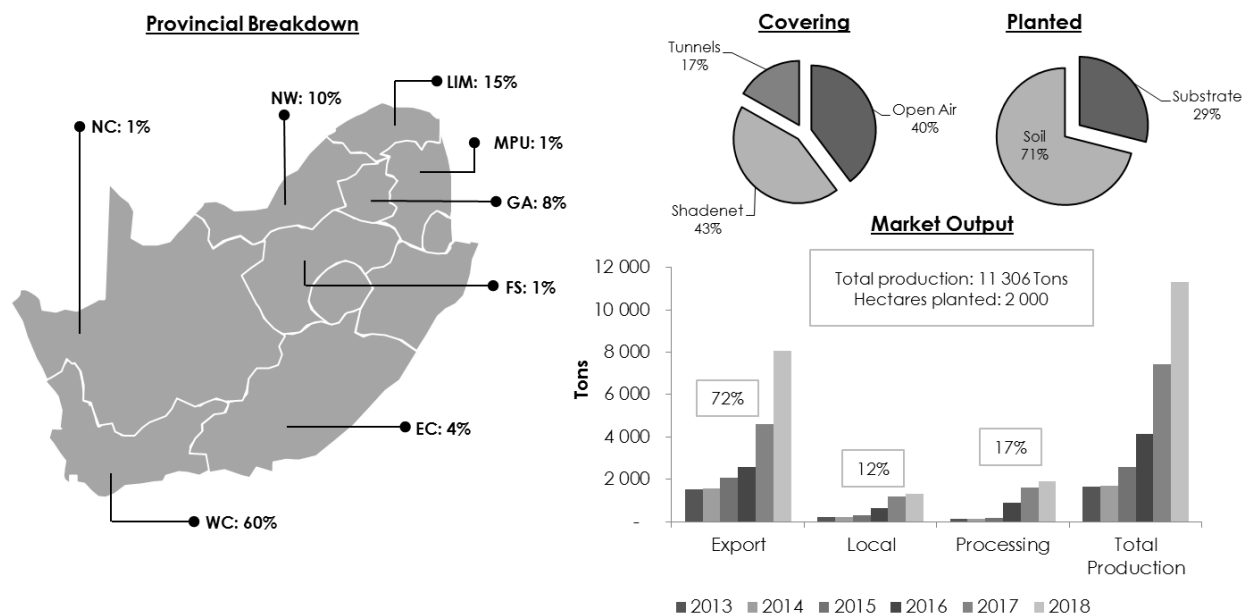
#### Production

Blueberry production is particularly labour and capital intensive. South Africa is well-positioned to supply fresh blueberries to the market during the counter season of traditional blueberry producing countries situated in the Northern Hemisphere. The local harvesting season generally starts from mid-September with peak exports occurring from October through to November. Blueberries belongs to the

*Vacciniaceae* specie of which three dominate the commercial production landscape namely rabbiteye, northern and southern highbush (Swart, 2015). In South Africa varieties originating from North America have been introduced successfully, with a number of other coming from other regions such as Australia and New Zealand established in recent years.

To get a sense of how quickly blueberry production has increased in South Africa, Figure 2 shows the most recent information provided by the SABPA (2019). The industry had around 2 000 established hectares across various provinces in 2018 which delivered an estimated crop of 11 306 tons. It should be noted that a significant proportion of these orchards are set to come into production in the next two to three years and new hectares are still being established. The Western Cape has the largest share of blueberry hectares with 60%, followed by Limpopo (15%), North West (10%) and Gauteng (8%).

In Figure, the production of blueberries harvested since 2013 is also further broken down into the various market segments. On average, around 70% of all blueberries are destined for exports markets, whilst 13% goes to the local fresh market. Processing of berries for various uses such as Individually Quick Frozen (IQF), juices & juice concentrates, dairy and confectionary make up another 17% (FAS-USDA, 2017). Total production of blueberries in South Africa more than doubled from 2016, growing from around 4 100 tons to 11 306 tons. Export performance has shown a similar trend.



**Figure 2: South African blueberry production**

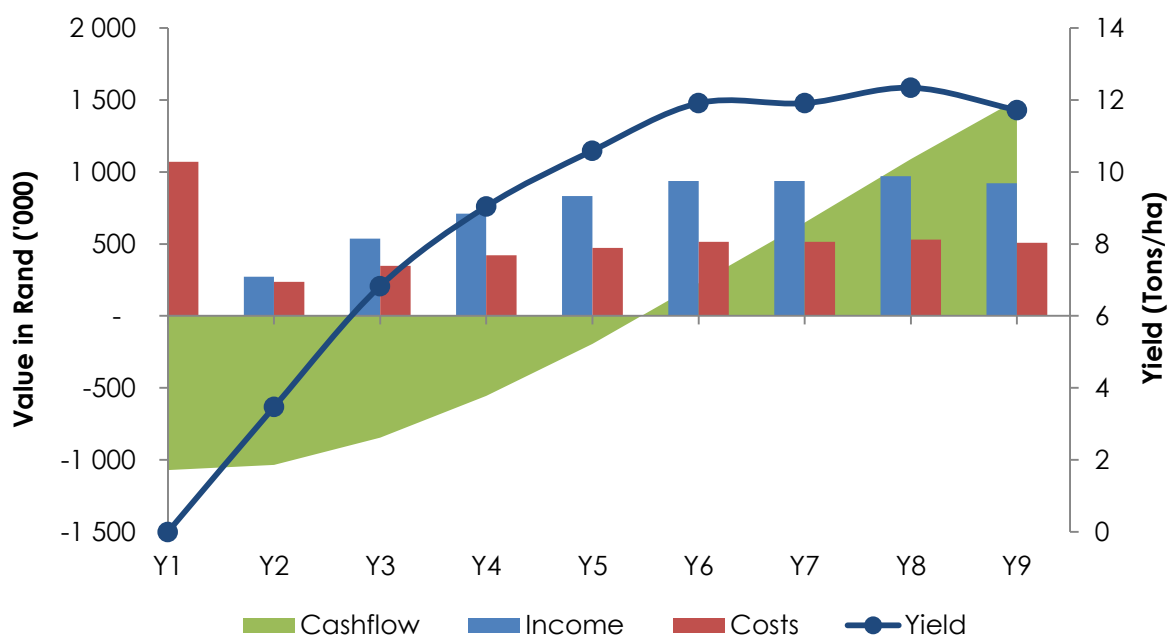
Source: Own Compilation from SABPA 2017; WCDoA 2019

The majority of blueberry orchards are planted under shade netting structures (43%) or in the open air (40%), compared to the 17% that are under plastic cover. This percentage is set to change as there is a strong drive towards planting berries under nets and plastic cover in order to ensure high quality fresh products with improved management of water, pests and diseases and to protect orchards from sunburn, wind, hail and birds.

Critical factors that influence productivity in blueberry cultivation include water quality, climate, well-drained and semi-acidic soils. Many growers that do not have access to these soils often plant their blueberries in bags or containers with substrate mixes of any of the following materials: pine bark, sand, cocopeat (coir) and perlite.

Farm-level profitability amongst blueberry growers vary considerably based on cultivar selection, management practices, selection of covering (plastic, shade-net or open-air), plant density and whether or not planted in the ground or in substrates. In general, the industry norm for yields are around 10 tons per hectare over the 8-year production cycle of the orchard, although newer varieties are showing signs of producing higher yields earlier in the lifecycle of the plants.

Figure 3 provides a gross margin analysis of a typical blueberry orchard planted in substrate and under shade netting. Establishment in year 1 will incur costs of around R1.07 million, whilst the price was assumed to be fixed at R80 per kg at the farm gate, delivered in bulk for further packing.



**Figure 3: Gross margin for a hectare of blueberry production**

Source: Own Compilation from WCDa 2019

On average and throughout the 8-year cycle, one hectare of blueberries yielded around 10 tons annually which translates into a gross annual income of R800 000,



produced at a cost of R443 000 per hectare. The expected net annual income or gross margin is therefore R357 000 per hectare (WCDōA, 2019). Important to note from the analysis in Figure 3 is that provision still needs to be made for interest on fixed capital and other fixed costs that cannot be directly allocated to the specific orchard. Table 1 provides the sensitivity analysis of the same blueberry enterprise and details how the gross margin changes with different price and yield scenarios. Blueberry profitability increases to around R837 000 per hectare if a yield of 16 tons per hectare is realised. Those able to deliver a larger proportion of their crop for fresh sales can also realise prices of around R88 per kg. In this case, the annual gross margin for the average yield will be around R436 000 per hectare. Combining both high prices and yields, top performing orchards have the potential to realise R964 950 per hectare per annum. The breakeven yield is also indicated in Table 1 and hovers between 5 to 6 tons per hectare, depending on prices. Overall cash flow turns net positive after 4 years, as was indicated in Figure 3.

**Table 1: Sensitivity analysis of blueberry gross margin per hectare**

Yield (Tons/ha)	Price (R/Kg)				
	Less 10%	Less 5%	Actual	Add 5%	Add 10%
	<b>R72</b>	<b>R 76</b>	<b>R 80</b>	<b>R 84</b>	<b>R 88</b>
6	R-11 050	R12 950	R36 950	R60 950	R84 950
8	R132 950	R164 950	R196 950	R228 950	R260 950
10	R276 950	R316 950	<b>R356 950</b>	R396 950	R436 950
12	R420 950	R468 950	R516 950	R564 950	R612 950
14	R564 950	R620 950	R676 950	R732 950	R788 950
16	R708 950	R772 950	R836 950	R900 950	R964 950
Breakeven Yield	6.2	5.8	5.5	5.3	5.0

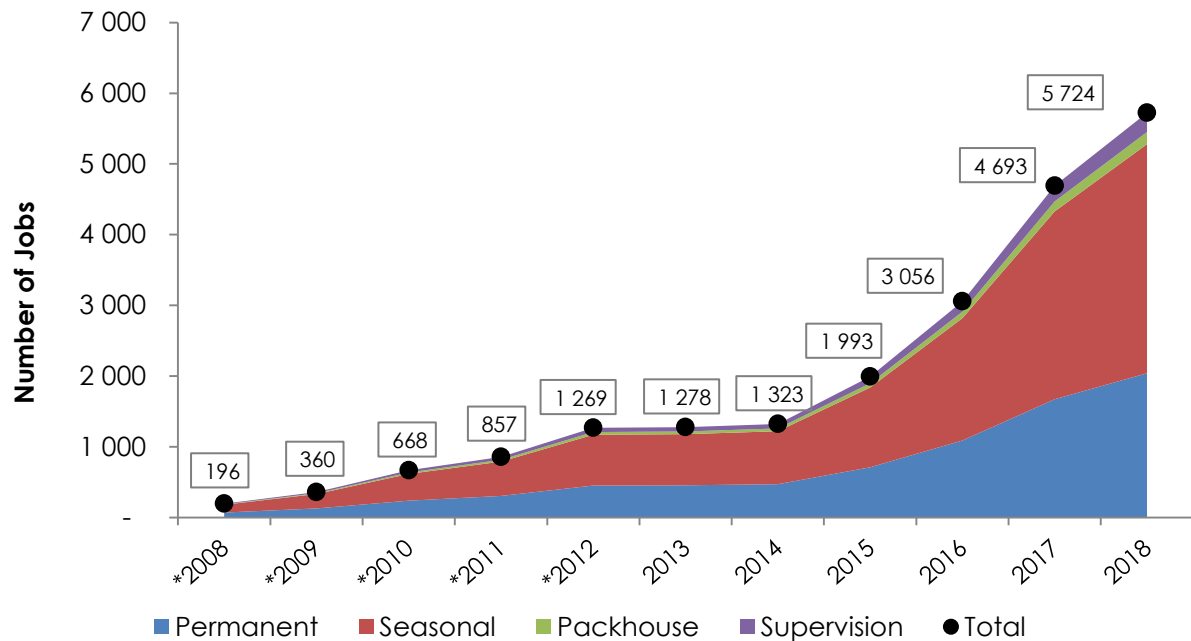
Source: Own Compilation from WCDōA 2019

### **Employment**

With the exceptional growth of the industry, one of the main contributions, apart from creating income to agribusinesses is the impact employment and livelihoods. Combining the growth in hectares with the employment requirements associated with this growth, Figure 4 shows the estimated job creation for the industry over the past decade. These employment numbers were carefully calculated based on the average amount of labour requirements on a typical blueberry enterprise, subdividing labour into various activities and measured in full-time equivalents over a year of 220 working days.

The strong increase in area planted and the volumes harvested have resulted in the industry employing around 5 700 workers full-time in 2018. The number of workers employed in the industry prior to 2014 was around 800 – 1000, which suggest that the industry has created more than 4 000 jobs at farm level in the past five years. Each hectare of blueberries under production equates to 1.02 permanent workers, 1.62

seasonal pickers, 0.09 workers in farm pack houses and 0.14 supervisors or production managers (WCDoA, 2019).



**Figure 4: Employment estimates for blueberries, 2008 to 2018**

Source: Own Compilation from WCDoA 2019

Based on the detailed information on labour requirements, Table 2 sets out to compare average hourly wage rates of farmworkers employed on blueberry farms. These rates are also compared to the average amongst South Africa's farmworkers more broadly and horticultural farmworkers more specifically (StatsSA, 2017). According to the farmworker minimum wage determination as set out by the Minister of Labour each year, farmworkers' minimum hourly wage was set at R15.39 from 1 March 2017 to 29 April 2018 (DoL, 2018). In general, the farming sector has been adjusting to the sharp labour cost inflation with the average for the entire sector marginally below this rate with R14.99 per hour.

**Table 2: Wage comparison of farmworkers for 2017**

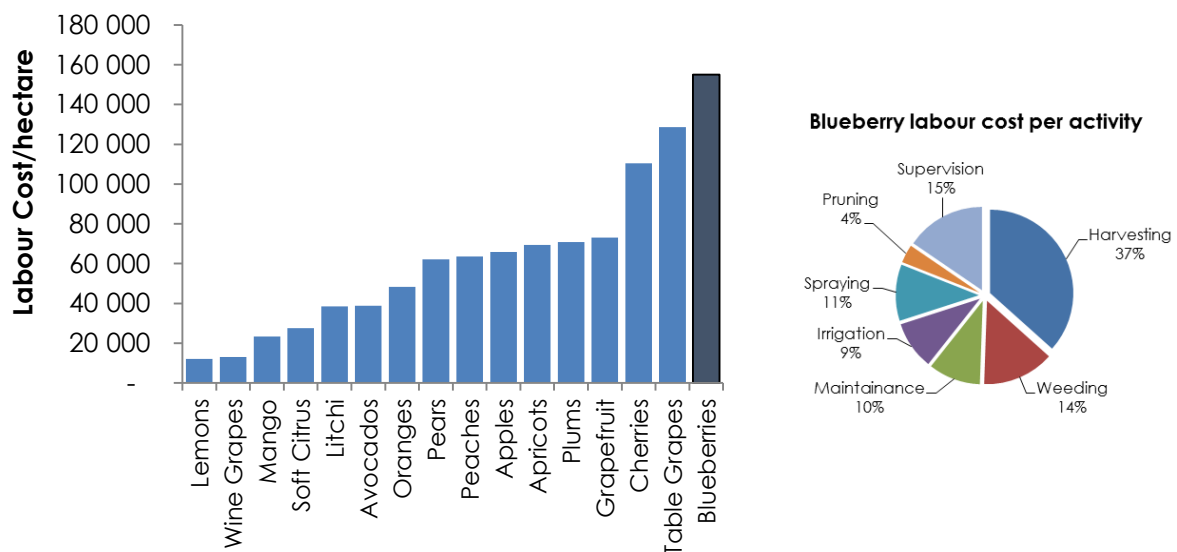
Worker Classification	Average Hourly Wage (R/hour)	Difference from Minimum Wage (%)
Minimum Wage: Farmworkers	R 15.39	-
South African Farmworkers all	R 14.99	-2.62
South African Horticultural Farmworkers	R 15.07	-2.10
Blueberry Farms: Seasonal	R 17.51	13.78
Blueberry Farms: Permanent	R 19.46	26.45
Blueberry Farms: Team leaders	R 60.61	-
Blueberry Farms: Production Manager	R 258.84	-

Source: Own Compilation from StatsSA, 2017; SABPA, 2017; WCDoA, 2019

The blueberry industry does not only create thousands of jobs, but the socio-economic impact of these jobs are further strengthened by wage payments that are around 26% higher than the legislated minimum wage and 15% higher for those picking blueberries during the season. This comes at a time where the agricultural sector in general is struggling to adapt to minimum wages that have increased substantially since 2013 (BFAP, 2018).

Comparing then the relative labour intensity between the different fruit industries, Figure 5 shows the labour cost per hectare for these crops at full bearing (includes permanent and seasonal farmworkers). These figures are obtained from a recent study measuring the socio-economic impact of the South African fruit industry (FruitSA, 2018). Since blueberries were not included as part of the analysis, the calculations from the survey amongst blueberry producers fill this gap and provides a further breakdown of the different labour activities conducted in the primary production phase.

At the lower end of the spectrum, lemon and wine grape production have the lowest labour annual cost per hectare of around R13 000. Next, subtropical fruit and citrus incur labour costs in the region of R23 000 – R48 000 per hectare, whilst that of both stone and pome fruit were marginally higher at R65 000 per hectare. After grapefruit, the intensity of labour required increases significantly as the perishability and quality requirements of the product increase. Thus, average labour cost for cherries in full bearing is R110 000, followed by table grapes with R128 000 per hectare. Finally, blueberry labour cost, in line with the highest employment multiplier, had the highest cost component amongst the fruits compared in Figure 4 with R155 000 per hectare.

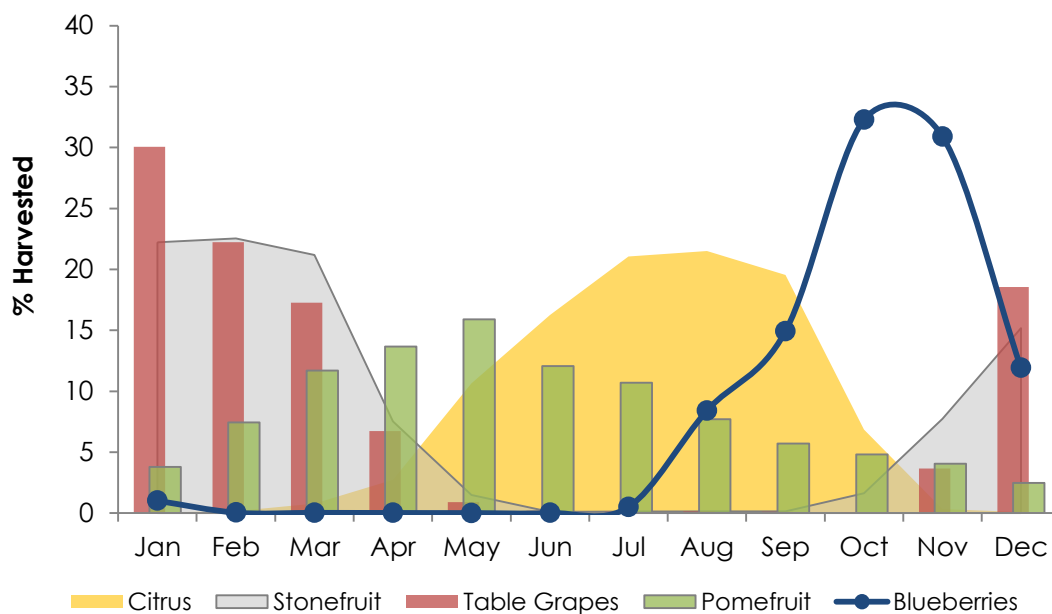


**Figure 5: Labour cost comparison per hectare of fruit in 2018**

Source: FruitSA, 2018; WCDoA, 2019

The biggest proportion of labour costs in blueberry production is for harvesting, making up 37%. Growers normally use a benchmark of around 25-30kg of blueberries picked per labourer per day during harvesting. However, in many cases labourer are able to pick much larger quantities which allow for higher payments and is therefore linked to the productivity of each picker. Permanent farmworkers are mainly used for the maintenance of orchards (10%), weeding (14%), spraying of chemicals (11%) and irrigation scheduling (9%). Important to note is that the labour requirements listed here does not include labour for annual establishment of new hectares, or those being replaced. For each hectare planted, additional man days are needed for putting up structures (nets or plastic), for land preparation and filling of pots with substrate.

The employment created in the industry should also be considered in line with seasonal requirements for labour. The blueberry harvest season predominately is such that seasonal labour is utilised during the time of year when other industries have already harvested their crops. Figure 6 provides some context in this regard by indicating the percentage share of each product's total exports completed during each month of 2018. To ease interpretation, different bars and areas are highlighted. Starting with grapes and stone fruit, around 70% of these fruits are harvested in the first three months of the year. Next, the harvest for apples and pears starts to increase from mid-March to September, whilst the bulk of the citrus fruits are picked from May to September.



**Figure 6: Percentage of total exports throughout a year**

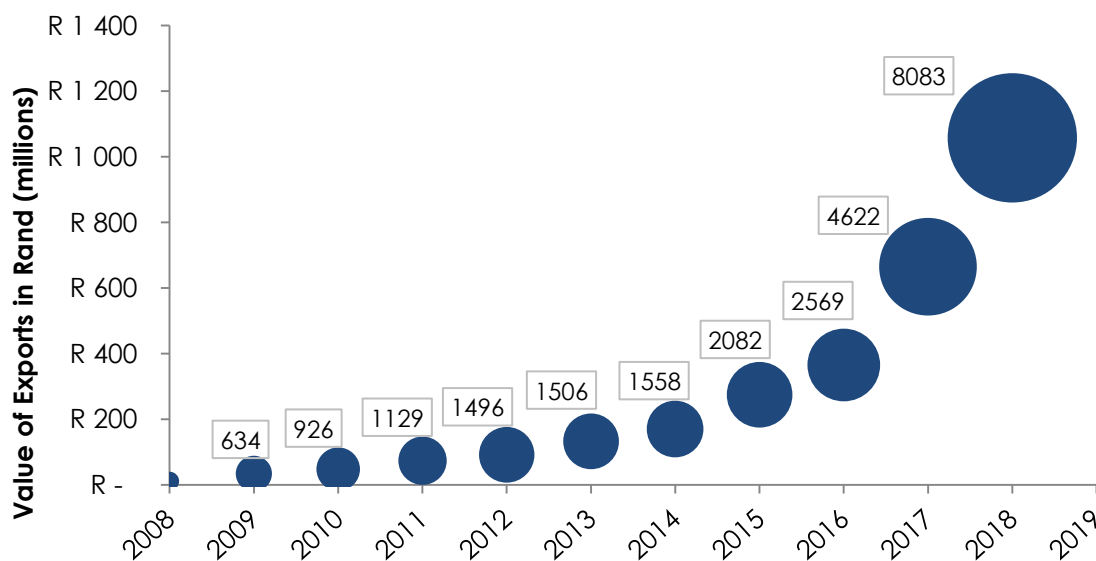
Source: ITC, 2019

At this point in the year, blueberries are ripening and harvested in September through to December as indicated by the blue-dotted line. Around 60% of blueberries are picked in October and November, exactly at the time when a limited amount of seasonal farm labourers are required by other industries. Even though the absolute number of workers for blueberry picking is comparatively small compared to citrus and table grapes, the additional jobs created at this time allows seasonal workers to have more job opportunities spread throughout the year.

### Exports

The blueberry industry is particularly export orientated. Over the last ten years fresh blueberries from South Africa has become sought after in international markets due to its outstanding high quality. In 2018 South Africa was ranked 12<sup>th</sup> in the world for countries exporting blueberries, achieving an export volume of around 8 000 tons (ITC, 2019). As noted earlier, production of blueberries has seen exceptional growth in the past few years, which has also translated into a similar expansion in exports. South Africa's location in the Southern Hemisphere allows the country to produce blueberries during the Northern Hemisphere's off-season, with the higher demand translating into decent prices for blueberries (Pienaar, 2018).

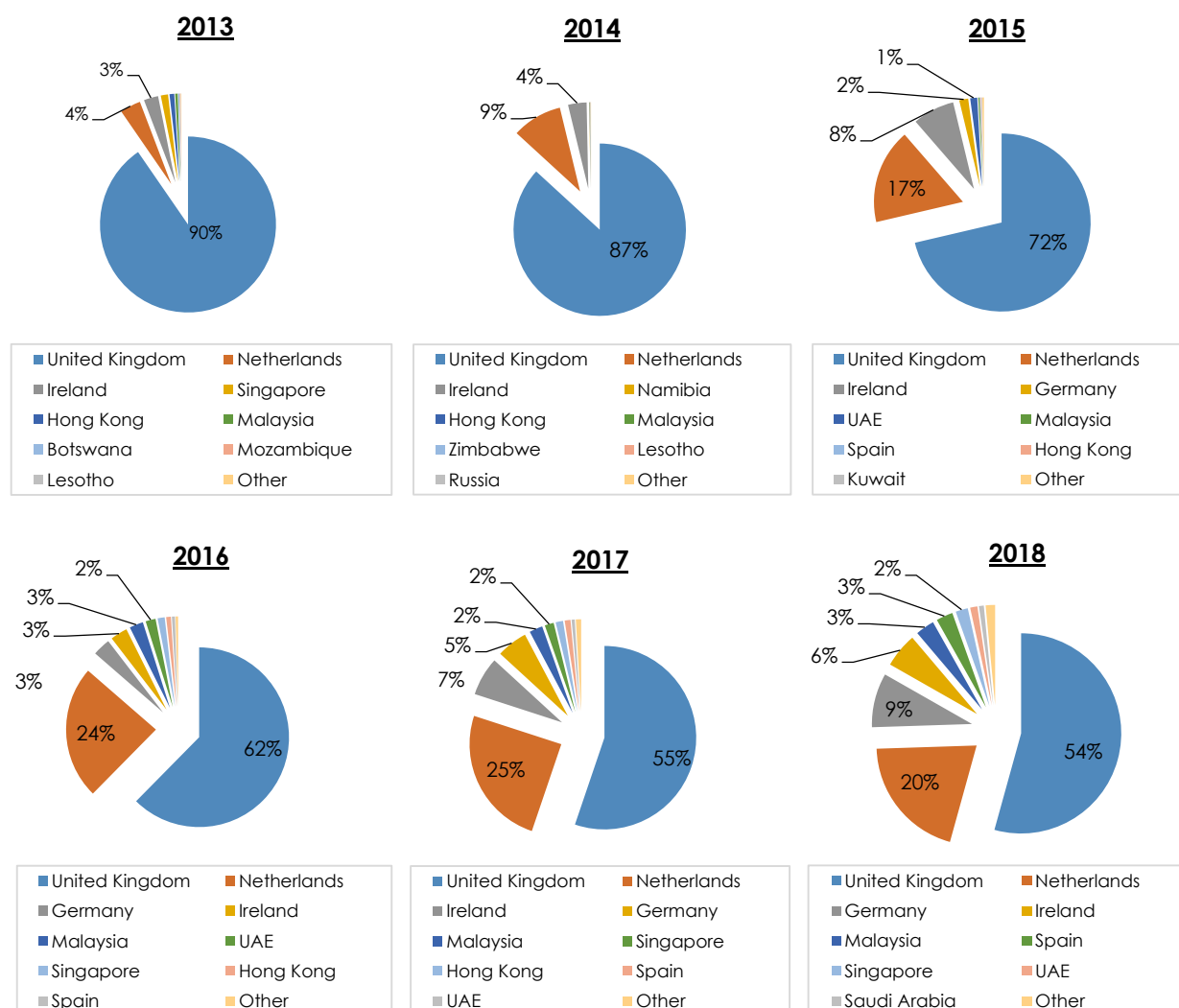
World imports of blueberries have increased from R6.2 billion in 2008 to R45.4 billion in 2018; an annual average growth of 22% (ITC, 2019). This growth rate for the past five years has been even higher at 25%. South African blueberry exports to the world have grown from R133 million in 2013 to R1.058 billion in 2018 (SARS, 2019). This is an annual growth rate of 51% in this period. Figure 7 shows the export performance of South African blueberries over time, with the size of the bubbles indicating growth in tons, whilst the y-axis gives the value of exports.



**Figure 7: South African blueberry exports to the world in volumes and value**

Source: SARS, 2019

Since 2008, the industry has managed to export an increasing number of tons into world markets, growing from 634 tons to more than 8 000 tons in 2018. Before analysing South Africa's export performance relative to the country's main competitors, Figure 8 is a series of step-wise diagrams showing South Africa's main markets by export value share since 2013. Traditionally, the United Kingdom (UK) has been the major export destination for blueberries and it continues to be a growing and important market. However, moving from left to right in the figure, South Africa has managed to diversify its export basket of countries and the reliance on the UK has decline from 90% in 2013 to 54% in 2018 (SARS, 2019). Through this diversification process, the export percentage to other destinations has both expanded and every year an increasing number of markets have been added.



**Figure 8: South African blueberry export destinations by value**

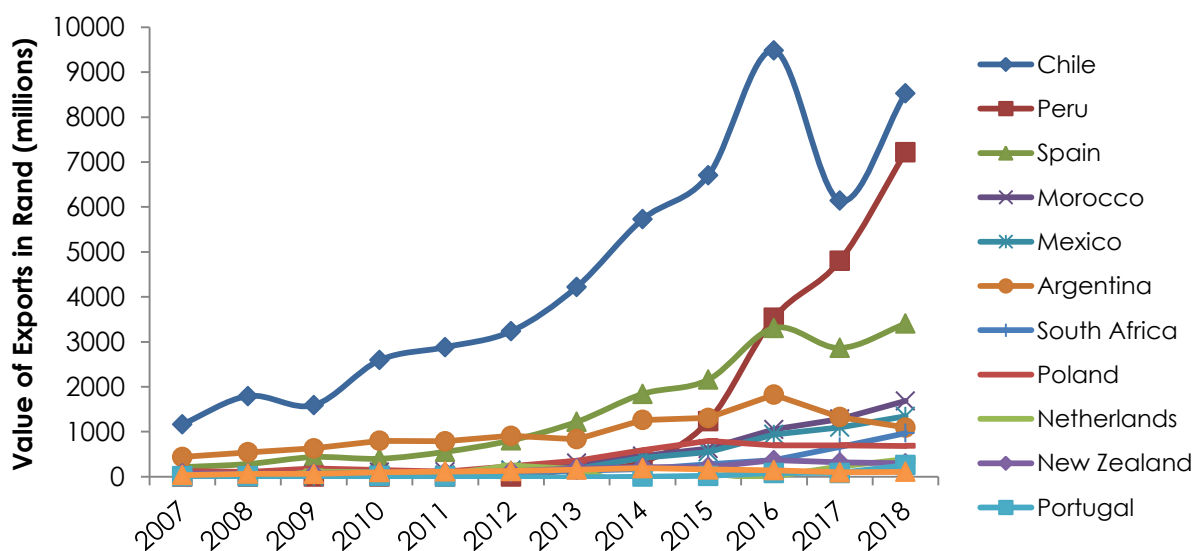
Source: SARS, 2019

Other important markets for South Africa are the Netherlands (20%) and Germany (9%). In recent years Ireland, Malaysia, Spain and Singapore have also risen to prominence, making up a combined share of 13% in 2018. Some leading markets for South Africa to the Middle-East were the United Arab Emirates (1.2%) and Saudi Arabia (0.8%). The share exported to Africa, although small (0.03%) has been increasing rapidly from R309 thousand in 2014 to R4.2 million in 2018 (SARS, 2019). Many opportunities exist within the African market to expand both exports and production in the medium term.

The performance of the blueberry industry in both expanding export volumes and diversifying into new markets is a positive one, especially as world demand for the product is still increasing. However, attaining improved access to key markets is one of most pertinent challenges mentioned by industry role players.

### Market Access

The good performance and growth in South African blueberry exports should also be discussed in relation to the export performance of countries delivering blueberries at the same seasonal window as South Africa. In terms of net exports, Figure 9 shows the export performance of major blueberry producing countries. Chile has traditionally been the world's leading blueberry exporter, although other countries have grown faster over the past decade. Peru, which only started commercial blueberry production in 2011, has grown the fastest amongst exporters in the past five years, averaging 112% per annum. They are followed by Mexico and South Africa each with around 50% per annum (ITC, 2019). Other notable competitors growing their export base were Spain (23% per annum), Morocco (41% per annum), the Netherlands (18% per annum) and Poland (14% per annum).



**Figure 9: Blueberry net exporting by value, 2007-2018**

Source: ITC, 2019

The growth in exports displayed in Figure 9 needs to be analysed within the context of market access conditions. To do this, Table 3 provides a breakdown of the average tariffs faced by each exporter in the largest import markets. It's immediately evident that Chile and Peru are the exporting countries with the most favourable tariff arrangements, most notably the zero tariffs into China and South Korea. South Africa faces tariffs of 30% and 45% for access to the same markets respectively. Peru also has favourable tariffs when exporting to Russia and Japan.

**Table 3: Tariff margins faced by leading blueberry exporters**

Exporter	Average Tariffs imposed on exporter (%)							
	USA	EU	China	Hong Kong	Russia	Japan	South Korea	Taipei
Size of Market	R13.6 billion	R12.4 billion	R1.6 billion	R323 million	R310 million	R302 million	R267 million	R162 million
Chile	0	0	0	0	6.6	0	0	7.5
Peru	0	0	0	0	0	0	9	0
Spain	0	0	30	0	8.8	6	16.3	7.5
Morocco	0	0	30	0	6.6	3	45	7.5
Mexico	0	0	30	0	6.6	0	45	7.5
Argentina	0	4	30	0	6.6	3	45	7.5
South Africa	0	0	<b>30</b>	0	6.6	3	<b>45</b>	7.5

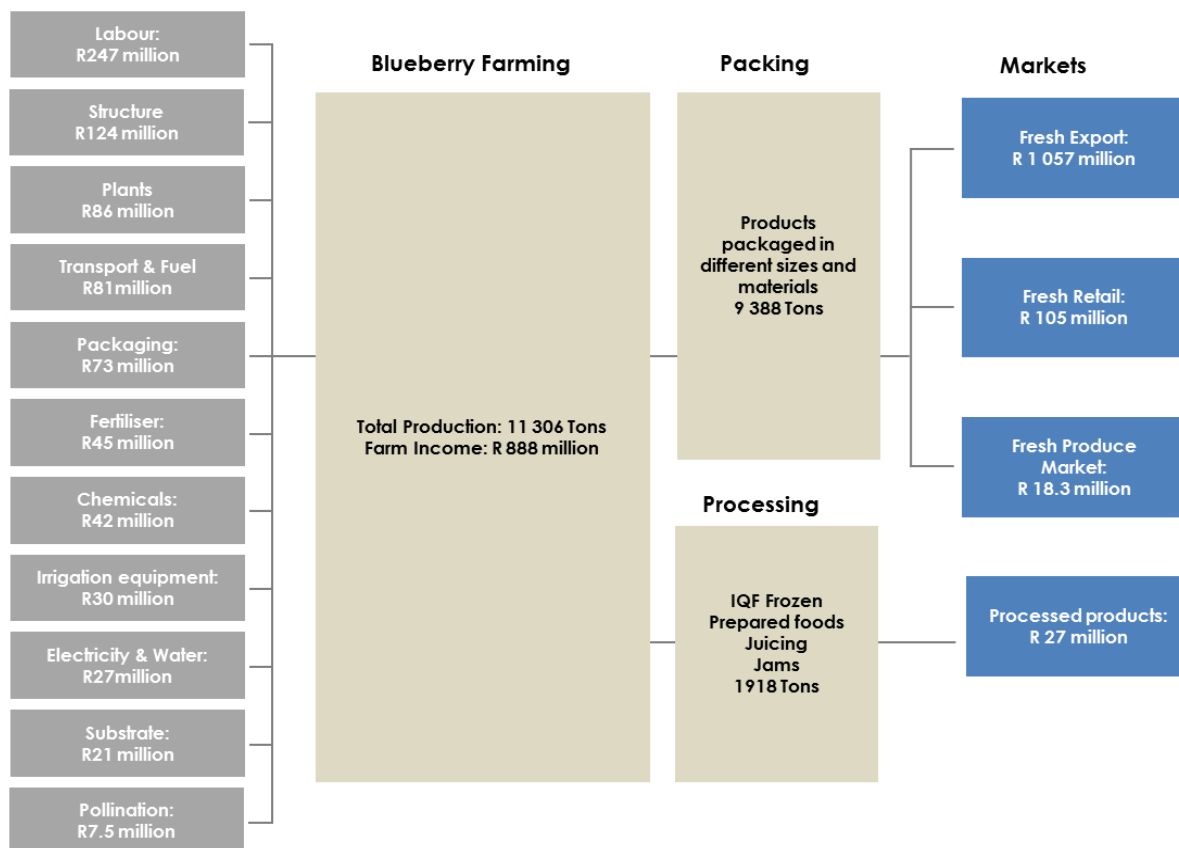
Source: ITC, 2019

### **Value-Chain Linkages**

In order to get a good understanding of the contribution of the blueberry industry to the economy, the linkages both upstream and downstream of primary agricultural production needs to be quantified. Using the information that informed this assessment, some estimates are made in calculating these linkages, in value terms, for the 2017/18 production season. Since many of the additional hectares planted in the previous year were still coming into production, the industry linkages are calculated on a per ton basis.

Starting upstream, blueberry production utilises inputs from various sectors. The blueberry industry contributed to around R247 million on wages and salaries in 2018, followed by R124 million on developing new and existing orchards during the season. For the latter, around 360 hectares of establishment was used for the estimate, with expansion under plastic cover costing R79 million and shade netting R44 million.





**Figure 10: Value chain map of the blueberry industry in South African**

Source: Own Compilation

The blueberry industry also buys thousands of plants each year, propagated and multiplied in certified nurseries. Plant purchases for the season is conservatively calculated in the region of R86 million, using an average cost per plant of R45, with a planting density of 5 333 plants per hectare.

Blueberry farm expenditure on transport (R81 million) and packaging (R73 million) were also substantial. The high per unit usage of fertiliser and chemical also meant that another R45 million and R42 million were spent on these inputs. Irrigation equipment spending is estimated at R30 million and electricity and water another R27 million. Finally, growing medium used by growers were in the region of R21 million, and a very important contribution to the bee industry in the form of R7.5 million annually for pollination services.

The total spend on direct inputs (labour, fertiliser, chemicals, pollination, water, transport and packaging) aggregated to around R573 million for the 2018 season. Using these inputs, the industry managed to produce 11 306 tons which equates to a farm-level valuation of R888 million for all blueberries. These tons are destined for a variety of output markets, as was indicated in Figure 9.

A small proportion of 17% enters the processing market where blueberries are transformed into any of the following products: Individually Quick Frozen (IQF), prepared foods, juices & puree, as well as jams. These products are either sold locally or exported with the retail value conservatively estimated at R27 million.

The bulk of total production enter the next phase of the value chain whereby berries are sorted, cleaned and packed into punnets and labelled according to market specifications. A number of larger primary producers have developed packing facilities on-farms, whilst a number of smaller growers utilise larger pack houses owned by agribusinesses. In these cases, growers deliver berries packed in bulk packs or crates and transported and delivered at their own cost. Additional value adding taking place at this phase involves additional transport, marketing costs, levies and port services in order to get berries sold at the highest paying market. The value for blueberries exported was R1 billion in 2018, whilst blueberries destined to local retailers valued at R105 million. A small proportion of R18.3 million worth of berries are sold via the fresh produce markets throughout the country.

### **Investment**

Up to now, the analysis on blueberry production has not taken capital investment requirements into account; however this is another positive contribution to the economy. On-farm investment needed to develop new blueberry enterprises are summarised in Table 4 below. The items listed here are disaggregated according to the different farming system utilised; whether under structures or not and/or in the soil or substrate. The expenditure requirement is given per hectare and should be interpreted as investment on an existing irrigation farm. It therefore does not include larger fixed assets such as dams, boreholes, pump houses etc.

**Table 4: Capital investment needed for greenfield investment per hectare**

Capital Items	Open-Air Value in R ('000)		Shade-netting Value in R ('000)		Plastic cover Value in R ('000)	
	Soil	Substrate	Soil	Substrate	Soil	Substrate
Structures/Windbreaks	80	80	260	260	1 400	1 400
Plant Material	285	285	285	285	285	285
Irrigation System	82	82	82	82	82	82
Land Preparation	26	26	26	26	26	26
Weed-mat	72	72	72	72	72	72
Substrate + Bags	-	250	-	250	-	250
<b>Total</b>	<b>545</b>	<b>795</b>	<b>725</b>	<b>975</b>	<b>1 865</b>	<b>2 115</b>
Cooling Room Facilities	1 300	1 300	1 300	1 300	1 300	1 300
<b>Total + Cooling Facilities</b>	<b>1 845</b>	<b>2 095</b>	<b>2 025</b>	<b>2 275</b>	<b>3 165</b>	<b>3 415</b>

Source: Own Compilation from WCDoA, 2019

On average, to establish one hectare of blueberries requires capital expenditure of around R1.17 million, plus an additional R1.3 million for a cooling facility. Setting up a plastic covered operation and planting the trees in growing medium requires an investment of R5.53 million, whilst an greenfield investment in orchards planted open air and in soil will incur capital of around R545 000.

#### **4. Conclusion & Recommendations**

This report has set out to provide the necessary information in understanding the contribution of the blueberry industry to the economy of South Africa. Using existing information, as well as detailed analysis of a number of commercial growers, the industry has created an estimated 4 000 jobs in the past five years as a result of production growing by around 53% since 2013. Measured against the major fruits grown in South Africa, blueberries are the most labour-intensive and the fastest growing sector by some margin. Furthermore, the potential to expand production in the future has been highlighted with profitability driven by the introduction of new plant varieties, improved technologies and management which coincide with a growing world market for these fruits.

Investment in blueberry production also translates into growth in a number of input sectors with the industry contributing to labour around R247 million for labour, R86 million for blueberry plants with fertiliser and chemicals making up another R87 million in 2018. Additionally, every new orchard established requires capital investment on average of around R1.2 million which does not include fix investments such as land, dams, boreholes and cooling facilities. In cases where climate controlled environments technologies are used such as tunnel structures using substrate growing medium, the establishment costs increases to around R2.1 million.

In the process of interviewing several industry role-players, including growers, exporters, processors and input suppliers, the main concern for the industry at present is the need to gain access to key growing markets. The tariff analysis in this report has also highlighted South Africa's disadvantage to access markets such as China and South Korea with tariffs of 30% and 45% respectively. Both the economic and socio-economic contribution of the blueberry industry that has been quantified in this report suggest that, if prioritised for improved market access conditions, the industry can make an significant impact in growing the agricultural economy for the foreseeable future.

## Bibliography

APAP, 2015. *Agricultural Policy Action Plan*. Pretoria: Department of Agriculture, Forestry and Fisheries.

BFAP, 2018. *The potential impact of the national minimum wage on the agricultural sector*. Pretoria: Bureau for Food and Agricultural Policy.

DAFF, 2018. *Abstract of Agricultural Statistics*. Pretoria: Directorate Statistics and Economic Analysis Department of Agriculture, Forestry and Fisheries.

DoL, 2018. *2018 Minimum wages for employees in the Farm and Forestry workers sector*. [Online] Available at:

<http://www.labour.gov.za/DOL/downloads/legislation/sectoral-determinations/basic-conditions-of-employment/farmwagemarch17.pdf> [Accessed 7 June 2019].

FAS-USDA, 2017. *The budding blueberry industry in South Africa*. GAIN Report. Pretoria: Foreign Agricultural Service United States Department of Agriculture.

FruitSA, 2018. *A Socio-economic impact study of the South African Fruit Industry*. Pretoria: Fruit South Africa.

Hortgro, 2017. *Key deciduous fruit statistics*. Paarl: Hortgro.

IGDP, 2012. *Integrated Growth and Development Plan*. Pretoria: Department of Agriculture, Forestry & Fisheries.

ITC, 2019. *Trade Map Database*. Geneva: International Trade Centre.

NGP, 2011. *The New Growth Path: Framework*. Pretoria: Economic Development Department.

NPC, 2011. *National Development Plan: Vision for 2030*. Pretoria: National Planning Commission.

Pienaar, L., 2018. *Market Intelligence Report: Blueberries*. Elsenburg: Macro & Resource Economics Western Cape Department of Agriculture.

Quantec, 2019. *RSA Regional Trade HST 6-digit*. Pretoria: Quantec.

SABPA, 2017. *Berry Industry Overview*. Presentation. Paarl: South African Berry Producers Association Hortgro.

SARS, 2019. *Trade Statistics Dashboard*. [Online] Available at: [https://tools.sars.gov.za/tradestatsportal/data\\_download.aspx](https://tools.sars.gov.za/tradestatsportal/data_download.aspx) [Accessed 25 May 2019].

StatsSA, 2017. *Labour Market Dynamics Study*. Pretoria: Statistics South Africa.

Swart, P., 2015. *Harvest scheduling of southern highbush blueberries (Vaccinium corymbosum L. interspecific hybrids) in a climate with moderate winter chilling*. Masters Thesis. Stellenbosch: Stellenbosch University.

Troskie, D., 2014. Smaller industries: achieving private and public objectives. *AgriProbe*, 11(4), pp.53-56.

Vinpro, 2019. *Cost guide*. Paarl: Vinpro.

WCDoA, 2019. *Research calculation from various sources*. Elsenburg: Macro & Resource Economics.

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