

EXCLUSIVE

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WITH TECHNOLOGY, ENGAGED PEOPLE AND SUSTAINABILITY, BRAZILIAN AGRIBUSINESS PROVES IT IS POSSIBLE TO PRODUCE LARGE-SCALE AND CONSERVE AT THE SAME TIME

BRAZILIAN SHRIMP FARMING INDUSTRY: CHALLENGES AND OPPORTUNITIES

ITAMAR ROCHA

The Brazilian marine shrimp farming production reached 90 thousand tons in 2019, which represents an increase of 16.88% compared to the 2018 figures (77 thousand tons), 100% of which were destined to the domestic market. But in view of prospects like China's growing and encouraging marine shrimp imports (2.6 kg per capita/2018), and the return to the North American market – considering that in 2017 Brazilian farmed shrimp was excluded from the Antidumping Action, and the historical consumer preference for small to medium sized shrimp (61-70/71-up) imported from Brazil, in 2003 – Brazilian producers will make a comeback to the international market in 2020.

Not to mention the fact that the Brazilian government has been working hard to sign the free trade agreement between Mercosur and the European Union – expected to be approved by 2020 – which will be a further draw for the return of Brazil's farmed shrimp to that important market. Bearing in mind that in 2004 shrimp farmed in Brazil ranked first (25.57%) among the EU's tropical shrimp imports, particularly in France (28%), which prefers the Brazilian product due to its superior quality over the others –

including Ecuador, whose share in these markets was 18.49% and 8%, respectively. It is important to highlight that France is the most demanding country with regard to appearance and quality of imported whole shrimp.

In fact, the concept of quality and health has been a very important differentiator, especially when it comes to frozen whole shrimp, for both Europe and Japan, and even China, which for the past three years has been a major importer of farmed marine shrimp, but which, despite having to cope with many viral and bacterial diseases, has maintained strict control over the quality and health of shrimp entering the country. It suffices to say that after suspending farmed shrimp imports from the Saudi Arabian National Aquaculture Group, it took an even more radical measure: the return of 800 shrimp containers from the Santa Priscila, Omarsa, and Winrep companies in Ecuador, its largest protein supplier, in 2019.

In both cases, the motivation was the detection of the white spot syndrome virus (WSSV). In that same context, the Chinese health authorities had already incinerated a batch of *L. vannamei* breeders for lack of information on the country of origin and importer, owing to the detection of EMS in the quarantine phase. The seriousness with which China deals with this issue is associated with its concern for the health of its farmed and native crustaceans. Despite the presence of both WSSV and EMS, China's Veterinary Medical Service, showing clarity and responsibility, understands that there are many variant strains with different degrees of lethality and, in most cases, far more aggressive than local strains.

In view of the above, it becomes clear that the

decision made by the President of the Supreme Court (STF), Minister Dias Toffoli, during the Federal Justice recess in late 2018 authorizing shrimp imports without the need for an Import Risk Analysis (ARI) based on IN 14/2010 – already repealed by IN 02/2018 that does not allow imports without an ARI – was a big mistake. Additionally, the object of the lawsuit filed by Abrasel, the shortage and abusive domestic prices proved to be a fallacy, since after 12 months, instead of the 30,000 tons touted by CNA/Ecuador, only 140.6 tons were effectively imported, 127.3 tons from Ecuador, 10.3 tons from India, and 3 tons from Greenland – which is an insignificant volume that in no way justifies the high risk of irremediable contaminating the rich biodiversity of natural crustaceans (shrimp, lobsters, and crabs) and jeopardizing the promising Brazilian shrimp industry.

Notably, when considering that health is a highly cherished issue for Brazil, due to the disruption and restrictions to its meat exports (chicken, pork, and beef), the shrimp industry is confident that this reckless decision made by Minister Toffoli will be bypassed soon, since it depends solely on a political move, that is, to be repealed it is enough for President Jair Bolsonaro to mandate MAPA to comply with the applicable law (IN 02/2018).

In fact, the authorizations that Brazil has been granting (Ecuador, India, and Greenland) constitute a violation of the current legislation, not to mention the fact that the Brazilian farmed marine shrimp production is already a real and promising opportunity for the establishment of a solid economic order in the rural areas. Initially in the Northeast Region, it is already spreading to several other regions, highlighted by the fact that

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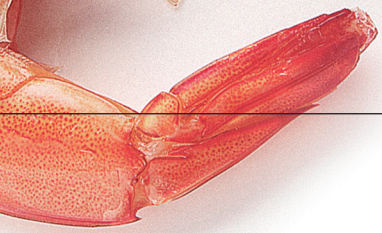
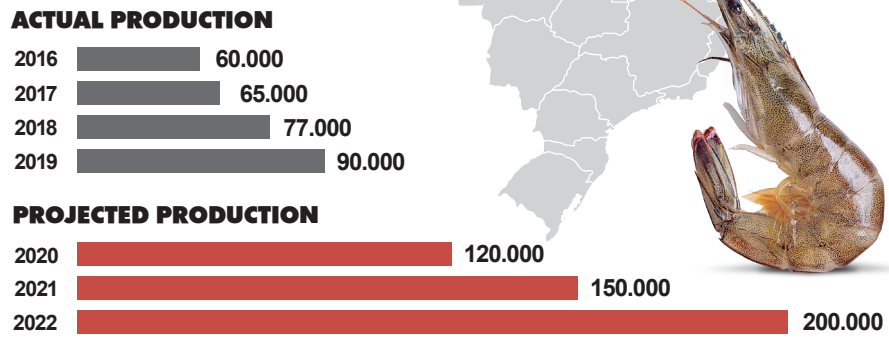


FIGURE 1. CURRENT PERFORMANCE (2016-2019) AND PROJECTIONS (2020-2022) FOR BRAZILIAN MARINE SHRIMP PRODUCTION (T)



Source: ABCC 2020

its composition is based mainly on micro (60%), small (15%) and medium (20%) sized producers, resulting in the creation of jobs that do not require special qualification, and an important opportunity for women in the processing and value-added processed products industries.

Therefore, with the certainty that the risks and threats to imports will soon be side-stepped, with an eye on the promising, mostly farmed marine shrimp market (US \$ 25 billion), aware of the significant size (\$ 163.1 billion/year) of the world's fish imports (Figure 1), in view of the extraordinary natural potential of Brazil's several macro regions, coupled with its exceptional soil and climate conditions and outstanding grain production, Brazilian farmers are confident and determined to increase production to meet the demand of the domestic market, and to return to the attractive and growing international market (Figure 2).

Within this context, substantial investments are being made to adjust the existing infrastructure and to implement intensive, state-of-the-art projects, using primary nurseries (20 PL/gram) and secondary nurseries (1 to 2 grams), as well as new nurseries, adopting 165 to 250 juveniles/m² densities, using HDPE liner and "agricultural greenhouse" films to maintain the temperature between 30 and 33oC, allowing coexistence with WSSV and performing three to four harvests a year of middle and large sized shrimp (16 to 22 grams), yielding between 100 to 140 t/ha/year, with 75 to 100 days of cultivation in the grow-out phase (Figure 3). ■

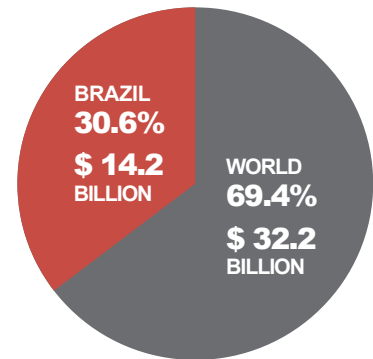
ITAMAR ROCHA

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FIGURE 2. BRAZILIAN SHARE OF THE WORLD'S MEAT VS. FISH IMPORTS (2018)

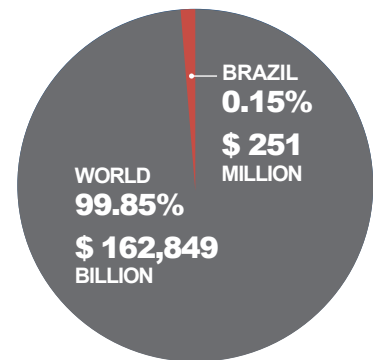
MEAT

Total: \$ 46.4 BILLION



FISH

Total: \$ 163.1 BILLION



Source: MDIC and Rabobank (2019)

FIGURE 3. AVERAGE PRODUCTION DATA ON L. VANNAMEI INTENSIVE, THREE-PHASE SYSTEMS WITH AGRICULTURAL GREENHOUSE IN OPERATION IN BRAZIL

PRIMARY NURSERY TANK		SECONDARY NURSERY TANK		GROW-OUT TANK	
Useful volume of each tank (m ³)	50	Useful volume of each tank (m ³)	200-250	Total area (ha)	0.1 / 0.4
Density (pl's 10/liter)	20 – 25	Density (pl's 22/liter)	2 - 3 pl's	Density (juv/m ²)	165-250
Survival (%)	95	Survival (%)	95	Survival (%)	90
Cultivation time	10-15 days	Cultivation time	30 – 40 days	Cultivation time (days)	75-100
Average weight 20 pl/gram		Final average weight per individual	1 – 2 g	Final average weight (g)	16 - 22
				Productivity (ton/ha/year)	100 - 140

Source: ABCC 2020