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Protecting the Integrity of Brazilian Dairy Products During Milking Automation

By: Mayte Alvarenga

The U.S. Department of Agriculture's Foreign Agricultural Service predicts that Brazilian fluid milk production is set to increase by 1.8% in 2018, with volumes potentially growing to 23,980 MMT compared to 23,550 MMT in **2017***. This is good news for dairy farmers, especially the ones who have invested in automation in order to boost productivity. Automated milking systems help to eliminate rigid schedules associated with dairy milking activities and improves milking consistency. While robotic milking has benefitted the industry, it is not without its challenges.

While the robot performs the repetitive task of milking, the system's **tubing** does the rest of work from collection to deposits into containers that will transport the product to its final location. Poor equipment sanitation can have serious effects in raw milk applications, impacting everything from product quality to production efficiency. Tubing plays a vital role in maintaining/upholding product safety, hygiene and quality.

Choosing the right raw milk collection transfer tubing with benefits that include kink resistance, tear resistance, milk fat absorption resistance and cold flexibility can also help to safeguard milk processing equipment. Further, while the principle of the milking machine is the same regardless of the location of the farm, the environmental conditions the milk tubing is exposed to differs from northern to southern climates and so tubing attributes such as cold flexibility are important. Another important factor to take into consideration is to choose tubing that complies with global regulations.

Tygon® II silicone milk tubing offers ultra-high purity characteristics with extremely low extractables and leachables. This tubing does not contain plasticizers or other additives and by-products that can leach into the milk during raw milk collection and cause **toxicological issues**. **Tygon® S3 M-34-R** milk tubing, which was designed specifically for the dairy industry, is entirely clear allowing for immediate visual inspection and verification of cleanliness. Its smooth, non-porous inner surface reduces the occurrence of buildup from butterfat, milkstones and milksoil and can help to eliminate the possibility of bacteria growth within the milk transport line.

As for vacuum tubing, **Tygon® S3 A24-C**, which is suited for supply air transport, has a smooth inner surface that is less susceptible to particle entrapment which can impact air flow. Tygon S3 A-24-C is designed to work with Tygon S3 M-34-R to provide both easy flow and vacuum within the milking process.

Saint-Gobain Performance Plastics services the Brazilian market through our plant in São Caetano do Sul, SP, which can help Brazilian and other South American dairy farmers to find the best tubing to ensure that the integrity of their milk products is protected. Product performance leadership combined with global consistency and regulatory compliance give customers peace of mind and protect their brands.

Mayte Alvarenga is a Marketing Specialist.

About Saint-Gobain

Saint-Gobain designs, manufactures and distributes materials and solutions which are key ingredients in the wellbeing of each of us and the future of all. They can be found everywhere in our living places and our daily life: in buildings, transportation, infrastructure and in many industrial applications. They provide comfort, performance and safety while addressing the challenges of sustainable construction, resource efficiency and climate change. With 2017 net sales of more than \$49 billion, Saint-Gobain operates in 67 countries and has more than 179,000 employees.

Saint-Gobain's Performance Plastics business is headquartered in Solon, Ohio, and employs 6,000 people in 22 countries. It is a world leader in high-performance plastics, including flexible tubing, seals, coated fabrics, foams, window film, barrier/release films, tapes, medical components, fluid handling systems and bearings.

Saint-Gobain's Process Systems business unit helps customers achieve safety, performance and brand assurance through a broad range of capabilities that rely on superior engineering and customer support. Our product applications include those in the food, beverage, habitat, aerospace, chemical and electronics sectors. We've helped customers in all of these industries achieve goals in innovation, efficiency, sustainability and product integrity through customized solutions such as flexible tubing, gaskets, seals, hoses, fittings, pumps, valves and manifolds.

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