



Fully traceable deforestation-free beef and leather? Argentina has it, and can calculate its greenhouse gas footprint, too.

The Markets Institute has previously [written](#) about the potential for Argentina to differentiate its beef production by making deforestation- and conversion-free production a condition of export based on the country's established [traceability systems](#). A proof of concept conducted by World Wildlife Fund (WWF) and key partners and consultants¹ has now demonstrated the feasibility of this concept, with exports of verifiable deforestation-free beef and leather successfully completed to both the European Union and China. While the proof of concept took place in one province, the implications for scale within Argentina and beyond are significant and cannot come soon enough. In parallel, WWF scientists and consultants developed a carbon calculator that enables cradle-to-export carbon measurements, including for land use change and farm-level data based on agricultural practices.

The Proof of Concept

The goal of the proof of concept, funded by the Gordon and Betty Moore Foundation, was to prove that it is possible to trace beef and leather from cradle to slaughterhouse to processing facility, having demonstrated that it was deforestation-free through Argentina's traceability systems, and to then export the verified deforestation-free beef and leather.

Santa Fe, the second largest beef-producing province, was selected for the proof of concept due to its importance in beef production and its six million hectares of primarily natural pastures. Existing tools enabled both animal traceability, to track an animal from cradle to slaughterhouse, and environmental traceability, to detect

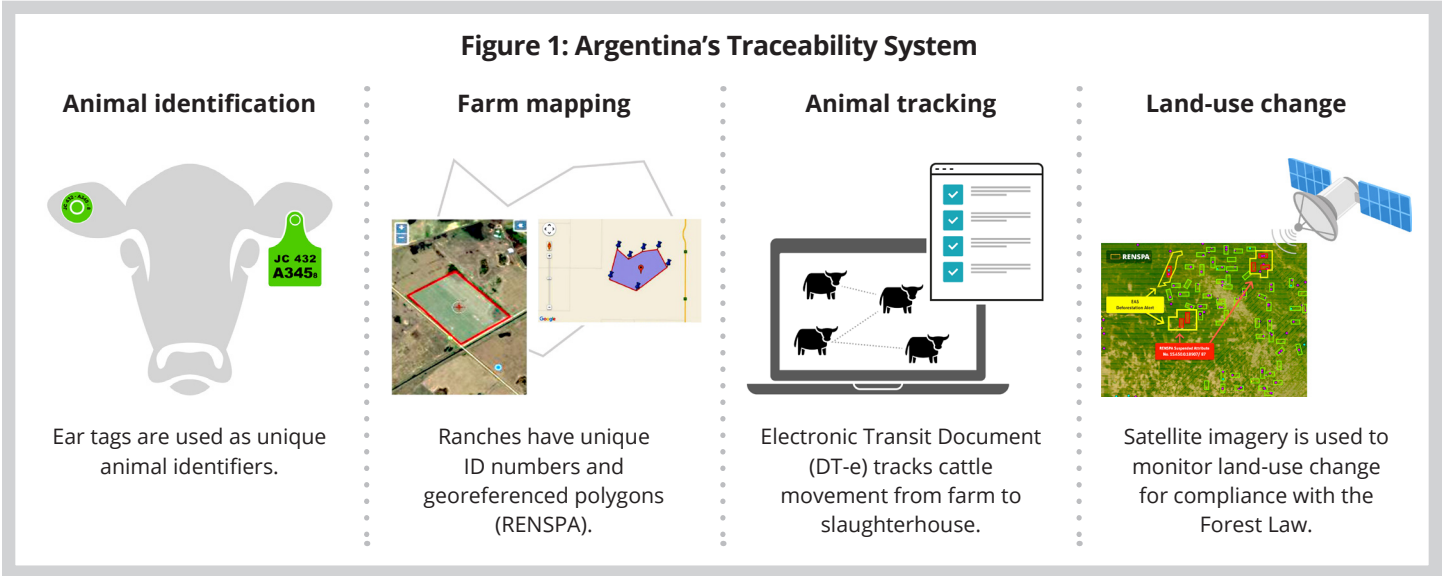
whether animals were linked to fields deforested after the cut-off date of December 31, 2020.

Through the proof of concept, 30 deforestation-free certificates for meat and 22 for leather were issued for 181 cows and 627 steers, processed in two different slaughterhouses, coming from five different farms in Santa Fe province. As a result of the proof of concept, Santa Fe province developed the "Santa Fe Process Verified Program (SFPVLA)," which guarantees that verified product has zero deforestation as of December 2020 and complies with provincial fire regulations.

Challenges

Although Argentina's animal and environmental traceability systems have all the necessary components to enable fully traceable deforestation-free exports, there were some gaps in data. Not all the polygons in the National Food Safety and Quality Service (SENASA, for its acronym in Spanish) were georeferenced, rendering it necessary to use another database to fill in the gaps. In less than a month after identifying the data challenges, less than 2% of the almost 180,000 polygons had gaps, which will soon be corrected. While the data will need to be reviewed for accuracy across provinces to scale the proof of concept nationally, the system is robust, and greater data consistency appears feasible. Key to addressing this challenge is to ensure that the solution works across the entire system, rather than addressing data gaps or other issues on an ad hoc basis; this is vital to ensuring a smooth scale-up at the national level.

Figure 1: Argentina's Traceability System



There were also distinct challenges associated with hides due to additional steps required for their processing. Once ear tags, a key animal traceability tool, were removed, the question of how to further trace the hides arose, as slaughterhouses have internal product traceability that does not apply to hides. Handling and marking the hides also added time, affecting productivity until a cost-effective and efficient solution was found in using mechanical hammers to mark the appropriate hides.

The Carbon Calculator

A carbon calculator was developed in tandem with the proof of concept to measure carbon intensity for both the beef and leather supply chains. The calculations included pasture management systems, as well as land use change.

The calculator has modules for the different segments of the supply chain and has a strong emphasis on farm-level data provided by the National Agricultural Technology Institute (INTA, for its Spanish acronym) and producers. One unexpected result of the calculator was producer interest in better pasture, manure, and other management practices, as the calculator demonstrated that these practices often increased productivity while also lowering carbon intensity.

Next Steps

Having developed the SFPVLA, Santa Fe province is eager to scale up the program across the region. The polygon gaps in SENASA's database represent a challenge for scaling at the national level; however, given the rapidity with which this issue was addressed at a provincial level, there is optimism that this can be addressed swiftly to ensure the verification process can proceed smoothly at a greater

scale. This is a key factor that will be addressed in the next phase of the proof of concept.

Additionally, more meatpacking plants and tanneries need to be enrolled in the program to achieve scale, as well as a greater level of automation of the verification process through improved inter-governmental agency collaboration. Likewise, more producers need to be engaged in the process, including through the provision of capacity building regarding the importance of deforestation-free production across the region.

With a successful regional proof of concept, steps can now be taken to scale at a national level, with the goal of having all beef and leather exports be deforestation-free. WWF and Fundación Vida Silvestre are already in discussions about expanding the verification in additional provinces. Furthermore, WWF hopes that verification will eventually expand to encompass conversion-free production as well, though the pilot began with deforestation-free to align with Argentina's current laws and capabilities. The participation of producers, meatpackers, tanneries, local and international scientists, government agencies, and the provinces made this multistakeholder effort successful. Achieving national scale and refining the data are still in process but encouragement from buyers and companies that want to measure carbon will help to accelerate the change, close the gaps, and scale farmer adoption. Success relies on multistakeholder participation to create a system built for deforestation-free production, rather than a certification program.

The calculator needs to be refined to make it more user-friendly, something WWF plans to work on in collaboration with companies. Improved data collection will also

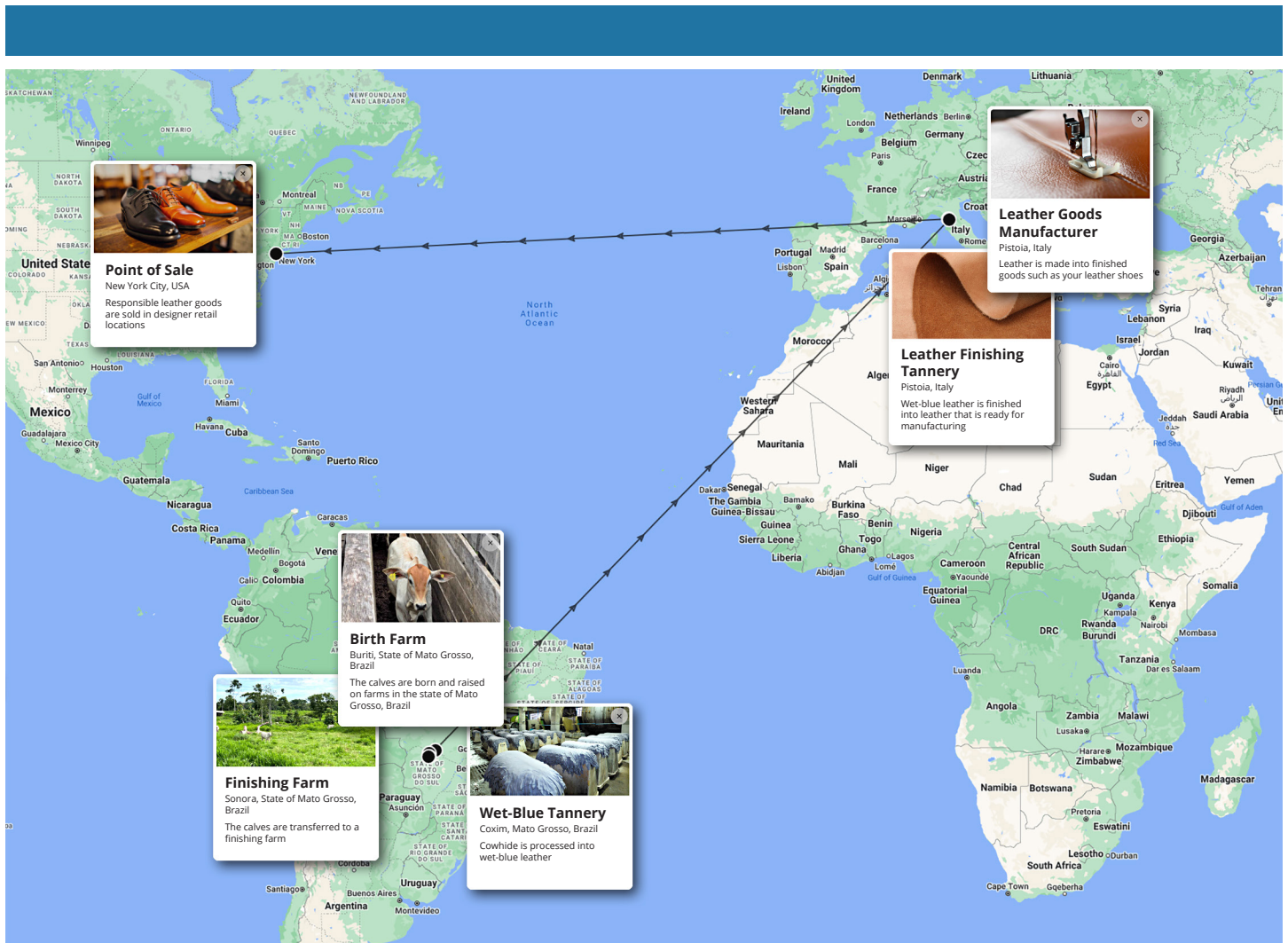


Figure 2: Traceability in Leather Supply Chains

increase the precision of carbon measurements. As part of this process, WWF is calculating the footprint of the deforestation-free exports that were executed through the proof of concept. The calculator used alongside a robust traceability system represents a game changer that has the ability to shed light on traceable and carbon-measured commodities, which will allow buyers to make better sourcing and GHG intervention decisions.

With Argentina leading the way with verifiable deforestation-free beef and leather, the lessons learned can be applied to other countries to finally make meaningful progress on the plethora of company commitments to eliminate deforestation from global supply chains. Indeed, WWF is already assessing the potential to apply the proof of concept and carbon calculator in Brazil and Paraguay. The implications of greater scale are tremendous – if this can be done for beef and leather, then soy, palm oil, and other commodities with significant deforestation risk can

leverage Argentina’s pioneering efforts to design locally appropriate solutions and make meaningful progress in eliminating deforestation.

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1 Including Fundación Vida Silvestre, the Argentine Ministries of Environment, Climate Change (MAyCC), and Production, Science and Technology (MPCyT) of the province of Santa Fe, Carnes Santafesinas 2030, Instituto Nacional de Tecnología Agropecuaria (INTA), consultants Victor Tonelli, GENESIS, Mauricio Herzovich, and Rafael Andrade, and Blonk Consultants.