

EURAGRI Soybean Seminar Synopsis

May 7, 2025

Lisa Deutsch on the Global History of Soybeans

Lisa Deutsch delivered a compelling account of the soybean's 7,000-year history, drawing on insights from her book *The Soybean through World History*, co-authored with Matilda Baraibar Norberg. Domesticated initially in China, soybeans have become a linchpin in global agriculture and food systems. Today, its uses are primarily distributed as follows: 76% for animal feed, 20% for human consumption, and 4% for industrial applications. It is processed in diverse forms—whole beans, oil, protein, hulls, and other derivatives.

Deutsch frames the crop's evolution through three major "soybean regimes"—distinct historical phases defined by shifting interplays among production, trade, and consumption, each responding to internal dynamics and external pressures:

- **First Regime (Domestication to ~900 CE):** In East Asia, soybeans became integral to both human diets and agricultural systems, valued for their nutritional content and role as nitrogen-fixing legumes, improving soil fertility.
- **Second Regime (~1000–1860):** Characterised by the expansion of cultivation and the early stages of global trade, soybeans began entering European food systems through colonial and maritime networks led by Portugal, the Netherlands, and Britain.
- **Third Regime (1860–present):** Industrialisation and globalisation transformed soybean production, which shifted primarily to the Americas. Technological advances and modern agronomy have fuelled a dramatic increase in output, from 20 million to over 350 million tonnes. This era is characterised by increasing corporate consolidation through vertical and horizontal integration across supply chains.

However, Deutsch warns that this expansion model is reaching its limits. Crises are emerging, resulting from biophysical constraints on intensification, economic pressures on farmers, growing disease and pest challenges, and the fragility of global supply chains, particularly China's dominant position as an importer. These signs indicate that transformative change in how soybeans are produced and traded is necessary and urgent.

Deutsch argues that by examining the evolution of these regimes, we gain perspective not only on how we arrived at the current system but also on the pathways—and possibilities—for shaping a more resilient and sustainable future.

Ewen Mullins on the VALPRO Path Project

Ewen Mullins, coordinator of the Horizon Europe VALPRO Path project, introduced a forward-looking initiative to unlock new value opportunities from European-grown plant-protein crops. At its core, the project seeks to foster circularity and resilience across the value chain—Mullins summarised it as “the right crop in the right place for the right market.”

VALPRO Path addresses the full plant-protein value chain—from grower to processor to food manufacturer:

- Growers require insights into regionally appropriate crops, optimal agronomic practices, and pathways to economic viability.
- Processors need a reliable supply of raw materials, technological infrastructure, and investment support.
- Manufacturers must secure consistent ingredient inputs and have confidence in market demand for the final products.

The project explores innovative systems for sustainable plant-protein production across Europe. These include regional variety trials, advanced crop management, farm-to-shelf traceability, and cross-regional logistics and packaging strategies. It also identifies and demonstrates new business models to de-risk innovation for stakeholders.

Mullins highlighted crop management as a crucial lever for improving yield and quality. The project is also evaluating cutting-edge processing techniques, such as de-hulling, milling, extrusion, protein isolation through dry and wet fractionation, microwave cooking, and nutrient profiling via IR spectroscopy.

These innovations support the use of plant proteins in a wide range of products, from baked goods and beverages to pasta, hybrid foods, and veggie burgers, laying the foundation for competitive, sustainable European plant-protein supply chains.