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From Weeks to Seconds: How Syngenta Modernized and Optimized Its Regulatory Function By Moving to the Cloud

Key Takeaways

- The world of agricultural regulation is extremely complicated, and since most agrochem companies operate globally, they must comply with a litany of regulations. This is where a cloud-based end-to-end solution that automates processes can have a major impact.

- In 2019, Syngenta's Seeds Division implemented a cloud-based solution from Veeva for their regulatory and product safety teams that replaced numerous disjointed tools that provided little or no transparency into the status of global regulatory activities.

- By implementing Veeva's regulatory solution, tasks that previously took days or weeks, such as generating reports, can now be completed in seconds. Also, users can now seamlessly and securely exchange information and re-use content.

- A broad-based team effort, C-Suite support, and an intuitive user interface helped facilitate acceptance of this new technology.

This case study traces how and why Syngenta took the bold step of implementing a cloud-based system that provides a single source of truth, revamping regulatory processes that previously took weeks into tasks that now take seconds.

Providing food security for a world population expected to rise from today's 7.7 billion to 8.5 billion by 2030[1] is a daunting global challenge. That's why so much technological innovation in the agrochemical ("agrochem") sector is designed to generate data on critical issues such as harvesting, weeding, insects, and disease. But as technology adoption is growing for management of these tasks, technology for the complex regulatory landscape is in its infancy. Specifically, while data on productivity, supply chain, and costs are moving to the cloud, most regulatory functions are still relegated to a series of siloed spreadsheets and home-grown systems that are ill-equipped to handle the ever-changing realm of global agricultural regulations.

In 2019, that scenario prompted Syngenta's Seeds Division to introduce Veeva's modern cloud-based regulatory management solution, to handle the multitude of steps required for regulatory compliance across the globe.

Syngenta is a Swiss-based company that uses scientific advances to produce seeds and agrochemicals, which helps farmers improve food security. Prior to 2019, it was managing the complicated regulatory work of its Seeds Division with a patchwork of outdated systems that were extremely labor intensive, not connected, lacked version control and data validation, and provided virtually no transparency into the status of compliance.

That all changed when Syngenta implemented Veeva's regulatory solution, which replaced Sparta TrackWise, SmartDoc, Microsoft Excel spreadsheets, SharePoint-based tools, Microsoft Access, GoogleDocs, email, and Extendo PlantOS. According to Shanna Chriscoe, business lead at Syngenta, the new system:

"Allows us to centralize the end-to-end process of registering genetically-modified products, as all of the applications are unified on one platform. Users can now seamlessly exchange information, and re-use content. Also, we've integrated with Planisware, to reduce data entry duplication, and increase the quality of information across systems."

Shanna Chriscoe,
Business lead at Syngenta

Read on to learn more about the complicated world of agricultural regulation, and how and why Syngenta took the bold step of implementing a cloud-based system to create a single source of truth for their regulatory processes, documents, and data.

Regulatory Landscape

Grasping the scope of Syngenta's journey from disjointed systems to the cloud starts by understanding the complicated world of agricultural regulation. As expected, each country maintains its own regulations, which can vary by seed type, cultivation, how seeds will be imported, and how they are to be packaged. These regulatory environments are constantly changing, as are the required dossier formats. And since most agrochem companies operate globally, they must adhere to a litany of regulations and guidance documents, which in the United States, comes from the Environmental Protection Agency (EPA), United States Department of Agriculture (USDA), and the Food and Drug Administration (FDA). Moreover, for seed registration, each of the 50 states has its own requirements.

According to the American Seed Trade Association (ASTA)[2], there are state level priorities tied to legislation for:

- Noxious weeds
- Seed treatment
- Biostimulants
- Plant breeding innovation
- Hemp
- Regulatory funding
- Consistency of state laws and regulations

Tiffany Tanner, a Senior Consultant at Veeva and previously the Global Regulatory Operations Manager with Syngenta, explains, "On the crop protection side of the industry, there are few new regulations and changes to the established guidelines that have been in place for many years. However, on the seed side, you are dealing with a more fluid regulatory landscape, one where new regulations and changes to existing ones are more common. Overall, it's about knowing what each country requires, the different dossier formats needed for submission, and keeping up with the changes as they occur. In some cases, an agency may only require a notification, but not a formal regulatory submission."

Table 1: Examples of Regulatory Bodies

United States	European Union	Canada	Japan	Australia	Taiwan
EPA: Environmental Protection Agency	**EFSA:** European Food Safety Authority	**CFIA:** Canadian Food Inspection Agency	**MAFF:** Ministry of Agriculture, Forestry and Fisheries	**APVMA:** Australian Pesticides and Veterinary Medicines Authority	**COA:** Council of Agriculture
FDA: Food and Drug Administration	**EC:** European Commission	**HC:** Health Canada	**MHLW:** Ministry of Health, Labor, and Welfare	**FSANZ:** Food Standard Australia New Zealand	**DOH:** Department of Health
USDA: United States Dept. of Agriculture	**CPVO:** Community Plant Variety Office	**PMRA:** Pest Management Regulatory Agency (Part of Health Canada)	**MOE:** Ministry of the Environment		**MOHW:** Ministry of Health and Welfare
					TFDA: The Food and Drug Administration

Moving to the Cloud

Tanner was actively involved in Syngenta's decision to implement a cloud-based system for the Seeds Division. The goal was to transition to a technology platform that could provide unified applications and automated processes along every step of the regulatory, safety, and quality pathways and allow for real-time data analysis.

This was a far cry from how the regulatory function was being performed. As Tanner explains, with multiple spreadsheets and applications—and even an interim tool that was an improvement, but not an end-to-end solution—generating reports that documented the status of submissions was a grueling exercise. For example, providing a report to the global head of the Regulatory Seeds Division meant that Tanner would have to approach the few people who had access to the portfolio and advise them that a report was needed so they could update the necessary information, which was a multi-day activity. Pulling the information for the report could take up to a week, during which no one could login to make any changes. By comparison, the new system can generate those reports in seconds.

Similarly, when the CEO requested reports that would detail which approvals Syngenta was expecting in the next quarter or which ones had occurred in the last quarter, it could take weeks to produce them. That's because the existing tools lacked the global transparency needed to ensure data was current and accurate. Specifically, there was no way to manage and know what was contained in the dossiers, so the process of searching each dossier to determine if it contained reports of interest was completely manual. Time was always of the essence, and if an error was found in a report that had been previously submitted, it could take weeks to locate which dossiers contained that individual report. Now, tailored reports, which detail the current registration status of all seeds products, can be produced almost instantly.
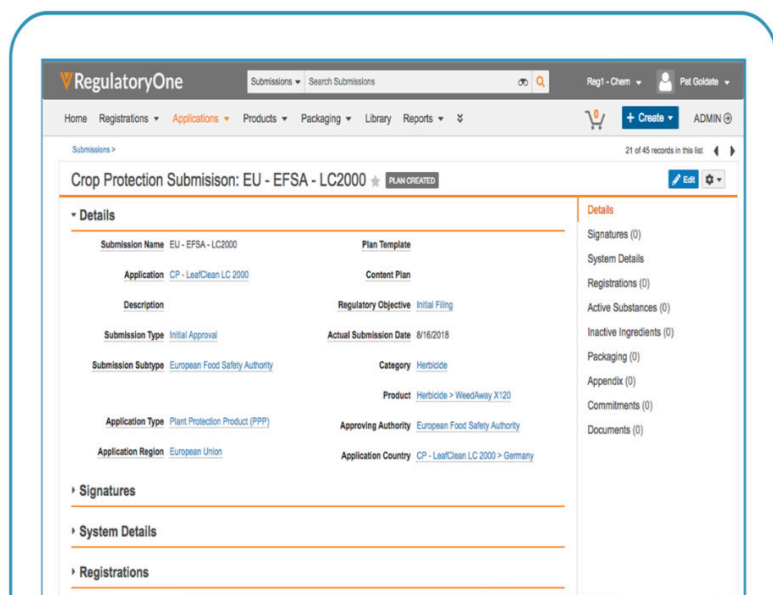

Figure 1. Submission details as viewed in Veeva's regulatory solution

Beyond quick and efficient report generation, a major benefit of the new cloud-based system is the transparency it provides to users and business partners. As Chriscoe describes,

> "Regulatory and Product Safety can see when studies and other dossier components are complete, and when and where they will, or have been, submitted."

*Shanna Chriscoe,
Business lead at Syngenta*

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And as part of this effort, documents showing results of toxicology studies for seed safety are stored in the new system, and can be pulled into the dossier with a click.

Chriscoe explains that previously, the import approval status of a product was only visible to global regulatory managers. Now, regional regulatory and project managers have visibility allowing for better planning for product development and launch.

Other benefits include workload prioritization, maintaining global visibility and standards, less time spent performing administrative tasks, and empowering local responsibility through simple point and clicks to configure logic.

These new functionalities align with current C-Suite thinking about the growing importance of digital solutions to transform how agrochem companies operate, including enabling the free flow of information across the various business units.[3] A report from Deloitte describes these changes in terms of how chemical companies are developing products, how they interact internally and with their customers, and how they strategize their future course of action. In an analysis of issues addressed by chemical CEOs in letters to shareholders, Deloitte found several key themes. A few of them are[4]:

- Creating and delivering business growth by realizing higher value from technologies
- Prioritizing innovation and cost savings to realize continuous growth
- Returning business focus to managing product portfolios

These findings underscore that authorities, managers and executives are no longer willing to wait weeks, or even days for insights into what is happening company-wide.[5] To start the process, agrochem stakeholders looking to transition to the digital regulatory world need a roadmap, and that requires a dedicated team effort.

Innovation Takes a Team

Made up of a diverse group of individuals from Syngenta and its global technology partners, the project team was charged with ensuring that a user-friendly platform would be delivered in less than a year, and within budget. This goal emerged from a two-year discussion about how to move to an enterprise-wide cloud-based solution.

The team included members from the Seeds Regulatory team, Product Safety, Project Management, and other stakeholders, who spent nearly a decade developing and refining harmonized global processes and data standards for the registration of genetically modified products.

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In 2018, Seeds Regulatory welcomed Variety Registration and Protection colleagues to the team, and together, they put forth a huge effort to standardize processes for variety registration. With this foundation, it was possible to pinpoint what needed to be incorporated into Veeva's regulatory solution for key project management functions, such as planning and tracking of variety registration and protection information. The system was also designed to enable integration with the portfolio management databases for each crop, and push task information directly into Planisware. Importantly, Veeva's application had a user-friendly interface, which was pivotal to acceptance in the Syngenta offices in many countries.

What's Next?

Following on the heels of Veeva's regulatory solution adoption in the Seeds Division, Syngenta launched this solution in its Crop Protection Division in November 2019. This signals an ongoing long-term relationship between the two companies as Syngenta sees more departments benefiting from a single source of truth for the massive volume of data the company generates across the enterprise. Nicholas George, Senior Consultant at Veeva who was tasked with customizing the platform for the Seeds Division comments, "The users are excited about it, and there is a line out the door in Regulatory and other groups to get access to it. They continue to add more users."

As the global population keeps growing at a rapid pace, crop science companies dedicated to innovation in the realm of seeds, crop protection, and seed treatment are leading the way, along with farmers, toward greater food security. At the same time, they are facing an increasingly intense regulatory environment, which is why forward-thinking companies are recognizing regulatory as a key function that needs to be able to rapidly respond to changing priorities and submission requirements. An end-to-end cloud-based solution that streamlines these processes, stores data for easy access, and allows for re-use is a major step forward in order to remain competitive in an ever-changing regulatory and business environment.

Sources

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