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Abstract

Regulatory System Impacts on Global GM Crop Adoption Patterns

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When GM crops were first commercialized, science-based risk assessments and regulations were applied to ensure food (human and animal) and environmental safety. Early adopting countries were Argentina, Canada, China, Europe and the United States. Over the intervening 20 years, commercial production spread to an additional 25 countries. With 20 years of adoption history, it is possible to assess if the diffusion of regulations away from a primarily science-based approach has impacted not only the adoption of GM crops, but also the diffusion of specific GM traits.

By assessing GM crop adoption patterns it is possible to gain insights into the relationship between regulatory systems and adoption. To do this an analysis of adoption patterns has been utilized. The objective of the analysis is to look for differences and trends in GM crop adoption across traits, countries and years of diffusion. Timelines of adoption are used to show the correlation between regulatory systems and adoption. This analysis provides insights into whether market saturation points are shortening or lengthening, whether familiarity with traits is reducing regulatory timelines and whether the diffusion curve plateaus or trails off over time. Determining the impact regulations have on GM crop adoption provides both regulators and industry development firms with valuable information on the efficiency of GM crop regulations over time.

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