

# RECOMBINANT PASTS AND CRISPR FUTURES:

*THE PROCESSES AND OUTCOMES OF BENEFICIALLY CONSTRAINING GMO  
REGULATION IN THE US AND EUROPE, 1975 TO PRESENT.*

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**Abstract:** Following the 1973 development of recombinant DNA, American and European regulators sought to corral its dangers and encourage its benefits through beneficially constraining regulation. The US Asilomar Conference (1975) gathered scientists and policymakers to define what became the Coordinated Framework: GMOs would be considered ‘substantially equivalent’ to non-GMOs unless ‘fundamentally altered.’ Europe took the opposite tack: based on a ‘precautionary principle,’ GMOs would be considered intrinsically different from non-GMOs and subjected to heightened scrutiny.

This paper demonstrates how diametrically opposite regulatory outcomes arise from the same principle: both represent constraints on GMOs which their societies considered beneficial. An impromptu US process gathered a technoscientific subset of stakeholders leading to a technoscientifically beneficial outcome. A structured EU process brought together diverse stakeholders leading to a socially acceptable outcome.

Each regime successfully constrained its society into different intended forms. From the technoscientific principles of the US Coordinated Framework, the R&D of GMO technologies flourished. Less emphasized were social costs such as inequalities in global exports of ‘suicide gene’ crops from rich *companies* to developing *countries*. From Europe’s social scientific Precautionary Principle, the R&D of GMOs stalled yet European society remained content.

GMO’s benefits are technoscientific while their dangers are social scientific. Since CRISPR/Cas-9 magnifies the power of GMO, this mismatch must be readdressed. The EU lost the economic battle while the US lost the social one. How will their recombinant pasts affect their CRISPR futures? Can they repeat the successful regulatory response processes which beneficially constrained their political economies for 43 years?

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