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WHAT NOT TO EMULATE FROM EUROPE'S
AGRICULTURE REGULATION

POLICY NOTE

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INTRODUCTION

Trade negotiations between the United States and the European Union are long, tedious, and ongoing. Now in 2021, they still have not reached a conclusion. The 2010 effort was by far the closest, brought on by the proposed Transatlantic Trade and Investment Partnership (TTIP), which would have created the largest free trade area in the world. With TTIP, over 90% of tariffs would have been reduced to zero, benefiting millions of consumers on both sides of the pond, through more competition and choice. However, the agreement died a slow death through the European unwillingness to make concessions on agricultural regulations. Public opinion in Europe had turned against TTIP as it was considered to circumvent EU food rules, by importing potentially harmful food items. Under the Trump administration, the conclusion of new trade deals was rendered less plausible through the worsened political climate, and the European insistence that agriculture could not become part of the equation.

In the long run, this means that while Americans and Europeans visit each other's continents and eat each other's food on business or pleasure trips, they do not benefit from the quality food products that could be delivered through freer trade. For two political blocs long adamant about the importance of free trade, this lapsus is unfortunate. Exchanging goods and services is essential for the understanding and the smooth political exchange between two friendly blocs.

Europe's insistence on the upholding of its food rules should not be seen as an uncircumventable road block — instead the United States should make new efforts to conclude a free trade agreement, without adapting its own national rules to those of Europe. This is not for the sake of showing a hard line, but rather because Europe's agricultural regulations are objectively inferior to those of the United States, at least for the moment.

This policy note explores the reasons why the United States should not attempt to emulate EU food regulations, and an in-depth view into what a world without crop protection tools would look like.





WHERE EUROPEAN FOOD REGULATIONS GO WRONG

HAZARD VS RISK

EU regulation increasingly insists on hazard-based risk assessments as opposed to risk-based assessments. While used interchangeably in the English language, 'hazard' and 'risk' mean different things in the area of chemical approval. In fact, the European Food Safety Authority (EFSA) has published an infographic in order to explain the fundamental difference between both terms. In the EFSA example, lightning is a hazard, while standing under a tree during a thunderstorm is a risk. While lightning has the potential of hurting an individual, being inside a house reduces the risk of actually being killed by it to practically zero. In turn, if that individual exposes themselves to the actual risk of standing next to a tree, the potential of being killed increases exponentially.

increasingly omits this truism, exemplified most acutely when the Munich Environmental Institute (Umweltinstitut München) published laboratory results on glyphosate residues in beer. In a [press release](#), the group writes: "Over 22,000 people joined us in calling for the breweries to ban the substance from beer. A little over a year later, we looked again for glyphosate in beer." This call for action (?) necessitated the [reaction](#) of the German

Institute for Risk Assessment (BfR), which explained in a press release: "In order to ingest quantities of glyphosate that would pose a health risk, an adult would have to drink roughly 1000 litres of beer during one day. According to the current state of knowledge, glyphosate contents of 30 micrograms per litre of beer do not pose a health risk."

Hazard	vs.	Risk
<p>A Hazard is something that has the potential to harm you</p> <p>SHARK</p> <p>A shark in the sea is a hazard</p>		<p>Risk is the likelihood of a hazard causing harm</p> <p>SHARK</p> <p>Swimming with a shark is a risk</p>
<p>LIGHTNING</p> <p>Lightning is a hazard</p>		<p>LIGHTNING</p> <p>Standing under a tree during a thunderstorm is a risk</p>

efsa European Food Safety Authority EFSA is the keystone of EU risk assessment regarding food and feed safety. In close collaboration with national authorities and in open consultation with its stakeholders, EFSA provides independent scientific advice and clear communication on existing and emerging risks. www.efsa.europa.eu

The European conversation on pesticides

to phase out a large amount of crop protection products has been mounting. The Farm to Fork Strategy (known as F2F) of the European Commission seeks to



reduce pesticide use by 50% until 2030, in absence of an impact assessment as to what this means for farmers and consumers. Thankfully, USDA did [its own study](#). It found that, if implemented, F2F would result in a 12% reduction in agricultural production in Europe, and increase the prices of consumer goods by 17% in the EU, 5% in the United States, and 9% worldwide.

Added to that, USDA also found that in the adoption scenario, trade flows would be reduced, and that Europe's GDP would decline significantly as result of the increase in food commodity prices (Europe's GDP decline would represent 76% of the overall global GDP decline as a result of F2F). Developing nations would also be hard-hit, because as a result of these stringent food rules, the EU would implement protectionist measures. It also concludes: "By 2030, the number of food-insecure people in the case of EU-only adoption would increase by an additional 22 million more than projected without the EC's proposed Strategies."

THE GENETIC BACKLOG

Another key element of divergence from U.S. agricultural rules is the European hostility to genetic modification. As the Genetic Literacy Project and Consumer Choice Center's [Global Gene Editing Regulation Index](#), as well as the policy note "[It's in our Genes: Seizing the Opportunities of Genetic Engineering in Agriculture](#)", have shown, Europe lags behind on adequate regulation for genetic modification. Despite the fact that European scientists have been instrumental in developing the genetic engineering

method CRISPR-Cas9, Europe has closed itself off to this technology by adhering to antiquated legislation dating back to the early 2000s. Only a few efforts have been made in civil society and on the political side to change this, but with significant pushback.

Furthermore, the European rulebook on genetic modification is not coherent. A list of thousands of mutant varieties created through radiation [is available on the website of the International Atomic Energy Agency](#), making publicly accessible information. However, despite being publicly available, it most certainly isn't public knowledge, comparable to the way many consumers believe that organic food production does not involve pesticides. If food products were to be labelled with a "product created through radiation," could we expect a reasonable conversation about the pros and cons of this method, or rather a complete rejection of these products from the start? The answer is intuitive. This is not an attempt to discredit random mutagenesis as a plant-breeding technology, nor to make a wider claim about mandatory labelling, yet it does open this question: having considerably more certainty over the effects produced by genetic engineering than those created by random mutagenesis, why are mandatory GMO labels a more attractive political option?

The inconsistencies of public discourse have made their way into legislation at the European Union level. The directive on the use of GMOs (addressed in the next chapter) excludes random mutagenesis, as the European Court of Justice [has confirmed](#): "The Court states, however, that it is apparent from the GMO Directive that it does not apply to organisms obtained by means of certain mutagenesis techniques, namely those which have conventionally been used in

a number of applications and have a long safety record.” This is inconsistent with the scientific understanding of these procedures. In fact, human-induced transgenesis has a long safety record, while the results of random mutagenesis are volatile.

THE 'BEEPOCALYPSE' MYTH AND MISINFORMATION

Not a day goes by that the concept of bee or overall insect population loss drives the conversation on crop protection. This remains a fact in both Europe and the United States. In the US, the 'Bee Informed Loss & Management Survey' has played a key role in perpetuating the misinformation about bee population losses, largely through the fact that only a small fraction of beekeepers participate (less than 10%) in the survey. In fact, backyard beekeepers, more heavily affected by losses in general, distort the final results — a fact unknown to many of the reporters on the 'Bee Informed' press releases, until the release of the final survey much later. Added to that, the 'survey,' as the name suggests, is not a scientific study on the total number of bees, but rather takes the participants at their word, accepting their self-reported numbers they provide in their responses. This survey is not representative of a phenomenon of bee population decreases.

As the Washington Post reported in two separate articles in 2015 - '[Call Off the Bee-pocalypse: U.S. Honeybee Colonies Hit a 20-Year High](#)' and '[Believe It or Not, the Bees Are Doing Just Fine](#)', the hysteria of global bee declines are simply inaccurate. Any curious person can do this themselves: visit the UN's Food and Agri-

cultural Organization's (FAO) [website](#), select "beehives" in the visualized data section, and click on any country or region. Most countries and regions have a steady upwards trend in the prevalence of bees. In the United States, the bee population is actually set to double in the coming years compared to the 1960s. The bottom line is: [honey bee populations are increasing](#).

That said, both in Europe and in the United States, officials are peddling the myth of declining bee populations through the use of chemical pesticides, notably neonicotinoids, known as neonics. The European Commission's own website on '[What's behind the decline in bees and other pollinators?](#)' first asks the question 'Why are pollinators declining?', then adds "Currently, there is no scientific data giving the full picture". Yet, neonics continue to be blamed for insect declines which is why they are outlawed in many EU member states — despite the fact that countries such as [France have had to pause](#) their bans for the fear of losing their sugar beet industry.

According to the [Environmental Protection Agency](#) (EPA), a March 2018 USDA [report](#), and reports from [Canada](#) and [Australia](#), there has been no proven link between neonics and harm to bee populations. Conversely, they are essential to maintain a productive farming system, which equals food security and price stability for consumers. The situation is similar for sulfoxaflor, a systemic insecticide that is used in certain areas as an alternative to neonicotinoids. Still blamed for a non-existent decline in honeybee populations, the substance [has since been found](#) to have no effect on those same honeybees in a realistic exposure scenario.

ORGANIC ABOVE ALL?

The sale of organic food products in the United States accounts for [about 4 percent](#) of total food sales. In the European Union, this number is doubled, [with about 8 percent](#) of the total share. Just like in the US, these demands vary greatly by region in Europe: in Sweden, Estonia, and Austria, organic crops account for over 20% of the total organic land use. In Romania, Bulgaria, the Netherlands, Poland, Luxembourg, or Ireland, it is less than 5 percent. This is related to different incentives that governments have provided in each country, but also to the fact that consumers in these regions have different views and sensitivities on organic food.

That said, many consumers have a distorted view on organic food production, believing that its output is more nutritious, healthier and better for the environment. In fact, more than half of Americans believe that organic food is healthier than conventionally-produced foods. This is why it is important to set the record straight. A Stanford University researcher's [review](#) of 237 research papers found no evidence towards increased nutritious value or "healthier" alternatives in organic food. This was seconded by a 2009 [review](#) of 139 studies in the American Journal of Clinical Nutrition. On environmental claims of organic food, some consumers are equally ill-informed, either through advertizing or through the claims of policy makers.

Credible research has established that moving all current farming to organic farming would increase greenhouse gas (GHG) emissions [by up to 70%](#). Researchers analysed the hypothetical

move of Welsh and English farm production to organic, and found that reduced crop yields in organic farming increased the need to import food from overseas. Including the GHGs emitted growing that food abroad — a part of the equation often ignored by advocates of organic agriculture — total GHGs emitted would increase between 21% in the best-case scenario to an astounding 70%, depending on how much natural habitat and forest had to be cleared to make up for the decline caused by England's and Wales' switch to organic production.

For the European Union, which aims at a 25% organic production target, the impact of overseas imports would be even more considerable. While the study assumed England and Wales would import the majority of the extra food they needed from Europe, a 25% organic EU would be making up its production deficits by importing food grown in less developed countries with considerably less efficient farming methods, which would significantly increase emissions.

For farmers, the impact of increased mandated organic production can also lead to problems. Farmer representatives in Europe have criticized the Farm to Fork Strategy's ambition for a 25% organic production target, for the possibility of severe market imbalance. [They have told the European Commission](#) that without increased consumer demand, incentivizing organic agriculture could considerably reduce market prices for organic products, due to excessive supply. We believe that a socially sustainable food system takes into account the situation of farmers, as they are essential to the well-being of consumers. Overburdening the agricultural sector with unachievable and unsustainable targets contradicts the objectives of the European Union. Producer supply should follow consumer demand and not political plans.



THE CHALLENGES OF CROP PROTECTION

To protect their crops, farmers have a set of tools at their disposal, ranging from crop rotation, chemical and "organic" pesticides (a more precise description would be "pesticides labelled as organic"), and improved plant genetics through genetic engineering. The use of chemical substances is heavily regulated, and through integrated pest management (IPM), many farmers optimize their use of substances. Agencies in both the United States and the European Union adopt a set of authorized substances, which are regularly up for review.

Historically, the use of pesticides dates back to 2500 BCE, when the ancient Sumerians dusted off crops with sulfur — a practice incidentally still used today — to control insects. Particularly since the 20th century, crop protection techniques have made many enormous advances, and can be categorized as **herbicides**, which protect from the 30,000 weed species that deprive crops of space, water, sunlight, and soil nutrients, **insecticides**, which defend against 10,000 plant-eating species, and **fungicides**, which used set to prevent 50,000 plant diseases, such as [mycotoxin contamination](#). Without those tools, the challenges farmers would be faced with would be significant.

[According to the Food and Agriculture](#)

[Organization of the United Nations \(FAO\)](#), farmers globally would lose 30 to 40 percent of their crops due to pests and diseases without crop protection. The importance of crop protection is thereby emphasized and vital. In an agricultural system without pesticides, the world would also lose significantly in biodiversity.

Stanford University researchers [have found](#) that if we farmed in the same manner as 60 years ago, an area equal to the entire land-mass of Russia — three times the area of the Amazon, or four times the entire area of the European Union — would have to be cleared of forest and natural habitat to be brought into agricultural production:

"In the first alternative world scenario (hereinafter AW1), we assume as a first approximation that population, the global economy, and sociopolitics evolved exactly as in the real world (hereinafter RW), but that agricultural technology and farm practices remained as they were in 1961. In the AW1 scenario, an additional 1,761 Mha of cropland (an area larger than Russia) would have been needed to achieve the same production levels since 1961 while holding yields and fertilizer intensities constant, or 1,514 Mha more cropland than in the RW," quotes the study.

This underlines the significant technological improvements that have been made over the years in crop protection. In this sense, the US must strive for more development in the pesticides sector, and not to take the path of regressive policies in the field of agriculture as has been suggested with the [Protect America's Children from Toxic Pesticides Act \(PACT-PA\)](#).

The European Union's ambition, through the Farm to Fork strategy, is to reduce pesticide use by 50% until 2030. Copy-pasting these food regulations would mean that the United States would not follow existing scientific protocol on these substances, nor create a sustainable food system for American consumers.



KEEPING THE AMERICAN COMPETITIVE EDGE

On the worldwide scale of food production, the United States has already fallen behind China and India. Both countries' stake in food exports is negligible compared to the overall domestic production, however, unburdened by the increasing restrictions on modern agriculture, they could soon increase the economic competition on international food markets. China is already the main trading partner for an increased number of countries in the world, particularly in developing nations.

It remains vital that America preserves its competitive edge in food production, not merely by ensuring that American farmers have access to the crop protection methods they need, but also by leading the world in innovative farming techniques, including genetic engineering.

One example of how modern agriculture could benefit farmers is through the idea of [short-stature corn](#), which is genetically engineered to grow roughly three feet

less in height than regular corn stalks, while maintaining the same yield. Innovations like this could help ensure that farmers can better protect their crops from being severely damaged by major storms. Many agricultural areas throughout the United States are subject to extreme weather events, like Iowa, which experienced a devastating wind storm (derecho) in 2020 that damaged over [850,000 acres](#) of crops within the state. Embracing modern agriculture would equip farmers with the tools to help prevent catastrophic crop losses such as these in the future.

As the US emerges from the COVID-19 pandemic, farmers and consumers are hard-hit by the overall inflation rate, which is likely to show effects on overall food prices. Crop protection tools such as pesticides prevent vector-borne diseases, protect from crop losses, and assist in producing larger yields. They guarantee both food security and [food safety](#).

CONCLUSION

American agriculture is a precious good worth protecting. The tools that American farmers have at their disposal to fight pests and diseases are necessary, and through the [availability of genetic engineering](#), more advanced than those of the European Union. Fostering economic exchanges between the EU and the US, including with agricultural goods, should be a priority in multilateral conversations between the two blocs.

That said, the United States should not feel incentivized to replicate European food regulations, because they are increasingly lacking an evidence-base, and are governed all too often by politics, not science.

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