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OUTLOOKS ON PEST MANAGEMENT

CONTENTS – October 2020

COVER PHOTOS: Cotton bollworm (*Helicoverpa zea*) (Photo by Scott Bauer) *and Aedes* (*Ochlerotatus*) *sp*. mosquito on human skin both reproduced courtesy of USDA-ARS; Cocoa showing both frosty pod rot (*Moniliophthora roreri*) and witches' broom (*M. perniciosa*) on the same branch (Ecuador) (Photo by Roy Batemen); Unsprayed strip in sugarbeet showing poppies (*Papaver* spp.) (Photo by Alan Dewar)

WILL THE EUROPEAN GREEN DEAL MAKE AGRICULTURE MORE SUSTAINABLE?

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The year 2019 will be remembered as a year of action and reaction on climate change and environmental degradation challenges which present an existential threat to our planet. For example, the United Nations Climate Action Summit succeeded in their goals for focusing the attention of world leaders on (1) the urgency for action to address the climate emergency, (2) reinforcing the understanding that to keep global warming below 1.5° Celsius by the end of the century, the world needs to work to achieve a 50–55% reduction in emissions by 2030, and (3) achieving net zero emissions by 2050 (United Nations 2019). Whilst agriculture is named as a key contributor to the climate and environment emergency, it is also tasked with a formidable and simultaneous "triple challenge" of producing sufficient, nutritious, and safe food to meet growing global demand, ensuring the livelihoods of millions of people working along the food supply chain, and managing natural resources sustainably (OECD 2020). Europe's answer to the climate emergency was the unveiling of the flagship European Green Deal (EGD) policy by the new European Commission President, Ursula von der Leyen, in December 2019. The aim was to make Europe the first climate-neutral continent and in doing so, ensure a sustainable EU economy, improve people's health and quality of life, and care for nature.

Yet, fast forward to October 2020 and few could have predicted the climate change crisis being relegated to the side-lines in the face of an unprecedented global pandemic. COVID-19 has taken centre stage, triggering an economic, social, and political crisis, and threatening to derail many of the EGD initiatives before they have even started.

What is the European Green Deal?

The EGD aims to provide a roadmap to ensure a sustainable EU economy by turning climate and environmental challenges into opportunities across all policy areas and making the transition just and inclusive for all. It aspires to "boost the efficient use of resources by moving to a clean, circular economy and stop climate change, revert biodiversity loss and cut pollution" (European Commission 2019) (Figure 1).

The ultimate goal is to ensure Europe becomes the first climate-neutral continent by 2050 with this achieved through the first European Climate Law, legally binding EU institutions and Member States to take the necessary measures at EU and national level to meet this target. Progress has already been made in this area with a 23% reduction in greenhouse gas (GHG) emissions between 1990 and 2018; however, current policies would only reduce GHG emissions by 60% by 2050 (European Commission 2019), hence the new and ambitious targets.

Other strategies have been put in place to achieve action in all sectors of the economy including transport, energy, construction, and the chemical industry. Two strategies in particular are aimed at agriculture: the Farm to Fork strategy and the Biodiversity strategy, and are also central to the Commission's agenda to achieve the United Nations' Sustainable Development Goals. The farm to fork strategy claims to enable the transition to a sustainable EU food system that safeguards food security and ensures access to healthy diets (European Commission 2020a). The biodiversity strategy aims to tackle key drivers of biodiversity loss including overexploitation of natural resources, introduction of invasive species, habitat degradation and pollution. This is envisioned to be achieved by establishing binding targets such as supporting the organic sector towards the achievement of the 25% target of agricultural land under organic farming by 2030,

Figure 1. European Green Deal (source: European Commission),

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halting and reversing the decline of pollinators, and reducing the use and harmfulness of pesticides by 50% by 2030 (European Commission 2020b).

Impact of COVID-19 on European Agriculture

The COVID-19 pandemic has had a significant impact across Europe. The early stages of the pandemic saw unprecedented levels of panic buying of all types of food: staples such as rice and pasta, shelf-stable foods such as canned fruits, vegetables, and grains, and fresh produce including milk and eggs. Whilst empty supermarket shelves were a common sight, the root cause was not scarcity but increased stresses in the supply chain as producers struggled to meet demand due to challenges in labour and logistics capacity, caused by the unexpected spike in purchases. High levels of food waste were reported – caused by labour shortages as farms lacked sufficient workers to complete harvests, but also of harvested produce as lockdowns of the hospitality industry led to massive surpluses (e.g. of potatoes in Belgium and the Netherlands). The pandemic has made us increasingly aware of the complex relationships that exist between our health, the environment, supply chains and consumption patterns. But COVID-19 is just one threat to our food systems which are increasingly exposed to multiple and often simultaneous stressors, which can be sudden and short-term in nature, or long-term, and which in turn increase vulnerability to shocks. For example, weather events intensified by climate change have become more common, as exemplified by the extremes of wet and hot conditions that resulted in the worst UK wheat harvest in 30 years. This puts additional pressures on our already overstretched food systems, further emphasising the importance of ensuring a resilient and sustainable food production system that can operate in all circumstances.

Will the Green Deal Improve Sustainability?

The concept of sustainable agriculture involves meeting society's current food and material needs without compromising the ability of future generations to do the same, and is a core theme of the green deal. Sustainability is closely linked to resilience, i.e. the capacity of food systems over time to provide sufficient, adequate, and accessible food to all, in the face of various and even unforeseen challenges. Food systems cannot expect to be resilient to challenges such as climate change and COVID-19 if they are not sustainable. Historically, solutions to produce more food sustainably focussed on bringing more land into agriculture, exploiting new or underutilised resources, and adopting new technologies. However, it is now recognised that we need to do more with less, and use what we have wisely and with the best scientific and ecological investments, especially in Europe. Pressures on land use from a growing population to build houses, transport, and infrastructure, as well as protecting habitats for recreation and biodiversity, mean that simply finding more agricultural land is not an option.

Whilst some of the European Commission's intentions to attempt to transition towards a more sustainable food system should be welcomed, e.g. greater emphasis on the circular economy to decouple economic activity from the consumption of finite resources, and higher levels of funding for innovation to drive precision agriculture using better data, there are concerns that the emphasis is too far focussed on biodiversity at the expense of food production itself. There is a disconnect in Europe, proliferated at the highest level by politicians, because most people do not understand where their food comes from and what inputs are required to grow food successfully. This lack of understanding is true not just for conventional agriculture but organic too: most people do not understand that "organic" does not mean "no pesticides" or "more sustainable" or even safer compared to conventional practices. Conventional pesticides are a key ally in protecting our crops when used responsibly, and whilst at least 40% of our food would be lost without them, they are generally viewed as negative, and as such are an easy target to phase out. Aims to reduce pesticides should be science-based and realistic – setting an arbitrary reduction in use of pesticides of 50% is pointless if their value, i.e. in protecting crops from pests, diseases, and weeds, and actually making a positive contribution to sustainability, is not understood. This politically-driven, rather than science-based, decision making is a major problem (e.g. see Blake 2019), and is accelerating the drive towards agricultural extensification. This is exemplified by the 25% target of agricultural land under organic farming by 2030, up from the current 8%. Organic farming is lower yielding and therefore more land is needed to produce the same quantity of food, a position that is at odds with the desire to grow more from less. Lower yields may mean more food is imported into the EU which risks endangering our rural economies; so how does this improve sustainability and resilience? Similarly, simply reducing pesticide use by 50% by 2030 will be detrimental to food production if alternative control measures are not available or not as effective. And what about the significant quantities of pesticides used in organic agriculture: are they also subject to the 50% use reduction targets? Perhaps the Commission should take note of the French "Ecophyto" plans. Now in its third instalment since its introduction in 2008, the programme aims to reduce pesticide use in France; yet this still has not happened and in some cases, use has increased, thereby demonstrating the importance of pesticides to French farmers.

Will the green deal improve sustainability? Because targets are based on politics rather than science, this is unlikely. For the green deal to work, a balance needs to be sought: one where existing farmland can be intensively managed using conventional and novel techniques but with reduced and targeted inputs where appropriate, niche areas such as sustainable organic agriculture are supported, non-cropped areas are managed extensively for biodiversity and recreation, and where urban development is balanced with biodiversity goals.

References

Blake, R.J. (2019). Is the European Crop Protection industry threatened by the drive towards transparency? *Outlooks on Pest Management* **30**(2): 50–52. Published April 2019.

European Commission (2019). Communication from The Commission to the European Parliament, the European Council,

the Council, the European Economic and Social Committee and the Committee of the Regions. The European Green Deal. Brussels, 11 December 2019. COM(2019) 640 final. https://eur-lex.europa.eu/resource.html?uri=cellar:b828d165-1c22-11ea-8c1f-01aa75ed71a1.0002.02/DOC_1&format=PDF Date accessed: 17 September 2020.

European Commission (2020a). Farm to Fork Strategy. For a fair, healthy and environmentally-friendly food system. Brussels. https://ec.europa.eu/food/sites/food/files/safety/docs/f2f_action-plan_2020_strategy-info_en.pdf Date accessed: 17 September 2020.

European Commission (2020b). Bringing nature back into our lives. EU 2030 Biodiversity strategy. Brussels, May 2020. https://ec.europa.eu/commission/presscorner/detail/en/fs_20_906 Date accessed: 17 September 2020.

Organisation for Economic Co-operation and Development (2020). OECD Policy Responses to Coronavirus (COVID-19). COVID-19 and global food systems. Updated 2 June 2020. http://www.oecd.org/coronavirus/policy-responses/covid-19-and-global-food-systems-aeb1434b/ Date accessed: 17 September 2020.

United Nations (2019). UN Climate Action Summit 2019. https://www.un.org/en/climatechange/un-climate-summit-2019.shtml Date accessed: 17 September 2020.