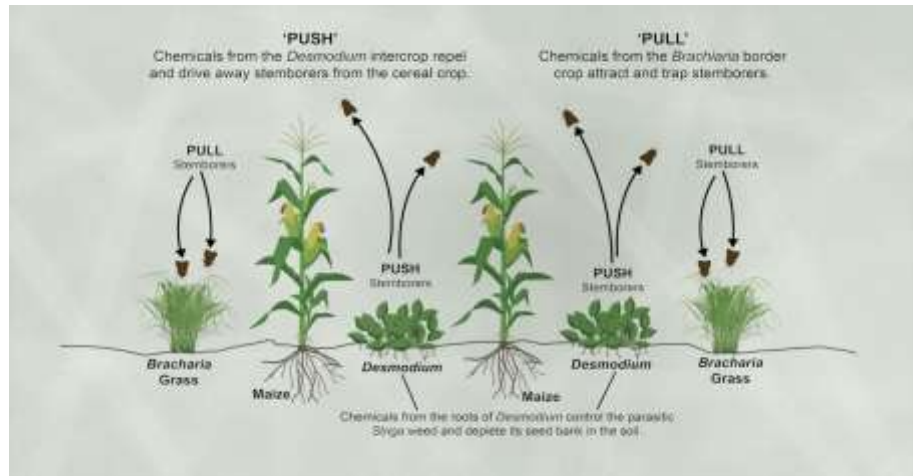


PUSH-PULL TECHNOLOGY PROMOTED BY THE TP ORGANICS EUROPEAN PLATFORM

In the framework of the event “EU-international cooperation in research & innovation to transform agri-food systems”, organized by TP Organics in Brussels, the [UPSCALE project](#), working to implement the transformative potential of push-pull technology in the sub-Saharan region of East Africa has been presented. UPSCALE is an EU Horizon 2020 project coordinated by the Leibniz University Hannover (Germany) with the aim of fostering the design, adaptation and adoption of strategies for integrated agroecological management.



[Push-pull in agriculture, in fact, refers to an innovative and sustainable pest management strategy](#) that combines the use of repellent plants (push) and trap crops (pull) to control insect pests in farming systems. The push-pull technology has been developed by the [International Centre of Insect Physiology and Ecology \(ICIPE\)](#) and has been widely implemented in smallholder farming systems in Africa. It targets specific pests, such as stem borers and Striga weed, which are major threats to cereal crops like maize and sorghum.

UPSCALE is a H2020 Research & Innovation project worth €7.66 million, which started in November 2020 and lasts for 5 years. The project aims to take key steps to realize the transformative potential of push-pull technology by expanding its scope and applicability from individual fields to whole landscapes and regions, and from cereal to other important crops and cultivation systems. The overall goal is to address food security, livelihoods and climate change resilience in the sub-Saharan region of East Africa, in particular in Ethiopia, Kenya, Uganda, Rwanda and Tanzania, while reducing the environmental impact of agricultural practices. For this, it fosters the design, adaptation and adoption of strategies for integrated agroecological management based on push-pull technology for wide-spread and climate-resilient sustainable intensification.

The valorization of push-pull technology among the actors associated with the TP Organics Platform and the inclusion of African countries among the partners of a Horizon project are of particular interest for the transformative potential of this innovation, which has been generated by ICIPE in African countries and proposes a methodology of integrated agroecological management valid for every context to face the climate change.



In fact, among the reasons for this Project, [the UPSCALE website underlines that](#) “Closing the yield gap in African smallholder agriculture is a critical challenge which must be met in order to achieve food security goals for millions of farmers. In sub-Saharan Africa, this challenge is compounded by the need to adapt cultivation practices to extreme dryness and ongoing climate change, and by the recognition that conventional methods of agricultural intensification are environmentally costly, unsustainable, and poorly adapted to low-income farming. Nature-based solutions that harness the benefits of biodiversity and the environment for productive, low input and climate-resilient agriculture are increasingly suggested as promising avenues for sustainable intensification of agriculture in Africa and beyond. Push-pull is an integrated cropping system that involves driving pests away from the main crop using a repellent intercrop (the push) while attracting them out of the crop with trap plants. Push-pull also improves soil health and water retention, provides economic and high-value livestock fodder, and a recently developed climate-smart variant making use of traditional cereal varieties (sorghum, finger millet) increases system resilience to climate change.”

The project website underlines that through its growing success in staple cereal crops, push-pull technology has enormous potential to be the most important discovery for food security and environmentally friendly agricultural management of the 21st century.

The UPSCALE project is managed by a consortium consisting of 18 partners from 4 European and 5 African countries (Ethiopia, Kenya, Uganda, Rwanda and Tanzania) teamed up under the lead of the Justus Liebig University Giessen (Germany). The UPSCALE consortium is composed to tackle the challenges of developing and upscaling the push-pull management system in East Africa and the expertise of the ICIPE Center in development of push-pull management systems is complemented by other partners’ skills and track record in key research areas such as research synthesis, cropping systems ecology, spatiotemporal modelling, chemical ecology, landscape ecology, food-web ecology, soil science and social science including socioeconomics, sustainability science, gender, and policy, as well as international experts on stakeholder engagement and communication.

The UPSCALE website, with its [Knowledge Exchange Hub - Empowering Agriculture through Innovation](#) offers a cutting-edge online platform to share and disseminate knowledge about sustainable intensification practices, push-pull technology and market insights, to empower farming, research and policy communities, and society at large. The Hub offers information on success stories, groundbreaking scientific papers, concise policy briefs, and illuminating best practice reports.

TP Organics, the European Technology Platform for organic food and farming, recognized by the European Commission for giving input in R&I programmes at EU, national and regional levels, unites the whole food supply chain - farmers, small and medium-sized enterprises as well as large companies, consumers, civil society organisations, and researchers active in the organic value chain from production, input and supply to food processing, marketing, and consumption in Europe. Their mission is to strengthen



research & innovation for organic and other agroecological approaches that contribute to sustainable food and farming systems.

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