

News in brief

## UK, BioNTech test mRNA against cancer



The UK government will partner with BioNTech to fast-track up to 10,000 patients into clinical trials of mRNA immunotherapies to treat cancer. The alliance builds on lessons learned during the COVID-19 pandemic, during which vaccine development accelerated because the country's National Health Service (NHS), academia, the regulator and the private sector worked together, according to a [BioNTech press release](#).

The project, dubbed the Cancer Vaccine Launch Pad and run by the NHS and Genomics England, will recruit patients starting September 2023 to take advantage of the clinical trial, genomics and centralized healthcare data [infrastructure](#) afforded by the NHS.

The trials of yet undisclosed mRNA cancer immunotherapies in adjuvant or metastatic settings will run until 2030. Around one-third of BioNTech's wholly owned mRNA vaccine candidates are already in UK trials, all using a fixed combination of mRNA-encoded tumor-associated antigens. These include BNT111 for advanced melanoma, BNT112 for prostate cancer and BNT113 for head and neck and other cancers.

Also as part of the agreement, the Mainz, Germany-based BioNTech will set up an R&D hub in Cambridge, UK employing around 70 researchers, as well as an office in London.

## Small innovators advance microbes as alternatives to chemical crop sprays

**As farmers around the globe embrace microorganisms to treat and protect crops, ag giants sort out how they will participate in the industry, coming to different conclusions.**

By Emily Waltz

Three deals in the last months of 2022 exemplify opposing trends within big ag. Corteva, a major seed and chemical company, in September signed a deal to buy Spanish plant microbe developer Symborg and in November announced it would acquire crop biologicals maker Stoller Group. By contrast, ag giant Bayer in October sold its microbial R&D platform to Ginkgo Bioworks, effectively outsourcing its research in this sector but reserving the right to commercialize lead candidates from Ginkgo's work, such as nitrogen-fixing microbial strains.

Big ag's fluctuating role in developing microbial treatments for crops may leave the

door open for smaller, innovative companies focused in this area. "The majors have gone through multiple iterations of figuring out how they're going to participate in this sector," says Brett Wong, principal at Anterra Capital. "With the ongoing evolutions, there's ample opportunity for earlier stage businesses to provide microbial solutions." For these small companies, the biggest hurdle will be to prove the efficacy of their microbial products, he says.

Plant microorganisms such as bacteria and fungi live natively in, on and around plants and greatly [affect their health](#). They can increase uptake of nutrients, ward off disease and pests, bolster root strength, improve yield and help plants cope with water and heat stress.

Companies have amassed huge libraries of fungi and bacteria sourced from around the world and are testing them in labs, greenhouses and fields to find species that could improve crop performance. Genome sequencing and machine learning algorithms help researchers narrow microbial candidates for testing. Some groups apply selective breeding pressure to microbes or genetic engineering



Corn seed treated with Pivot's microbes, which ensure that nitrogen is available to the roots throughout the growing cycle.