More and more patent applications on CRISPR plants and animals

DowDuPont and 'Baysanto' have taken the lead in new methods of genetic engineering
Freitag, 29. June 2018

DowDuPont is ahead having filed around 50 international patent applications (at the WIPO in Geneva) for genome editing and plants, followed by 'Baysanto' with around 30 applications. The US company Cellectis (and its subsidiary Calyxt), in cooperation with Bayer, is registered as having filed more than 20 applications. Further applicants are Syngenta and BASF. So far, very few patents have been filed by traditional breeding companies. These are results of recent patent research evaluated by Testbiotech.

Most of these patents cover the methods as well as the seeds, the plants and in many cases also the harvest. Filing such patents means that old ideas are being reinvented by using the new methods of genetic engineering: DowDupont and Monsanto have been filing patents on glyphosate resistant plants engineered with the help of CRISPR technology. These patents can be used to protect the core business of the agrochemical companies – genetically engineered herbicide resistant soybeans, maize, oilseed rape and cotton – through building new patent monopolies.

There are also patent applications that are more specific to the new methods of genetic engineering: For example, DowDuPont as well as Monsanto are filing patents on naturally occurring DNA sequences in plant genomes that are supposedly particularly suitable for nuclease applications. Other patent applications are being filed on e.g. changed growth, changed plant composition, resistance to plant diseases or specific technical variations in the application of nucleases.

Animal breeding is also affected by this development. Genus, one of the largest companies in the livestock breeding sector, has already announced that it intends to use animals produced with gene-editing technology and is in cooperation with Recombinetics, a company that has already filed around a dozen patents on pigs and cattle.

“In the discussion about the new methods of genetic engineering, several experts are claiming these new technologies would be cheaper than previous genetic engineering methods and are, therefore, more affordable for smaller companies and not just the biotech giants. However, this overlooks the fact that the new methods using nucleases, such as CRISPR-Cas9, are patented just like the manipulated plants and animals,” Christoph Then says for Testbiotech. “Experience shows that small and medium sized breeders cannot survive in a landscape formed by patents.”

The influence of the seed giant companies will expand further with the patents and promote concentration in this business sector. Currently, just three companies, Monsanto, DuPont (now merged with Dow AgroSciences) and Syngenta, control around 50% of the international seed market.

This development can have serious implications for conventional breeding. The patents not only cover technical processes, but also plants and animals and their breeding characteristics. So-called 'absolute product protection' is applied in this context: these patents cover all plants and animals as described in the patent claims, no matter whether genetic engineering (such as genome editing) or conventional breeding was used to produce them. For example, if a lettuce is manipulated to be resistant to aphids, such a patent can cover both the plants manipulated with CRSIPR-Cas as well as the plants derived from conventional breeding. Thus, step by step the patent monopolies are expanded to the whole area of plant breeding.

Kontakt:
Christoph Then, info@testbiotech.org [1], Tel 0049 151 54638040

Weitere Informationen: Testbiotech Background on patents on genome editing [2]
Anhang Größe

more CRISPR patents.pdf [3] 92.58 KB

Links
[1] mailto:info@testbiotech.org
[2] http://www.testbiotech.org/node/2220
[3] https://www.testbiotech.org/sites/default/files/more%20CRISPR%20patents_0.pdf