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Output Traits in Seeds

How to Capitalise on the Added Value?

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While the advantages seed input traits such as herbicide resistance bring can be capitalised by farmers, for output traits this is often not so straightforward. Especially when they offer advantages to stakeholders further downstream, seed companies have to look beyond their typical client case, in order to capitalise on the added value.

The recently announced new canola oil by Cargill is another example of an output trait making its way to the market. At the basis lies a new canola seed variety that generates oil which contains less saturated fat, while other features of the oil, such as frying performance, remain intact.

In January, a research collaboration, including French cooperative Limagrain, announced the development of a new wheat variety with more fibre than regular wheat—another illustration of an output trait in seeds.

Involvement in investing depends on feature of trait

Within output traits, a distinction can be made between higher-yielding (e.g. drought resistance), nutritional (e.g. higher oleic acid in oilseeds), and operational advantages (e.g. longer broccoli stalk to facilitate harvesting). Because higher-yielding seeds directly benefit growers, they are incentivised to pay the higher price. The biggest challenge in capturing the added value of the trait generally lies in the nutritional and operational segments as these are further away from the seed players in the supply chain.

Corporate involvement in output traits already ranges from farm inputs companies to actors in the ingredients, consumer foods, supermarkets, and the renewable chemicals area. Capturing the added value of output traits that benefit processors, retailers, or end-consumers is much harder than with the input traits, as these companies are not the direct customers of the propagation material.

Cooperation to capture added value

Capturing the added value of other output traits requires partnerships along the chain. Early involvement of downstream stakeholders in the development of new traits is a logical modus operandi. However, during the pre-commercialisation phase, the role of downstream players is relevant when it comes to preparing their growers and offtakers for the new product. Thirdly, a role in distribution and/or pre-financing of seeds can be foreseen for downstream stakeholders—fitting with the trend in which they increasingly funnel inputs for their grower base.

Output traits highlight difference between breeding techniques

Output trait development is not limited to the GM space. Conventional breeding companies are also active in adding these traits to their portfolio.

Moreover, as output traits are closer to food producers, supermarkets, and ultimately consumers, one should be conscious of potential consumer distrust when using GM technology and new breeding techniques (NBTs), such as gene-editing, to add new features. In this regard, the discussion in the EU regarding NBTs is relevant because classification as conventional or genetically modified can influence consumer acceptance. Moreover, the EU model of traceability and labelling of GM products, which is a safeguard for consumer transparency, may become even more exemplary for other countries around the globe going forward.

Imprint

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