

## Thanks to the support of Arvalis (Carnot Plant2Pro), Eco-Mulch is consolidating its technological leadership with a cover cropping solution.

Eco-Mulch's intercrop mower — an accessory to a multi-purpose piece of machinery — combines an agronomic approach, the power of digital technology and agri-machinery expertise. The partnership with the Arvalis agricultural research institute has turned permanent cover crops into a genuine commercial proposition for a more sustainable agriculture.

### Supporting Innovation

In both traditional and organic agriculture, health, regulatory and societal constraints are driving the quest for alternatives to environmentally-unfriendly products and cover cropping is one such solution. It consists of alternating a row of main crops with a row of cover crops, which will be managed so as not to interfere with the main crop. The cover crop traps nitrogen and helps control weeds, however managing the competition between the cover and main crops remains a tricky issue. With the Eco-Mulch mower — which is accurate to within 2 to 3 cm in guiding the carefully-centred machinery mounted on a support arm — cover crops can now be thinned out just when they need to give way to the cash crops. After it has been used, the intercrop mower arm can be replaced by the accessories for sewing and treating the cash crop. The cover crops are already present during the intercrop period and subsequently get more light and are able to grow more rapidly, boosting their capacity to restructure and enrich the soil.



### The client needs

Eco-Mulch is an SME set up 22 years ago in central France by a couple of farmers in response to difficulties being encountered in organic farming. Their overriding idea was to replace specific dedicated tools with more versatile farming machinery to optimise production costs. The Gaïa tool carrier, unveiled in 2018, helps achieve this objective and comprises a single chassis consisting of a coupling device and a beam. Parallelogram arms are used to mount the accessories along this central column. The spaces between the parallelogram arms are regulated once and for all and you just move the axis of the hitching device to work either the rows of cover or cash crops. Eco-Mulch is always on the lookout for new sustainable agricultural solutions and, thanks to the results achieved by Arvalis with permanent cover crops, it weighed up the potential of expanding its range of accessories with an intercrop mower. This provided an opportunity for a small company to consolidate its technological leadership in a rapidly growing market. Both the accessory and the entire model are affordable regardless of the type of agriculture practised.

Gaïa deploys the RTK-GPS guidance system already used in its other farm machinery and both mower and related system are now attracting interest on the international market.

### Partnership

Arvalis agricultural research institute, part of Carnot Plant2Pro, works directly with farmers and professionals from the sector, helping them to respond to societal challenges by disseminating technological innovation. Arvalis has succeeded in demonstrating the benefits of permanent cover crops: trials conducted in 2017 and 2018 on soft wheat along with an alfalfa cover crop, show that controlled mowing of the cover crop results in high yields and wheat with a high protein content. However, to use this technique on a much larger scale, we need machinery that can control cover crop development without hampering the growth of the cash crop. This partnership has enabled Eco-Mulch to develop an intercrop mower that augments its Gaïa range of farm machinery. It meets the technical requirements for managing rows of cover crops without stymying the growth of the main crop. This new piece of machinery is helping Eco-Mulch to maintain its technological leadership, as borne out by interest from the North American market. As ambassadors for this new approach, promoting the use of cover crops has also boosted the visibility of both Arvalis and Eco-Mulch.