



CONSOLIDATING AND EXTENDING HARMONY'S PILOT FARM PROGRAMME TO DRIVE INNOVATION

In 2008, Mondelez International created and implemented the Harmony line in partnership with actors in the sector to promote wheat-growing practices that better protect the environment and local biodiversity, as a guarantee of biscuit quality.

Building on nine years of experience in deploying this approach in France and Europe, we continue to develop the charter, based on an annual revision in conjunction with our partners in the field and outside experts. n co-construction avec les partenaires sur le terrain et des experts extérieurs.

To capitalise on these achievements, we launched a **voluntary pilot farm** scheme in 2014, in partnership with actors in the sector. Pilot farms trial new crop models and breakthrough agricultural practices, and evaluate them based on a set of key indicators, with the aim of applying them over the medium term on a sector-wide scale.



THE ORIGIN OF PILOT FARMS

Mondelez International brought together a **panel of experts and partners from the sector** in 2014 to develop the first pilot modules, their protocols and their monitoring and indicator sheets.

Since the launch of this initiative, annual meetings with project partners have made it possible to refine our pilot monitoring practices and implement new protocols within the sector.



THE CONVICTION THAT DRIVES HARMONY

By reducing inputs and promoting soil and area biodiversity, agroecology makes it possible to strengthen agrosystem services and guarantees an approach to agriculture that is more "efficient" in terms of cost, time and yield, more resilient and more sustainable.



OUR AMBITION

1. Significantly reduce the quantity of phytosanitary products used
2. Develop crop models not dependent on certain molecules
3. Expand and promote Ecological Focus Areas and ecosystem services
4. Provide partner farmers with the necessary elements to develop, over the long term, a resilient and more environmentally friendly form of agriculture



OUR PILOT FARM APPROACH IS AMBITIOUS AND PRAGMATIC

1. We set up pilot farms on partner sites to better understand the specific qualities of an area
2. We measure, evaluate and analyse protocols and results over several years based on a range of indicators, including economic (yield, margin, etc.), wheat quality (specific weight, protein content, mycotoxins, bakery products, etc.), phytosanitary and soil (IFT, Soil Working Index, etc.) and biodiversity (EFA, bee populations, soil biomass, etc.).
3. We conduct microplot or field trials on farms to promote the ownership of techniques by farmers
4. We share the results - successes and challenges - with all pilot partners



MODULE # 1 :

Reducing seed coating (CAVAC, SCARA & Terre Atlantique)

These pilot farms test various seed types, including uncoated seeds and coated seeds without neonicotinoids. On platforms with moderate aphid pressures, trials without neonicotinoids obtained yields more or less comparable to conventional crop management, but exceptional conditions over the last two years make a direct link impossible to establish. In addition, some microplot trials on honey strips underline the **need to study the problem of seed coatings on an area scale** in order to highlight the ecosystem functions of the crop environment.



MODULE # 2 :

Limiting the use of growth regulators (SCARA, NORIAP & NEOLIS)

The aim of this module is to study alternatives to conventional growth regulators. Different methods - Ethephon, Trinexapac, the secondary regulatory effect of certain products, and dose reduction - were trialed on pilot plots and microplots. These tests did not identify ideal alternatives to the usual regulators, but show that this subject requires a more agronomic approach, and suggest the need for **more research over the next few years into lodging prevention mechanisms** (date and density of sowing, fertilisation, varieties and associations) and the **development of better decision-aiding tools (DAT) for the sector** to pilot crop regulators and fertilisation.

MODULE # 3 :

Studying the benefits of the complementarity of two species within plots (Terrena)

The aim of this pilot farm is to study the effects of associating permanent legume cover within a plot. This innovative technique could limit nitrogen inputs and soil erosion while increasing soil fertility and is therefore in line with Terrena's "La Nouvelle Agriculture" (New Farming) approach.

However, some of the issues raised by this pilot concern the control of legume-main crop competition in rotation. For example, four farmers from the Terrena cooperative successfully planted common wheat "under legume cover" (alfalfa or white clover). This pilot made it possible to check the technical feasibility of these crop associations while highlighting two priorities for future work: weeding control and decision-rules for fertilisation piloting. The acceptability of this highly innovative practice, which has yet to become commonplace in farming circles, is another major challenge, but **the successful implementation of this trial holds out considerable hope for the future.**



MODULE # 4 :

Reintroducing wheat varietal diversity (Vivescia)

Wheat varietal associations were tested in 2016 on microplots to study the potential benefits of certain mixtures, such as resistance to brown and yellow rust, leaf spot and lodging. The results were **very interesting in terms of lodging resistance**, although it should be noted that it was not a high-risk year. Varietal association showed little susceptibility to lodging, even in the absence of growth regulators. On other criteria, such as resistance to fungal diseases, the mixture obtained similar results to varieties alone. This testing is set to be repeated over a number of years to confirm the benefits of varietal diversity.

THE NEXT STAGES IN OUR APPROACH

A third-year review meeting will be held after the 2017 harvest to **build on our results analysis**. We will also continue to call on our partners to **implement our protocols** in other areas, and to conduct trials for other practices, including **agroforestry**.

