

# Crop mixture: lupine and triticale

## Why combine lupine with triticale



Picture 1: Lupine with Triticale

The long history of lupine farming began in the 80's and led to structure a real sector within Terrena. Jouffray-Drillaud selects varieties, Terrena Seeds produces seeds, technicians and collectors cultivate-support-collect and Lup'Ingredients transforms. Thanks to its nutritional, functional and agronomic qualities, lupine entices. It is used in the agri-food industry, human health nutrition, animal nutrition and even in cosmetics. On the other hand, lupine cultivation is considered as difficult, especially when it comes to weed control because of its low soil cover. Today, very few herbicides are registered for this crop and their action is restricted, which discourages farmers.

A solution? Add triticale into lupine plots (picture 1) to help farmers to have a better weed control and secure their income.

Interview with Didier GERBAUD (picture 2), protein crop expert at Terrena Agronomic Department.



Picture 2: Didier GERBAUD

### For a better weed management

Actually, lupine emergence and development are not fast enough to control autumn weeds. Triticale, which is a cereal with a high development potential, is able to smother weeds (picture 3 below). From the results of our trials (2008-2016), we consider that the chemicals applications on lupine-triticale are then limited to only one chemical weed control at sowing.

### For a secure income

In opposition to the crop mixture oilseed rape-companion (episode 1), in this mixture, both crops are harvested and the seed mixture is then sorted. Thus, the mixture has a second advantage: in the event of an incident on one of the two crops (disease, insect pest or development problem for example), the other may take over and partially offset the losses. For example, the picture 4 shows a lupine-triticale field having suffered from a particularly rainy winter (2014): in the upper corner of the field, the excess of rain has been fatal for lupine and only triticale can be found (light green).

In addition, although lupine yields decrease in crop mixtures (3.1T/ha alone - 2.5T/ha), triticale yields make it possible to fill the shortfall and even to increase the farmers' income.

Another proof that every technical problem can be solved thanks to crop mixtures.



Picture 3: To the left, lupine alone. To the right, lupine-triticale (Terrena)



Picture 4: Lupine-Triticale field suffering excess water (2014) (Terrena)