

Intercultural plant mixes, LA experience in the 2021 season

As a result of climate change and intensive cultivation of agricultural land, the question of how to maintain soil fertility and its sustainability in the future is becoming increasingly important. A great solution is to introduce intercultural plants or “receiving plants” on the farm, which is one of the ways to provide ecologically significant areas (ENPs) on the farm, which is one of the three types of EU greening practices.

ENPs are spatial and landscape elements that have a positive impact on the climate and the environment. The purpose of their establishment is to protect and enhance biodiversity on the farm, 1 m² intercrops = 0.3 m² ENP contribution. The main task of autumn-sown crops, in the period from September 1 to October 31, is to accumulate nutrients left in the soil after the main crop is harvested. Of course, this is not the only task and benefit of growing plants. In addition, the structure of the soil is improved due to different types of root systems, the content of organic matter in the soil increases, and soil erosion is limited.

Trends for several years clearly show that the demand for different types of seed mixtures is increasing. The autumn season of 2021 is no exception, as it was the first crop year for some farmers. As the owners themselves say, a trial year. The standard and special mixtures offered by SIA “Linus Agro”, as well as certain species are delivered from the seed factory in Dotnuva, Lithuania under the brand name “Dotnuva Seeds”. There are often cases when it is difficult to choose the most suitable mixture, because it is quite difficult to predict the sowing time - it largely depends on how the threshing works take place. The next step - sowing technology, as well as considering what crops are grown on the farm.

The choice of mixture is determined by its composition, as plant species that are not grown on the farm are more often purchased. For example, SIA “Linus Agro” offers simple mixtures of two plants “Dotnuva GREEN 1” and “Dotnuva GREEN 2” - oil radish together with mustard in two proportions - however, we do not recommend choosing this type of mixture for farms who grows rapeseed, to limit the cultivation of cruciferous plants in one field. This season there were several mixtures with a more diverse composition, such as “Dotnuva GREEN RAPS”, which included sunflowers, buckwheat, vetch, phacelia. Such a mixture is the top choice for non-cruciferous plants. Another mix, that includes vetch and phacelia – Dotnuva GREEN N - FIX – also includes an annual clover that grows faster than white or red clover - in the short autumn period, both a strong root system and the aboveground part are formed. At the request of customers flax is also included/could be included in special mixes.

We recommend a **sowing period** choose till 15th of August for almost all intercultural mixes. With the exception of oil radish and mustard, which optimal sowing time could be up to 31st of August, as their development is faster in the autumn, especially for mustard. The **sowing technologies** can be different - traditional - with a seed drill, we recommend for mixtures containing seeds of different sizes, for example - peas and phacelia. Seed spreading with a fertilizer spreader is used both before and after harvesting the main crop. The rate of germination also depends on the sowing method, as it will take longer to spread the seeds during the drought period than when the plants are sown with the drill in optimal humidity conditions. The main thing to remember is that the seed must come into contact with the soil - after spreading it is possible to use a harrow to plow the seed into the soil, or if the spreading is done before threshing, the straw “blanket” will ensure moisture retention until germination.

LA experience. In October several fields were surveyed in different regions by LA specialists. Sowing dates are spreaded through all August.

After visiting fields, LA specialists observed that the mixtures of plants, which have been sown by the middle of August, have well succeeded - a strong root system, rich tubers have formed in the legume plants, the surface part of the plants have a large green mass. Also agronomists of the farms admitted that the sowing time is very important for the sowing to succeed. Sowing time is also important when choosing sowing rates. Sowing rates vary depending on the type of mixture, but in general we can conclude that just like crops - the earlier the sowing time, the lower the sowing rate. If farmer chooses early sowing time, he must remember to reduce the sowing rate, otherwise the plants are large, they compete and shade one another. Some other things to keep in mind - in mixtures containing buckwheat - they are the first to grow to a flower and the first to freeze. Sunflowers are also sensitive to frost, but most of the plants in the mixture continue to grow after them. Therefore, it is valuable to leave the plants in the field until spring, so that they continue to grow until a period of very low air temperature occurs, unless there is a risk of seed ripening.

The most popular blends in the 2021 season at Linas Agro were NITROFIX, Dotnuva GREEN RAPS, Dotnuva GREEN BIO MASS, as well as certain species - vetch, deep root radish, oil radish, mustard from which customers form the blends themselves.