Abstract for Poster Presentation
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On-Farm Trials with Cover Crops in the Steppes of Ukraine

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Treatment 1
Black oats

Due to high C to N ratio this crop is a good soil builder and competes well with weeds. However, because of dry weather conditions it does not produce abundant biomass.

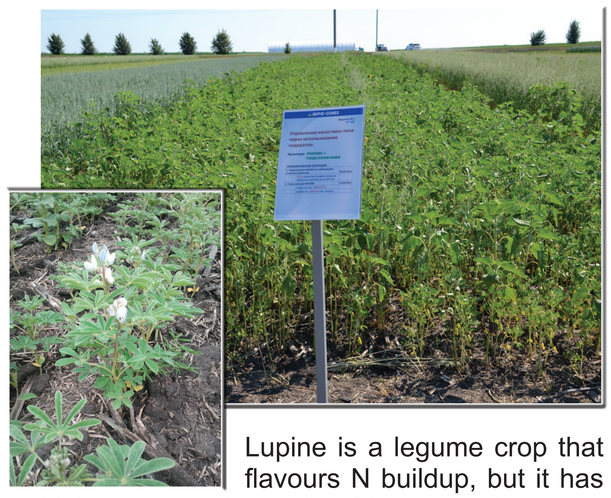
Treatment 2
Vetch + Oats

This mixture is a potent competitor against weeds. Even sunflower is suppressed. This mixture is the most optimal for our region in terms of carbon and nitrogen buildup.

Treatment 3
Sweet clover+ Sainfoin+ Oats+ Sunflower

Mixture: sweet clover + sainfoin + oats + sunflower proved to be advantagenous in our conditions. Due to ability of legume crops - sainfoin and sweet clover - to fix N, the content of his nutrient in our soils increases. Oat increases C content in the soil. And sunflower due to its taproot that penetrates deep into the profile, eliminates soil compaction.

Treatment 4
Lupine + Sunflower



Lupine is a legume crop that flavours N buildup, but it has high water use factor, for this reason in our region of low precipitation level it develops modest biomass and cannot achieve its potential. And the disadvantage is that it uses moisture stored in the soil which can have an adverse effect on the growth of the following crop.

Treatment 5
Barley + Peas + Oil radish

The root exudate of oil radish makes phosphorous available from poorly degradable compounds, and peas flavour nitrogen buildup in the soil. Besides, we can see compaction reduction due to crops with tap root.

Treatment 6
Sudangrass + Sunflower

The mixture of Sudangrass and Sunflower showed that Sudangrass is a vigorous competitor and during vegetation suppresses both weeds and companion crops. Thus, it can be used in severely infested fields.

Treatment 7
Faba beans + Sunflower

Over the vegetation period a big number of *Rhizobium* nodules formed on the roots of faba beans. This symbiosis will improve the yield of the following crop due to Nitrogen accumulation.