

Alley cropping in Agroforestry.

Report from SOLMACC activities at Hånsta Östergårde 100km north of Stockholm Sweden.

The farm cultivates 160 hectares of arable land. It is in organic production since 1987. In the farm there is also a small animal husbandry with beef production, sheep, outdoor pigs and laying hens. The farm also has 57ha forest and about 10ha permanent pasture.

On the farm we do 4 activities in the SOLMACC project to mitigate climate change

- Alley cropping in Agroforestry.
- Relay cultivation.
- Field based animal breeding.
- Cultivation of winter peas.

Alley cropping in Agroforestry.

In May 2015 we started with the alley cropping on 1ha,



It is clay soil with silt and low rate of organic matter. The year before it was black fallow for weeding.



We started with pointing out 12m in between the beds for planting trees and shrubs. We used a normal plough to open up the soil as deep as possible.



The plough was equipped with a homemade sub soiler which was going down to 70cm under the soil surface.



After, we ploughed back the soil so it became a cultivate bed.



The cultivating beds have a north-south direction.



After, we did the planting of different varieties of apples and pears.



Planting the different varieties of the sea buckthorn shrubs.



The land in between the rows of trees and bushes was seeded with a mix of spring rye-peas.



In the very beginning we gave water carefully and often.



Very soon we installed drop irrigation. Here seen in the row of saskatoon.



In the end of August the different varieties of hazels were planted.



Many visitors, also during the field day when it was raining a lot.



21 sept 2015 the mix of spring rye-peas was harvested.



Ploughing in October.



January 2016. The little alley cropping is, with a net, protected against hares, roe deers and wild bores.



In the middle of May 2016 the field was seeded with oats and under seeded with mixed ley.



Weeding with a rotary cultivator close to the berry shrubs.



For the purpose of weeding we also used battery powered hoe and weed wacker.



The oats in the Alley cropping the 23 of August 2016.



The harvest of oats the 22 of September 2016.



2017 is the third year in the alley cropping, here the first harvest in the first year of ley.



Making round bales of hay silage in June.



Second harvest in August, in a ley rich of species.



In spite of the strong frosts in springtime we have got some apples, specially from the variety Katja.



The sea buckthorn shrubs have grown from 2dm up to 1.5m in 2years and gave plenty of berries 2017.



Sea buckthorn berries

All together it has so far been easy to continue the normal cultivation of organic crop rotation in between the rows of trees and shrubs.

It has also been rather easy to plant, support and drop irrigate the rows of trees and shrubs.

One anyway has to expect to weed the rows of trees and shrubs at least 3 times /season during the first years.

It will be exciting to follow, if we in the coming years will get an increased carbon sequestration and enlarged ability to keep the nutrition in the ground. We also look forward to tasty fruits and nuts and an increased economical net profit from our alley cropping.

Kjell och Ylwa Sjelin