PRACTICE ABSTRACT NO. 19

Living mulches: common sainfoin

Problem

Several species of living mulch can be used. It is important to know them well to use them wisely.

Solution

A good knowledge of the characteristics of sainfoin is essential to control its implementation and benefit from the cropping system.

Outcome

Applied research allows a better understanding of the interactions of sainfoin with its environment.

Photo 1 : Common sainfoin (Arvalis)

Applicability box

Geographical coverage
Europe
Application period
All year
Required time
-
Period of impact
Continuous
Equipment
Not specific

Practical recommendations

This fodder plant with pivoting root system is perennial (2-4 years). Sainfoin is a specie that adapts to all types of soil except hydromorphic undrained soils. It can be used as fodder as it does not enhance bloat.

- The cost of seeds is important with certified seeds at 90 kg/ha in pods. However, farmers often multiply their own seeds.
- Sainfoin can be integrated in all crop rotations. Sainfoin is a non-host species of Aphanomyces, highly or totally resistant.
- Establishement is easier in limestone drying soils **(Table 1**).
- Optimum seeding depth of 2-4 cm (to be adapted according to soil moisture).
- Does not germinate in hot or very hot temperatures (>32°C).
- High tolerance to water stress.
- Not very sensitive to herbicides and plant growth regulators are to be preferred to control the cover crop biomass.
- Potential beneficial effect on the nitrogen fertilisation of the following crop, after the cover is destroyed or regulated at the right time in the rotation
- Regulation at the end of winter and spring is important not to become a constraint to the harvest of the main crop **(Table 2).**
- Its chemical regulation is quite difficult in rapeseed and difficult in wheat and maize**(Table 3)**.

Table 1. Adaptation to soil types

Deep, healthy and undrained soil	Adapted
Fairly healthy, drained soil	Unsuitable
Undrained hydromorphic soil	Very unsuitable
Acidic drying soil	Adapted
Limestone drying soil	Very well adapted

Table 2. Growth dynamics according to the season

Competition period	
Winter	Low growth/competition
Spring	Very strong growth/competition
Summer	Very strong growth/competition
Fall	Medium growth/competition

Table 3. Ease of chemical control

In rapeseed	Quite difficult
In wheat	Difficult
In maize	Difficult

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Practical testing/Farmers' experiences

In a healthy and dry environment in summer, sainfoin is a very well adapted specie as its presence in French Provence region where it is an alternative to lucerne.

Further information

- Sainfoin cultivé, Onobrychis viciifolia : http://www.fiches.arvalis-infos.fr/couverts/fiche_couvert.php?id_couvert=504&dept=75#fr
- Webpage: https://www.remix-intercrops.eu/
- Facebook Page: https://www.facebook.com/RemixIntercrops/
- Wiki: http://vm193-134.its.uni-kassel.de/En.DiversiWiki/index.php/Mixture_practice_for_farmers_and_advisors
- Check the Organic Farm Knowledge Platform for more practical recommendations.

About this abstract

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Date: April 2021

ReMIX is a H2020 multi-actor project that will allow designing cropping systems based on agro-ecology for the benefit of farmers and the whole EU agricultural community. ReMIX will exploit the benefits of species mixtures to design more diversified and resilient agro-ecological arable cropping systems. Based on a multi-actor approach, ReMIX will produce new knowledge that is both scientifically credible and socially valuable in conventional and organic agriculture. The project will tackle practical questions and co-design ready-to-use practical solutions. The project will span from the specification of end-user needs and the co-design of in-field and on-farm experiments to demonstrations with evaluation of new varieties and practices. ReMIX will contribute to the adoption of productive and resilient agricultural systems. The project is running from May 2017 to April 2021

Website: www.remix-intercrops.eu

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