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## **RMT "AgroforesterieS": a new Mixed Technological Network for agroforestry development in France**

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Using this approach, grazing treatments could be compared in terms of time gain. Assuming that a grazing treatment shortens the rotational period by “X” years allowing a certain time gain, the additional relative cost can be compared with the break-even additional relative cost. Preliminary results indicated that two grazing treatments have the potential to decrease the time to declare a stand free-growing compared to one grazing treatment. Thus, this time gain, at a young age (e.g., 10 yr) could potentially result in a time gain at the end of the rotational period (e.g., 80 yr). This presentation will examine the profitability of sheep grazing with more detail and show how this method has the potential to shorten the rotational period.

## **RMT “AgroforesterieS”: a new Mixed Technological Network for agroforestry development in France**

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Facing new challenges of agriculture, the research for more sustainable agrosystems includes a growing interest in agroforestry practices. Over the past years, a large number of experimental and demonstration plots have been established all around France. However, coordination between research and extension partners is lacking.

In order to support innovations in agriculture, the French government encourages partnership between research, development and education stakeholders, through the creation of Mixed Technological Networks (Réseaux Mixtes Technologiques, RMT). These RMTs benefit from national recognition and receive a grant for network coordination and communication. In 2014, a new network was created: the RMT “AgroforesterieS” brings together about fifty members involved in agroforestry, from research, semi-public and associative farmers’ organizations, technical institutes, engineering offices, and agricultural schools.

By sharing expertise, databases, and demonstration sites, the network aims at

(i) promoting collective dynamics for the development of sustainable and innovative agroforestry systems adapted to the French territorial constraints, and

(ii) developing technical and methodological tools for the setting up and management of agroforestry systems. It will particularly achieve these by:

Creating an observatory of agroforestry practices, including both experimental and commercial sites, in order to provide technical references for farmers;

Carrying out a multicriteria assessment of agroforestry systems, in terms of economical, technical, agronomical and environmental performances, as well as adoption factors;

Ensuring the coordination of scientific and technical stakeholders in order to initiate new collectively-thought projects of research and development in agroforestry;

Developing and/or improve decision support tools for farmers and land managers for the design and management of agroforestry systems;

Drawing up a strategy for knowledge diffusion towards future advisors, learners, and users.

## **Impact of black locust hedgerows on wind velocity and wind erosion in Eastern Germany**

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The production of energy wood on arable land increased in Germany during the last years. Black locust (*Robinia pseudoacacia* L.) is a suitable tree species in order to ensure substantial woody biomass yields on agricultural sites in eastern Germany. Arranged in hedge structures (alley cropping) positive effects on wind velocity and hence on soil erosion can be expected for the whole agricultural production area.

Results of field measurements carried out in several alley cropping sites located in eastern Germany show that wind velocity can be reduced by more than 50 %, even though tree hedgerows were not higher than four meters. Here, the reduction of wind speed was dependent on the distance to woody crops, the width of the crop alleys and the orientation of hedgerows. As a result of wind speeds reduction the potential of soil erosion by wind decreases considerably. The risk of wind erosion is even nearly negligible for 24 m wide or smaller crop alleys.

The establishment of short rotation hedgerows could contribute to an enhanced protection against wind erosion and thus to an ecological and possible long-term economic appreciation of agricultural sites. Aside from erosion control, further advantages such as a lower evaporation rate, and thus a crop yield increase, may be connected to the establishment of such agroforestry systems. Against the background of the increasing demand for woody biomass for bioenergy, the cultivation of fast growing trees on agricultural sites can furthermore result in an additional income