“Incentives for Tree Planting on Farms in the European Union – is Agroforestry supported?”

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1 Summary

This Appendix gives an overview of past and present EU assistance to tree planting on farms. It considers
the eligibility for grants of trees planted at wide spacing, as in silvopastoral or silvoarable systems.
Agroforestry is felt to offer many advantages for farm diversification and environmental enhancement, but
its uptake seems to have been impeded by fiscal and financial disincentives in the grant systems of most
European countries.

The focus is on 5 countries (Spain, UK, France, Italy and Switzerland). An assessment is made of the
success of the ‘Forestry Measures in Agriculture Regulation (2080/92)’, and the degree with which
agroforestry was eligible for the grants provided. The Appendix then presents the current Rural
Development Regulation (1257/99), particularly its forestry and agri-environment payments. National and
regional differences in the implementation of this European Regulation are presented, and recent exciting
changes to agricultural, forestry and agri-environmental regulations in France are highlighted.
2 Introduction

There are many traditional agroforestry systems in Europe. Examples include prés-vergers or Streuobst, Dehesa/Montado, poplar silvoarable, bocages, knicks, wallhecken, riparian buffers, fruit-tree intercropping, olive & carob in Mediterranean, nut production (chestnut, walnut) (see Work Package 2). The opportunity for extending these traditional systems is considerable within the context of a more environmentally sensitive and less production orientated Common Agricultural Policy. This Appendix gives an overview of EU assistance to farm tree planting, describing the evolving agricultural policy expressed by Regulations 2080/92 and 1257/99, and the increasing trend towards agri-environmental payments.

Information is given on the history of agroforestry related grants for five of the countries involved in SAFE (UK, France, Spain, Italy and Switzerland) and likely future changes are also presented. A questionnaire was used asking for eligibility for grants of the following systems:

- poplar and cherry planted as hedgerows or boundary features where the spacing between rows was specified as 5 meters and between trees as 3 meters, making a total of 660 stems per ha.
- poplar and cherry planted at wide spacing (5x5 or 10x10) in pastures, with and without grazing (i.e. individual tree protection v fencing);
- poplar and cherry planted at wide spacing and intercropped with wheat or maize
- walnut planted at 10x10 meters as orchards in pasture with grazing
- management and improvement of existing woodlands to favour grazing (i.e. do the woodland improvement grants permit thinning, cleaning and reseeding to improve animal pasture – or even hunting);
- black locust or willow planted as short rotation forestry (1.5x1.5 m)

3 Early European Measures

EU assistance to forestry commenced in 1979 with ‘regional measures’ to provide erosion protection in less-favoured Mediterranean areas. In 1988 the concept of ‘structural funds’ was introduced, along with Objective 1 and 5b areas. Many forestry activities then became eligible support in less developed parts of the EU. Several further Regulations followed (797/85, 1609/89, 2328/91), culminating in Regulations 2080/92, and 2878/92, which were 5-7 year programmes continuing through to 2000, with implementation binding upon member states, but with very flexible methods of implementation.

Regulation 2078/92 eventually covered some 20% of the farmland of the EU (27.1 Mha in the EU of 15), at a cost of 4% of the CAP agriculture budget (Guarantee Section). Evaluations show that these measures led to cost effective reductions in use of inputs, conservation of valuable farmed habitats, and increases in the use of land for environmental purposes. There is some debate on the benefits accruing to biodiversity, landscape, water and soil resources, but on balance the grants have been welcomed by the farming and environmental communities in Europe. One interesting feature was the wide variety of measures introduced by different countries and regions within countries. This reflected the complexity of the European farmed landscape, and the ability for local officials to modify the interpretation of the Regulations to reflect local priorities. Some payments were made under this Regulation for the conservation of individual trees, for the establishment of hedgerows and for the conservation of wild areas of woodland. However the establishment of agroforestry schemes was not specifically encouraged, indeed some payments were made for the clearance of woodland and scrub and re-establishment of pasture-based agriculture.

4 Regulation 2080/92 ‘Forestry Measures on Farms’

Regulation 2080/92 ('Community Aid Scheme for Forestry Measures in Agriculture') had a main aim of reducing agricultural surpluses, but the EU also hoped that it would: ‘enhance forest resources’; ‘provide greater ecological balance in countryside management’; and ‘combat the greenhouse effect by absorbing

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1 Objective 1 areas had per capita GDP less than 75% of the Community of 12 average, and comprised 38% of its area, Objective 5b areas suffered from ‘significant rural underdevelopment’, and comprised 17.5% of the Community of 12 area.
2 Impact of agri-environment measures – facts and figures
3 Agri-environment schemes do not effectively protect biodiversity in Dutch agricultural landscapes
4 Small payments relevant to agroforestry may have been made under measure 13 (maintenance of abandoned land), measure 28 (extensive orchards) and measure 29 (protective planting of trees and hedges)
carbon dioxide’. Its budget was 13 million ECU during the period 1993-97, which represented around 0.8% of the EU agricultural budget (Guarantee Section).\(^6\) Grants which were co-funded by the EU under this Regulation have, to a small degree, been used for the establishment of agroforestry, but there was a perception in Forestry and Agriculture Departments throughout Europe that it was not appropriate to make payments at agroforestry spacings since the main intention of the grant was to reduce agricultural surpluses (q.v.)

Funds were made available in five ways: a) direct aid for afforestation, b) aid for investment infrastructure (e.g. roads), c) an annual subsidy for first five years plantation maintenance; and d) a compensatory payment for a farmer’s loss of income; and e) aid for the improvement of existing forests and woodlands.

Member states and autonomous regions were obliged to draw up multi-annual programmes for how the assistance would be apportioned, and the EU refunded 75% (Objective 1) or 50% (elsewhere) of eligible expenditure. Many innovative planting and maintenance mechanisms have been supported in different European states, and the funding structures deserve better dissemination to forestry and agricultural authorities throughout the EU.

One million hectares of agricultural land were afforested between 1994 and 1999 owing to Regulation 2080. An average beneficiary was found typically to be ‘a Mediterranean farmer, more Spanish than anything else, over 50 years of age, who has been growing 56.8% broadleaf species, preferably *Quercus suber* or *Quercus ilex*, on an area of 8 hectares very probably devoted to low productivity grazing’(footnote 6). Much of this *Quercus* will therefore have been planted or maintained at agroforestry spacings. ‘The average beneficiary did not do the work himself (even less so if the area he planted was quite large in size), but the costs of the operation were virtually covered by the aid if the afforestation was in an Objective 1 region’. ‘The compensatory premium for lost income brought farmers in southern Europe almost 20% of their gross farm income’.

In Spain and Italy ambitious afforestation targets were set (300,000ha and 230,000ha), and largely attained. Clearly the existence of Objective 1 funding provided an additional impetus (Figure 1). At the other end of the scale, countries like Germany, Austria and Sweden, with large existing forest covers, were more reluctant to take up the scheme, and provide the larger matching national-Government contributions required in non-Objective 1 areas (Figure 2).

\[\text{Figure 1 - Maximum levels of combined planting and tree-maintenance grants. Some countries (e.g. UK) operate locational supplements which, if included would considerably increase the quoted maxima. Other countries quote national maxima but leave details to administrative districts. Other countries (e.g. France) assised afforestation with low-interest loans, which are not shown on this graph.}\]

\(^6\) Evaluation of the Community aid scheme for forestry measures in agriculture Regulation (EEC) No 2080/92
Reviewers of the Regulation (footnote 6) concluded that it had played a significant role in the reform of the Common Agricultural Policy, and had been particularly important for creation of income and employment in southern Europe. The compensatory premium for loss of income reached between 10% and 20% of the gross farm income in countries with lower farm incomes, and around 2% in countries where agricultural income is higher. The aid covered 40% to 80% on average of the costs borne by the beneficiaries.

Around 150 000 full-time equivalent jobs have been created owing to the afforestation operations, although much of the work will have been carried out by existing farmers. A large degree of sub-contracting was developed in Spain, Ireland and Portugal. There were a total of 142,628 beneficiaries, mainly with small farms (Figure 3).

Afforestation payments also made it possible to re-occupy marginal agricultural land with lesser potential, thereby preventing this land from being abandoned. The potential additional benefits of Regulation 2080/92 to other structural measures (such as Regulation 2078/92) have been little emphasised or measured.

Successful as the scheme has been there are worries about its patchy uptake and lack of continuity. Reviewers felt that the scheme had not been well thought out many countries and regions, and few analyses of likely effects of the subsides had been undertaken before they were introduced. There was concern that...
the high average age of beneficiaries, 55 years, indicated that many farmers had taken the funds as a retrial present, and continuing maintenance of the plantations was not assured.

At a European level, Regulation 2080 is responsible for 10% of the annual net increase in area afforested, although this is less than 2% of the area of production forests. Impacts were higher in Ireland and in some Mediterranean countries. The contribution in terms of volume of wood is 2.7% of the wood produced in Europe, although here too the national disparities are large. Broadleaved species represent 56.8% of the planted areas, and cork oak and the evergreen oak stands occupy a dominating position, which is the reverse of planting trends in previous decades. Conifers represent 32.1% of the trees and 4% of the areas have been planted with fast-growing species. The frequent planting of mixtures in certain countries and regions also considerably enhances the resource created.

The provisions in 2080/92 for the improvement of existing woodlands have been little used by farmers, and represent only 4% of the budget. This is possibly because these provisions were not fully implemented by those Member States who were keen to avoid subsidies for what was seen as routine forest management. Woodland improvement provisions were most used in countries with large existing woodlands (Germany, Finland and Austria) and in Spain and Portugal they were used for specific measures to prevent fire, or to compensate for fire damage.

Despite the success of the Regulation in creating woodlands, and its benefit to rural incomes, it has clearly been a failure in meeting its main objective of reducing agricultural production. The most optimistic assumption of the area of wheat-land removed represents 0.85% of the wheat area in 1992, and the land that has been afforested, with a few rare exceptions, is of poor quality and little value for cereals. In all countries the beneficiaries followed the logical path of not abandoning the most profitable land for an irreversible chance of crop, of uncertain profitability (footnote 6). The maintenance of crop yields on better land is similar to that of the main setaside programme itself, particularly as fixed setaside replaced rotational measures in 1995.

It has been very difficult to measure the impact of this Regulation on the environment. Its effect on carbon storage is probably positive, but will be negligible in 2012, and hardly be significant before 2030, mainly because of the slow growth of the Mediterranean species planted. At this time it will represent 2 to 3% of the total carbon fixed by the European forests, but will remain small when compared with Europe’s commitments in the Kyoto Convention. 2080/92 has been used to meet part of the costs of establishing short-rotation coppice willow and poplar crops particularly in Sweden, UK, Ireland, France and Belgium.

Reviewers made the following recommendations: a) emphasise rural development; b) take better account of the environmental objectives; c) use other regulatory tools to limit agricultural surpluses; d) ensure the longevity of the newly-planted forests and their maintenance and development; e) place more emphasis on the improvement operations; f) compartmentalise the beneficiaries, differentiate between the forms of aid and introduce suitable zoning; g) consolidate and develop the accompanying mechanisms; h) equip beneficiaries with monitoring and evaluation tools.

In the context of the complete failure of this Regulation to meet its main objective of reducing agricultural surpluses it is surprising that neither the Regulation itself nor its reviewers have mentioned the opportunity for wide-spaced tree-planting on arable land to gradually, and cost effectively, replace crop over-production firstly with carefully managed young trees, followed by forest-pasture when the shade becomes to great for crops, followed by mature woodland systems.

4.1 United Kingdom

The UK experience with the application of Regulation 2080/92 in the UK has been collated by Thomas et al. 2001. Despite the fact that most of the UK was not eligible for Objective 1 payments, the Regulation has clearly provided major investments in rural areas – equivalent to £25 million in planting grants, and £18 million in income support. There was much less spent on improvement of existing woodlands in the UK (18,694ha) than the European average.

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1 in Ireland the plantations attributable to Regulation 2080 will, in the long-term, produce 48% of current national production
4 Evaluation de l’impact des mesures communautaires concernant le gel des terres (Jan 2002)
6 Position paper of AEBIOM on perennial energy crops and Agenda 2000
8 Report to Parliament and the Council on the application of Regulation(EEC) No 2080/92 instituting a Community aid scheme for forestry measures in agriculture
11 A macro survey of developments in farm forestry in the United Kingdom with particular reference to E.U. Regulation 2080/92
The majority (approx 80%) of Farm Woodland Premium Scheme (FWPS) beneficiaries are over 50, so most of the work is done by contractors, and it is clear that investment in forestry grants creates more local employment than setaside payments. Greater uptake was apparent with the FWPS in Northern Ireland, and this may because payments are available for 20 years, rather than for 10-15 years as elsewhere in the UK. In ‘Less Favoured Areas’ farm woodlands don’t present an economic advantage to farmers because planting payment levels, and the maximum area allowable for grant, are low. Around 141,100 ha were planted under the Woodland Grant Scheme (92-00). This is 5.5% of total UK forest cover, and the greatest increases in cover were observed in Scotland (7.6%) and Northern Ireland (7.0%). Broadleaf planting represents around 64% of this total.

A very small proportion of farmers were interested in growing timber for its future income, but surveys have nevertheless indicated that they generally practice adequate silvicultural techniques.

As of May 1996 some 60800ha had been planted with the assistance of this Regulation 2080/92 representing some 12 percent of the total agricultural area afforested under this regulation for the European Union as a whole. Nevertheless within the United Kingdom the impact on agricultural land is marginal amounting to a reduction of some 0.38% in the utilised agricultural area. Similarly, in the same period, agricultural areas afforested amounted to some 2.6% of the total wooded area. A total of 10500 beneficiaries have thus far benefited under the scheme in the UK and on average have planted some 5.9 ha per beneficiary. This compares with a EU average of 0.6 ha for the Community as a whole. Considerable differences exist in the type of land made available, and only in England is there a majority of arable land employed (Table 1).

<table>
<thead>
<tr>
<th>Country</th>
<th>Arable</th>
<th>Improved Grass</th>
<th>Less Favoured Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>58%</td>
<td>28%</td>
<td>14%</td>
</tr>
<tr>
<td>Northern Ireland</td>
<td>6%</td>
<td>78%</td>
<td>16%</td>
</tr>
<tr>
<td>Wales</td>
<td>8%</td>
<td>72%</td>
<td>20%</td>
</tr>
<tr>
<td>Scotland</td>
<td>14%</td>
<td>32%</td>
<td>54%</td>
</tr>
</tbody>
</table>

Table 1: Distribution of Woodland Grant Scheme Payments in the UK.

Whilst grazing areas decreased through the FMPS there is clear evidence that livestock numbers increased through intensification. Arable farmers were concerned about the reversibility of removing good land from agricultural production. All interviewees considered their afforestation or woodland improvement a success, but although advice is given on landscape or biodiversity issues, little advice was given on producing quality timber. There have been no detailed micro and macro level economic studies prior to implementation of the schemes.

4.2 France
Summarise the Bois-Terra Report for France13

4.3 Italy
Summarise the Bois Terra Report for Italy14

4.4 Spain
Obtain the Bois Terra Report for Spain (not on Bois-Terra website): ARRASTIA J., Manu Foressna Zurgaia, Asociación Forestal de Navarra, Avda Zaragoza nº21, 3º Dcha, 31003 PAMPLONA, SPAIN, -E-34–9 48 15 15 01, fax : 34–9 48 15 15 01, cell phone : 34–9 09 45 56 54 , e.mail : foresna@autovia.com

12 Land defined as less productive because of its exposure, altitude, soil type and other impediments to agriculture
13 Application de la prime européenne de boisement des terres agricoles en France
14 APPLICAZIONE DEL REGOLAMENTO CEE 2080/92-La forestazione dei terreni agricoli in Italia
4.4.1 Tree planting on farms

EU Regulation 2078/92 was implemented in Spain by a number of national and regional Agri-environmental Measures which aimed to maintain the traditional extensive agriculture, diminish the input of fertilizers and pesticides, and to improve the rural landscape (R.D. 51/95 20th January and 632/95 21th April). However these incentives were very low for extensive agriculture (only 33 € ha⁻¹ yr⁻¹), although biological agriculture fared better (451 € ha⁻¹ yr⁻¹). More resources have been spend on training and extension, and there were no specific measures to promote tree planting within farms.

EU Regulation 2080/92 was implemented through Royal Decree 152/96. The incentives were high, but many restrictions made it almost impossible to introduce agroforestry: a) afforested lands couldn’t be cultivated or grazed at least the first twenty years; b) the minimum surface of afforestation varies between regions, but always it is high (5 - 10 ha); c) the high density of plantation (minimum 333 - 600 trees ha⁻¹, in depending on region and species) mitigates against silvoarable systems; d) orchards trees have not any incentive, except walnut in some regions, where the plantation of this tree has an extra incentive (1653 € ha⁻¹ versus 1533 € for other species), and the olive, of great importance in Spain; e) plantation of hedgerows are not financed; f) even in some region (e.g. Extremadura) the main agricultural area (e.g some irrigated zones) are excluded of the most of the incentives for tree planting (Table 2).

Income compensations for loss of income are payable on small parts of a field where trees are established, such as field field boundaries or wide-spaced planting strips, but arable area payments are reduced by twice the estimated crown area of trees, which is a great disincentive to silvoarable systems. However plantations of fast-growing species are financed (mainly poplar), and it is possible to find many such plots mixed with cultivated areas.

Funds are available for maintenance of existing forests, for example by clearing the understory, and for improvements of infrastructures like roads, firebreaks and ponds. Farm modernisation programmes also pay 40-50% of total cost of forestry schemes, and agroforestry is not specifically excluded.

<table>
<thead>
<tr>
<th>Type of works</th>
<th>Species</th>
<th>Incentives</th>
<th>Management</th>
<th>Income reductions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Planting</td>
<td>Association</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 owner</td>
<td>Association</td>
<td></td>
</tr>
<tr>
<td>Afforestation</td>
<td>Pinus</td>
<td>1097</td>
<td>1002</td>
<td>150,3</td>
</tr>
<tr>
<td></td>
<td>Broadleaf trees</td>
<td>1881</td>
<td>2067</td>
<td>240,4</td>
</tr>
<tr>
<td></td>
<td>Yew, Walnut, Holly</td>
<td>2037</td>
<td>2242</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Combination</td>
<td>1254-1565</td>
<td>1382-1725</td>
<td>180,3</td>
</tr>
<tr>
<td></td>
<td>Areas under protection</td>
<td>2506</td>
<td>2759</td>
<td>240,4</td>
</tr>
<tr>
<td></td>
<td>Species of rapid growth</td>
<td>751</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

1Improvement and regeneration of the cork oak woodland 1881 € ha⁻¹

1Improvement of the forests in agricultural enterprises, highlighting the Dehesa (a traditional silvopastoral system). 373 € ha⁻¹

Table 2.- Incentives (€) applied in Extremadura for the afforestation of croplands; 1 grazing is allowed, using individual protector for trees in case of plantation.

Plantations under the Spanish Decree 152/96 have mainly been devoted to environmental plantations on marginal pasturelands and degraded lands, without any significant reduction of the agricultural production. In some regions, as Extremadura, the main objective was to regenerate the very aged trees in the traditional silvopastoral system (dehesa), which have not regenerated in the last decades, probably due to an overgrazing and the replacement of sephards by fences. Thus, many projects of afforestation and improvement of forest or cork oak woodland have been carried out in dehesa.

A new national programme, based on the EU Regulation (1257/99), have just been elaborated but shows few differences to those financed under Decree 152/96. Uptake has not been great: highlighting the need for an increase of 10-15% in payments, and the inclusion of the shrub species.
4.4.2 Sustainable management of the woodland in rural areas.

Decree 152/96 also provided significant incentives for the improvement of the forested lands, through clearings, underbrushing, pruning, thinning, enrichment planting, fertilization, pests control, and afforestation of burnt areas. Although this programme is mainly aimed to increase wood production and avoid the wildfires and soil erosion, many of the schemes aimed to improve Dehesas (a traditional silvopastoral agroforestry system). This programme can finance between the 50% and 85% of the total costs (Table 3). The development of afforestation projects carried out by forestry associations is also partially (40-50%) financed.

<table>
<thead>
<tr>
<th>Elaboration of arrangement or exploitation plans</th>
<th>€ ha⁻¹</th>
<th>% of cost¹</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 200 ha</td>
<td>18,8</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>200 - 400 ha</td>
<td>15,7</td>
<td></td>
<td>10000 €</td>
</tr>
<tr>
<td>401 - 1000 ha</td>
<td>12,6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 1000 ha</td>
<td>9,6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Afforestation of degraded forest               |        | 70-85 ²    |         |
| Species of rapid growth                        | 1096,8 |           | 50 Ha   |
| Pinus                                          | 1322,2 |           | 60000 € |
| Breadleaf trees                                | 2253,8 |           |         |
| Others: Yew, Walnut, Holly, …                  | 2464,1 |           |         |
| Different combinations                         | 1502,5 |           |         |
| − 1881,2                                       |        |           |         |
| Breadleaf trees in protected areas             | 3005,1 |           |         |
| Clearings, cler-cuttings, prunnings, increament of tree density, fertilization, pests control, ... | 1253,7 | 60-75² |         |

Table 3.- The main incentives for amelioration of forested lands in Extremadura.

¹ These percentages are around the half in more developed regions.

² The higher percentages belong to the works carried out in protected areas.

5 Regulation 1257/99 ‘The Rural Development Regulation’

The Rural Development Regulation (Council Regulation (EC) N° 1257/1999) aims to provide an integrated rural development policy governed by a single legal instrument, which seeks to ensure better coherence between rural development and the price and market policy of the Common Agricultural Policy (CAP). It promotes a wide range of rural development and aims a) to improve agricultural holdings, c) to guarantee the safety and quality of foodstuffs, c) to ensure fair and stable incomes for farmers; d) to ensure that environmental issues are taken into account, e) to develop complementary and alternative activities that generate employment, with a view to slowing the depopulation of the countryside and strengthening the economic and social fabric of rural areas; and f) to improve living and working conditions and promote equal opportunities. The EU finance claimed by different countries varies widely (Figure 4).

Regulation 1257/99 has two types of rural development measures: a) accompanying measures to the 1992 reform - early retirement, agri-environment, afforestation, less-favoured areas; and b) measures to modernise and diversify agricultural holdings: farm investment, setting up young farmers, training, investment for processing and marketing, additional forestry assistance, promotion and conversion of agriculture

Subsidies include
• Early retirement payments for farmers or farm workers - including when land is reassigned to forestry or ecological reserves.
• Agri-environment payments calculated on income foregone, additional costs and incentive needed (max 600 - 900 EUR/ha/yr for crops, otherwise 450 EUR/ha/yr)
• Compensatory payments for less favoured areas (25-200 EUR/ha/yr plus up to 200/ha/yr for implementation of EU 'environmental rules')
• Investments in agricultural holdings, setting-up young farmers, vocational training, improving processing and marketing of agricultural products

Forestry Measures include
• support to private owners or municipalities for sustainable management and development of forestry, preservation of resources and extension of woodland areas;
• improving non-farm land (measures to improve harvesting, processing and marketing, open up new outlets, promote joint action, and assist recovery from damage);
• afforestation of farm land (costs of planting and maintenance, and EUR 725/ha/yr to compensate for income foregone);
• preserving woodlands (where the protective and ecological role of the forests are in the general interest, and the cost of preventative measures exceeds the income from silviculture – (40-120 EUR/ha/yr).
• Commission fixes annual allocations to member states according to their 'needs and efforts to be undertaken'.
• Commission contributes 25-50% of eligible expenditure (75% in Objective 1 areas).

Figure 4: Rural Development (Regulation1257/99 - allocation of 4339 MEUR Budget (non-objective 1 areas).

5.1 United Kingdom
The four UK Rural Development Strategies in the UK emphasise the importance of a living, working countryside with thriving rural communities. They highlight the need to shift resources away from supports for production, towards the goal of sustainable rural regeneration, and emphasise: a) improving the
competitiveness of UK agriculture; b) ensuring food safety and quality; c) ensuring a fair standard of living for the agricultural community and contributing to farm income stability; d) integrating environmental goals into agricultural policy; e) creating complementary or alternative income and employment opportunities for farmers and their families, and f) contributing to economic cohesion. Forestry measures include:

- **Woodland Grant Scheme** is still available although a discretionary ‘star’ ranking scheme must be complied with in England to measure the degree to which the proposal meets criteria of: rural development, economic regeneration, regeneration & access, size, landscape enhancement, and community engagement.

- Payments are reducted pro-rata for planting densities below 1100 stems per hectare (and are only available for species which the Forest Authority deems suitable. Full Better Land Supplement, and Community Supplements are available for poplar, but reduced pro-rate for other species.

- There is no Farm Woodland Premium Scheme payment available for agroforestry, although it does apply to short-rotation coppice

- Arable area payments are available if the crop-strips have a minimum width of 20m and are connected to the main body of a field.

- Forest blocks should have a minimum width of 15 meters and a minimum total area of 0.25ha.

Provide an update on recent representations made by the UK Agroforestry Discussion Forum to a public consultation on Agricultural Grants in England

Provide an update on the situation in Scotland and Northern Ireland

The Welsh Rural Development Plan (implementing 1257/99) includes: a) investment in agricultural holdings (articles 4-7); Agri-Environmental measures (articles 22-24); Forestry (articles 29-34); Promoting the adoption and development of rural areas (article 33). A farm forestry scheme titled ‘Tir Gofal’ aims to ‘significantly the economic, ecological or social value of forests, as well as encouraging new planting on agricultural land and short-rotation coppice’. However agroforestry is conspicuous by its absence, and remains ineligible for Farm Woodland Premium Scheme payments. Farmers can claim £2/m for restoration of hedgerows and max of £3500/farm/year. Restoration pruning of existing orchards is refundable at £10/tree, and £80/ha is paid for improved grassland in ‘orchards and farmed parklands’.

Discussions are ongoing in Wales on increasing the role of agroforestry – provide an update on these.

In 1995, reforms to the set-aside scheme allowed applicants to count afforested arable land under their set-aside obligations. This encouraged a number of farmers to plant trees on arable land, but such planting has only been significant in England.

Agri-environment programmes offers payments to farmers who, on a voluntary and contractual basis, provide environmental services to protect the environment and maintain the countryside. The agri-environment measures cover ways of using agricultural land, which are compatible with the protection and improvement of the environment, the landscape and its features, natural resources, the soil and genetic resources (for example through Environmentally Sensitive Area scheme, Countryside Stewardship Schemes, Habitat Schemes, and Organic Farming Schemes). There are very few mentions of trees however in these measures

The Rural Development Regulations also encourage non-food agricultural production and gives aid for the establishment of Short Rotation Coppice (SRC) and Miscanthus (elephant grass). The Energy Crop Scheme runs in partnership with MAFF and the FC. It has two elements: a) establishment grants for SRC (willow and poplar) and Miscanthus; b) grants for establishing producer groups from SRC. Payments are £1,600 or £1,000 per hectare for the establishment of SRC, depending on the land type; £920 per hectare for establishing Miscanthus; up to 50% of set up costs for SRC growers forming producer groups. To be eligible farmers must grow at least three hectares of energy crops and must have an agreement to supply the harvested crop to an energy producer within a reasonable radius of the growing land. Crops can be grown for power generation, combined heat and power, or heat only use.

5.2 **France**

The situation in France is rapidly evolving: 2 national measures have been recently adopted that change the scene for agroforestry adoption. A third is expected soon. This resulted from a lobbying
activity including questions to the government by different French Members of Parliament in 1999 and 2000 and the active contribution of French agriculture trade unions.

5.2.1 **Intercrops are now eligible to compensatory payments without restriction.**

An annual circular issued by the French Ministry of Agriculture (2000 issue : DPEI/SPM/C2000-4008 dated 17/02/2000) defines the eligibility criteria for crops to the CAP compensatory payments (CP). This circular envisages the case of parcels with trees, and distinguishes between parcels with pre-existing trees, and parcels newly planted with young trees. The 2001 issue of the circular (DPEI/SPM/C2001–4008 dated 8/03/2001) was modified to allow intercrops to benefit of CP in newly planted plots.

5.2.2 **Parcels with pre-existing trees**

This part of the circular was not modified. Intercrops in parcels with scattered pre-existing trees are eligible to CAP CP. The area of the trees is deduced from the eligible area, following local uses for estimating the size of the tree area (“When the crop is taking place on a plot with trees, the cropped area should be calculated by deducing the trees area, using local norms for the tree area. The crop area benefiting from the compensatory payments must be cropped in similar conditions as openfield crops). Usually, a lump 100 m² area was deduced for any standard, and a 10 m wide strip was deducted for any hedge or line of trees. This reduces considerably the eligible area to CP, and pushed farmers into uprooting scattered trees from their cropped fields or pastures. This was especially the case for trees with no annual incomes (oaks), and old fruit trees in “prés-vergers”.

5.2.3 **Parcels newly planted with trees**

Until 2000, this circular prevented any plot where young trees had been planted (even at wide spacing) to be eligible to CP for crops. This made new silvoarable agroforestry plots impossible, as most crops are not economically viable without CAP CP. Only one exception was envisaged : intercrops in fruit orchards were eligible for 3 years (this delay was extended to 7 years with wide-spaced walnut trees in Dauphiné and Périgord).

The 2001 issue of the circular modifies completely the scene : “Compensatory payments are available for crops grown on fields with newly planted trees, after having deduced the area occupied by the young trees (area defined each year)”. It must be underlined that no limits to the tree spacing were included in the text, and that no tree species are excluded from the scheme (fruit trees, forest trees, dual purpose trees). As long as intercropping is economically viable between the trees, the actual cropped area is eligible to CP. The tree area is adjusted each year to take into account the growth of the trees. In practice, it is believed that the tree area will be defined as the uncropped area in the parcel.

This new regulation should both favour the adoption of new silvoarable practises, and encourage the revival of traditional systems such as cereals in olive yards, maize in poplars, various crops in-between fruit trees (walnut, cherry, chestnut…) or apple or pear trees in pastures (“pré-vergers”).

The parcs were the CAP CP are claimed must of course comply with the general conditions of the CAP (the most important being eligible parcels cropped 5 consecutive years with annual crops before November 1991). This prevents any new agroforestry plot obtained by thinning a forest stand to apply to CP for intercrops. Therefore afforested agricultural plots under the ‘Community Aid Scheme for Forestry Measures in agriculture’ (2080/92) are not eligible to the CAP CP. These parcels lost their agricultural status, and are no longer eligible to agricultural payments. Parcels who were in perennial crops in 1991 (orchards, vineyards, asparagus, berries…) cannot apply to CAP CP and if turned now to agroforestry, can not benefit from CP for their intercrops.

This new regulation will be operative for the 2001-2002 cropping season. The modifications have not been advertised yet, and may be unknown to most farmers, unless a vigorous advertising campaign is organised. It is therefore believed that the uptake will be slow.

5.2.4 **Grants are now available for planting wide-spaced trees on agricultural land**

Regulation 2080/92 (Community Aid Scheme for Forestry Measures in agriculture) was implemented in France by decree (94-1054 dated 1/12/1994), and was recently updated (circular DERF/SDF/C98-3015 dated 9/07/1998). Under this scheme, no grants were available to plant trees at low densities in France. Some species could be planted at 400 stems/ha, but with a tree or bushy interplantation. Only walnut trees could be planted at low densities (from 50 to 200 trees/ha), but intercrops were not allowed : any afforested land under
Regulation 2080/92 regulation becomes a forest, and no agricultural activity (cropping or grazing) is any longer possible (or at least no agricultural grant can be claimed, which precludes all the crops that are economically not viable without CAP CP).

Regulation 1257/99 (RDR) is currently implemented in France. Two articles in Chapter VIII are dealing with tree plantations. Article 30 defines the plantation scheme for forest areas, article 31 for agricultural areas. The French scheme (PDRN) has two measures for tree plantation (h and i).

A new circular (DERF/SDF/C01) will be published very soon (probably on 18/05/2001) and introduces the possibility to get grants for planting wide-spaced trees on agricultural land. This circular is entitled: “Conditions de financement par le budget général de l’État des projets d’investissements forestiers ou d’actions forestières à caractère protecteur, environnemental et social”.

It defines the granting scheme for planting trees with protecting, environmental or social purposes. It deals mostly with usual forestry plantations, but includes chapter 10 which is entitled “Creating or restoring tree formations outside the forest” including agroforestry. It is the first time that agroforestry is mentioned in a French regulation. Agroforestry projects are not technically defined (each region may define its own technical norms) but are described as plantations of high quality timber trees on agricultural land that must be planned within the agricultural system of the farm. The project must be monitored by either a research institute or an extension agency.

The following items may be subsidised: previous vegetation clearing, soil preparation, tree material, first 3 years tending, tree shelters, tree protection against pests, drainage, cost of maîtrise d’œuvre, cost of environmental impact studies prior to the project. The grants are subject to the following limits: minimum investment of 1000 euros; minimum size of the project of 500 m²; tree species restricted to the list included in the DERF/SDF 2000/3021 dated 18/08/2000 circular; no other investment grant obtained on the same plot, including no agro-environmental measure.

The scheme is available for the landowners of the planted plot. The grant amount is usually of 50% of the cost of the project, but regional authorities may decide to add a 20% share on top of that. It will be operative for the next planting season (2001-2002).

5.2.5 Agroforestry agro-environment measure in preparation

The 1257/99 European regulation (RDR) includes three articles (22, 23, 24) dealing with agro-environmental (AE) measures to promote best environmental management practices by farmers. So far, two French national AE measures and 22 local AE measures have been approved by the STAR Committee in Brussels and implemented in France. The two national measures are valid on the whole French territory and concern 1) organic farming conversion, and 2) the transformation of cropped fields into pastures. Local measures must be approved by the regional authorities to be in force in each region.

Some other national AE measures are currently submitted by France to the STAR Committee, including an Agroforestry measure. The most important characteristics of this measure are summarised below.

French AE measure 0506 Plantation and tending of wide-spaced trees - agroforestry-

(submitted to approval by the STAR European Committee, to be examined probably in June 2001)

<table>
<thead>
<tr>
<th>0506A - Plantation of wide-spaced trees and tree tending during the 4 following years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical aspects</strong></td>
</tr>
<tr>
<td>Compulsory grazing or intercropping</td>
</tr>
<tr>
<td>Replacing unsuccessful trees is mandatory</td>
</tr>
<tr>
<td>Tree pruning to achieve a high quality timber log is mandatory</td>
</tr>
<tr>
<td>Minimum area of the project: 0.5 ha</td>
</tr>
</tbody>
</table>
The cost of an agroforestry plantation was evaluated at a unique figure of 2523 Euros per hectare for the first years. For that cost, the number of trees planted varies from 200 with annual intercrops to 115 with sheep grazing and 60 with cattle grazing. The AE measure would grant 60% of the cost.

Among the 22 local AE measures validated by Brussels, some promote also agroforestry practices, and at least one (measure 9.3 applied to walnut orchards) discourages agroforestry practices. They are included in the Annex B of the French PDRN. Here are the more important:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Technical aspects</th>
<th>Grant ceilings</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Planting and tending a hedge</td>
<td>Tree species, densities, width, distance between hedges to be defined in each department.</td>
<td>366 €/100m/year</td>
</tr>
<tr>
<td>5.2 Planting and tending a tree line</td>
<td>minimum 10 trees / 100 m</td>
<td>152 €/100 m/year</td>
</tr>
<tr>
<td>5.3 Planting trees on slopes</td>
<td>minimum 10 arbres / 100 m</td>
<td>304 €/100 m/year</td>
</tr>
<tr>
<td>6.1 Rehabilitation of hedges</td>
<td>Replacing dead trees, height and width pruning 3 times in 5 years, clearing the bottom of the hedge to provide habitats for some wild species.</td>
<td>137 €/100m/year</td>
</tr>
<tr>
<td>6.2 Tending hedges</td>
<td>Replacing dead trees, height and width pruning 3 times in 5 years, removing dead trees and branches, no action during nesting periods, clearing the bottom of the hedge</td>
<td>76 €/100m/year</td>
</tr>
<tr>
<td>7.1 Dividing a cropped parcel by planting a hedge</td>
<td>Minimum distance between the hedge and the limit of the parcel.</td>
<td>366 €/100m/year</td>
</tr>
<tr>
<td>8.3 Installing an herbaceous cover plant in orchards or vineyards.</td>
<td>Grant adjusted to take into account the width between the tree or vine lines, the duration of the cover</td>
<td>213 €/ha/year</td>
</tr>
<tr>
<td>9.3 Reducing nitrogen fertilisation in walnut orchards by replacing annual intercrops by permanent grassing</td>
<td>Local measure implemented in Dauphiné and Périgord. Backed by the idea that grassing is less pollutant than cropping (protection of water resources from nitrogen leaching). This is true, but could also be applied to all cropped fields, not only intercropped orchards. Similar to stop agriculture to address the pollution issue... The problem was wrongly addressed by focussing on intercrops, as intercrops may be even less pollutants than sole crops, due to the tree root safety-net.</td>
<td>121 €/ha/year</td>
</tr>
</tbody>
</table>

Each farmer can contract a CTE (Contrat Territorial d’Exploitation) where he agrees to put into practice some of the (local and/or national) AE measures. The number of CTE signed up to April 2001 is about 50000, but no statistics are currently available regarding the number of contracts that put into practice agroforestry related measures.

It must be stressed that AE measures draw on the credit line of the PDRN. This implies that the new agroforestry plots remain in the agricultural status.

### 5.3 Italy

Italy has major differences between the 20 regions but Agri-environmental measures in the Region’s Rural Development Plans make many mentions of trees in the farmed landscape for natural grassing down of orchards (walnut, chestnut, vineyard, fruit trees, etc.); plantation and re-establishment of bush hedges; tree rows and small woodlots; conservation of traditional cultivation systems (scattered trees, grape associated to trees as living supports etc.

The regional plans highlight that the incentives are aimed to obtain the following main objectives: a) adoption of practices with low environmental impact; b) conservation and creation of natural ecosystems on agricultural lands; c) conservation of biodiversity and natural resources; d) improvement of rural landscape.
The following plantation forests are compatible with the incentives: a) plantations for timber production adopting a short rotation period (< 15 years); b) plantations for timber production adopting a medium-long rotation period (> 15 years); c) plantations for biomass production adopting a short rotation period (< 15 years); d) plantations for fruit production adopting a medium-long rotation period (> 15 years).

Grants are available to cover the planting expenses, the management expenses (for a 5-year period) and for compensating the reduction of income due to the plantation (for a 20-year period). But the effective subsidy is related to real expenses.

The maximum planting grant is 5000 Euro/ha. Management grants are for 5 years at 600 Euro/ha/year The incentives for compensating the income reduction are calculated in relation to the income obtained by the previous crop cultivation. Regions distinguish between farmers who obtain at least the 25% of their income from agriculture (maximum grant level 725 Euro/ha/year) and other (maximum grant level 185 Euro/ha/year). Intercropping is never allowed if income substitution is given.

5.3.1 Introduction

In Italy, each Region was designated to arrange Rural Development Plan as a tool for ruling the application of EU Regulation 1257/99. Although the Regulation has been effective since the beginning of 2000, the Rural Development Plans of some Regions are still provisional and the measures are not yet effective.

This research was based on the analysis of the Rural Development Plans of a sample of Regions located in the north (Piemonte and Veneto Regions) and in the centre (Toscana and Marche Regions) of Italy. For these Regions the Rural Development Plans, although not definitive, were analysed in order to evaluate the available tools for creating agroforestry systems and planting trees on farms.

Moreover, a specific questionnaire has been submitted to the competent regional offices of the above mentioned Regions for assessing the concrete opportunities to establish specific cultural systems. The example of Veneto Region is reported as a preliminary result.

The regional plans usually present a homogeneous structure and content in agreement with the Regulation 1257/99. The main tools for creating agroforestry systems and planting trees on farms are ruled by specific agro-environmental and forestry measures. These measures are aimed to continue the philosophy of the previous European Regulations 2078/92 and 2080/92.

5.3.2 Agro-environmental measures

Among the agro-environmental measures, the following incentives appear to be particularly suitable for promoting the establishment of agroforestry systems: a) natural grassing down of orchards (walnut, chestnut, vineyard, fruit trees, etc.); b) plantation and re-establishment of bush hedges; c) tree rows and small woodlots; d) conservation of traditional cultivation systems (scattered trees, grape associated to trees as living supports, etc.).

The regional plans highlight that the incentives are aimed to obtain the following main objectives: a) adoption of practices with low environmental impact; b) conservation and creation of natural ecosystems on agricultural lands; c) conservation of biodiversity and natural resources; d) improvement of rural landscape.

The measures are valid for a minimum of a 5-year period and are applied in the whole regional territory. However each Region selects preferred areas where environmental constraints are more evident. In these sites the agro-environmental measures are especially encouraged.

The technical condition of planting hedges, tree rows or woodlots are not clearly detailed by the Regions. Usually the planting has to be done using indigenous species and adopting a minimum tree density. For example, Piemonte Region specifies a minimum of 50 plants on 100 metres for bush hedges and a minimum of 15 plants on 100 metres for tree rows. In Veneto Region, the hedges must cover a 5-10% of the total cropping area of the farm.

Incentives for the establishment of woodlots can be provided if they cover a maximum area of 0.5 ha in Veneto Region and between 0.05 and 1 ha in Piemonte Region.

Also the grant levels vary among the Regions. Piemonte Region provides subsidies for the establishment of hedges, tree rows and woodlots during the first 5 years (0.29-0.33 Euro/m²/year) and for their maintenance

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16 Italy is subdivided in 20 Regions.

17 The Rural Development Plans of southern Regions were not available when the research was carried out.
from the year 6 to 10 (0.14 Euro/ m²/year). Veneto Region distinguishes grant for establishing hedges and woodlots (respectively 1.6 Euro/ m²/year and 0.24 Euro/ m²/year for 5 years) and for their maintenance during the following 5 years (0.5 Euro/ m²/year for hedges and 0.15 Euro/ m²/year for forest plots).

Marche Region provides incentives only for the maintenance of hedges (1.6 Euro/m²/year for a 5-year period). Toscana Region includes the planting of hedges, rows and woodlots within the forest measures (see below).

5.3.3 **Forestry measures**

Forestry measures, as highlighted in the regional plans, are aimed to incentive tree planting on agricultural land for obtaining both economic and environmental benefits. The economic reasons are mainly related to the shortage of timber production, the surplus of agricultural production, the need of creating new sources of income. The main environmental aims are biodiversity and landscape conservation and soil erosion control and the reduction of CO₂ emission.

The following plantation forests are compatible with the incentives:

- plantations for timber production adopting a short rotation period (< 15 years);
- plantations for timber production adopting a medium-long rotation period (> 15 years);
- plantations for biomass production adopting a short rotation period (< 15 years);
- plantations for fruit production adopting a medium-long rotation period (> 15 years).

The measures are applied in the whole regional territory. In all cases the Regions fixed a maximum level of grants to cover the planting expenses, the management expenses (for a 5-year period) and for compensating the reduction of income due to the plantation (for a 20-year period). But the effective subsidy is related to the expenses effectively supported.

The maximum level of grant for the planting is fixed in 5000 Euro/ha. The grants for compensating the management expenses are available for 5 years and are fixed in 600 Euro/ha/year (they are not applied for plantation with short rotation period). Piemonte Region distinguishes between the first 2-year period (maximum grant level 600 Euro/ha/year) and the second 3-year period (maximum grant level 350 Euro/ha/year). The incentives for compensating the income reduction are calculated in relation to the income obtained by the previous crop cultivation. Moreover, Regions distinguish between farmers who obtain at least the 25% of their income from agriculture (maximum grant level 725 Euro/ha/year) and other figures (maximum grant level 185 Euro/ha/year).

Toscana Region includes the establishment of hedges or tree rows inside the forestry measures and the available grants are the same of the plantations excluding those for compensating the income reduction.

According with the competent office of Veneto Region (Table 4) the minimum area of the plantation forests is 1.0 ha while the maximum area is differentiate in reason of the plantation characteristics (mixed or pure; with short or medium rotation period). High quality timber plantations have to be preferably established adopting a mixed cultural model in which the main species (i.e. cherry or walnut) is combined with secondary woody species. In this the Region seems to accept the environmental benefits achievable by means of a mixture of species. In fact the admitted maximum area of pure plantations is noticeably smaller than mixed plantations (in Veneto Region 5 ha against 50 ha).

Also the suggested tree density varies in accordance with the plantations and the Region specifies a range of tree density corresponding to the plantation typology and the used species.

Intercropping or grazing between tree rows of plantations are never allowed. Moreover the incentives for tree planting can not be accumulated with previous grants for crops. According with the opinion of the competent office, this fact can discourage framers to plant trees.

<table>
<thead>
<tr>
<th>Plantations</th>
<th>Grant levels</th>
<th>Minimum area</th>
<th>Maximum area</th>
<th>Tree density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantation with medium-long rotation (cherry, walnuts,…)</td>
<td>3000 Euro/ha (planting); 600 Euro/ha/year (management); 185-725 Euro/ha/year (income reduction)</td>
<td>1.0 ha</td>
<td>50 ha (mixed plantations); 5 ha (pure plantations)</td>
<td>400-1000 trees/ha</td>
</tr>
</tbody>
</table>
Table 4: Tree planting on farm land in the Veneto Region

<table>
<thead>
<tr>
<th>Plantation type</th>
<th>Cost (planting)</th>
<th>Cost (management)</th>
<th>Area (ha)</th>
<th>Trees/ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plantation with short rotation period (poplars, black locust…)</td>
<td>5000 Euro/ha</td>
<td>600 Euro/ha/year</td>
<td>1.0</td>
<td>250-400</td>
</tr>
<tr>
<td>Environmental plantation</td>
<td>5000 Euro/ha</td>
<td>600 Euro/ha/year</td>
<td>Not specified</td>
<td>Not specified</td>
</tr>
<tr>
<td>Orchard plantations (only chestnut)</td>
<td>5000 Euro/ha</td>
<td>600 Euro/ha/year</td>
<td>1.0</td>
<td>185-725</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50 ha</td>
<td>Not specified</td>
</tr>
</tbody>
</table>

5.3.4 Conclusions

Because of the delay in arranging Rural Development Plans by the Regions, this work is still preliminary. Nevertheless some aspects can be highlighted. Even if the regional plans have a homogeneous structure, the measures are often ruled in different way so that the comparison among the Regions is difficult. Although agroforestry is not explicitly mentioned as a land use system, the agro-environmental measures promote the cultivation of crops and woody species on the same portion of farm land. According to the accepted definition of agroforestry the encouraged practices can be assimilated to agroforestry systems. Therefore the regional policies indirectly recognise these systems as land uses able to produce environmental benefits that are the main objectives of the measures.

On the contrary, forestry measures don’t allow any possibility of combining trees and crops or pasture on the same land because wood production is conceived as an alternative of crop production. In fact one of the main point of the European policy is the reduction of agricultural surplus by means of tree cultivation. Probably, this philosophy could discourage the wide tree planting on farms because the plantations are not profitable in comparison with agricultural crops. Moreover, it could be possible that most of the planting will be established on marginal sites where the tree production is low and the timber quality is poor.

According to these preliminary results, agroforestry systems seem to be perceived as land use systems able to produce mainly environmental services but not profitable benefits.

5.4 Spain

Spain has 17 Regional Governments and each has its own forestry and agricultural regulations, based on those of both the National Government and the European Commission. The National Government has adapted its forestry and agricultural regulations to match European Council Regulations 1257/1999 and Nº 2316/1999. During the course of 2001 regulations emerged for all 17 individual Regional Governments. These broadly follow the national regulations.

5.4.1 Current tree planting incentives on farms

There are specific direct incentives for agroforestry systems in Spain, but the following grants are relevant:

- **Subsidies for specific arable crops (PAC 2001).** Where crops are grown under trees arable payments are reduced by the a proportion equal to twice the crown area of all trees in a field, divided by the area of the field. This reduced payment discourages the conservation of trees above cereal crops like farms barley, rye or oats).

- **Grants for afforestation of the arable land (continuation of EU 2080/92).** There is a payment available for the transformation of arable land into forest, but it is designed to remove land from agriculture rather than as an encouragement for agroforestry. The afforested land cannot be cultivated for at least twenty years, but there are accompanying premiums to compensate farmers for
loss of income. Under this scheme it is possible, but rare, for farmers to plant trees in part of the farm (e.g. field boundaries or in lines every 50 m) and ask for the help for reafforestation of the arable land. A commitment must be given that a percentage of the fields affected will not be cultivated, and this is the area subject to afforestation grants.

- **Improvement of woodland**: clearcut of the understory, roads, fire-breaks
- **Plan of improvement of the farms**: This is an an unspecific programme which subsidises any investment to modernize the farm. It can be used for measures such as electrification and irrigation, but also for tree planting. The grant is between 40 and 50 % of the total investment.

### 5.4.2 Implication of the presence of the trees in the crops for other incentives in Spain

Under the Spanish implementation of EU Regulations 2316/99 (Arable Aid):

- Only incentive for annual crops are established and nothing for orchard trees.
- When there are any trees into the crops, the incentive for the cultivated surface decrease in relation to the twice of the surface of the tree canopies.
- If the case of the silvopastoral systems, the reduction of the incentive applied by the presence of trees isn't applied. But with some tree species there are no incentives if the tree cover is greater than 50%.

Under the Spanish implementation of the Rural Development Programme (EU Regulation 1257/99)

- The coefficients applied to the wood plantation (orchads trees and forest trees) are only 0.3 versus 0.5 to 1 of the annual crops.

### 5.4.3 Perspective with the new EU Regulation (1257/99)

The National Government has recently elaborated 2 Royal Decrees to implement Reg 1257/99


This year, new regional legislations is arising, as a consequence of these National Decrees, and in the next 6 months we plan to evaluate the theoretical and practical implementation of these new regimes on the uptake of silvoarable systems in Spain.

Other components of the Rural Development Regulations could could contribute to the expansion of the agroforestry systems in Spain, through incentives for plans of improvement of the agricultural exploitation; and incentives for the novel farmers. In both cases, any model of agriculture and/or cattle raising can be partially financed. Nevertheless, in the last decade, this option has scarcely been used to establish any type of the agroforestry systems (R.D. 204/96 based on EU Regulation 2328/91 and 950/97).

### 5.4.4 Conclusions

In spite of the many different incentives spent in improvement of farms and forests, very few seem to favour the implantation of silvpastoral systems, and fewer to favour silvoarable systems. Nevertheless, the different programmes for afforestation now being implemented in the 17 Spanish regions could offer the opportunity for agri-environmental payments to allow the introduction of a larger number of trees on croplands.

### 5.5 Switzerland

Agri-environmental regulations are similar to 2078/92 and 1257/99 and farmers must allocate 7% of agricultural area to semi-natural habitats, including wooded pastures, streuobst, isolated trees, lines of trees, hedgerows and small woodlands. This is termed an Ecological Compensation Area (ECA).

Agricultural management must be continued, but the ECA is managed for environmental goals with restrictions on pesticide & fertilizer use.

Resistance to modern agroforestry methods will come from those who wish biodiversity to be maximized.

Switzerland is not a member country of the EU. Its agri-environmental programme, however, is comparable to programmes formulated under EU regulation 2078/92 and 1257/1999, respectively. In order to recieve direct payments, farmers are required to allocate 7% of the utilised agricultural area of their farms to semi-natural habitats (ecological compensation areas – ECA). Farmers can choose from a list of habitats, some of
which are tree based such as wooded pastures, *streuobst*, isolated trees or lines of trees, hedgerows and small woodlands (Herzog et al. 2001). Basically, the five model systems proposed in this paper could qualify as ECA but there is room for interpretation which would lead to discussions between different stakeholders. On the one hand, the ECA scheme is designed to combine agricultural production with the objective of nature protection (namely the protection and increase of biodiversity). Agricultural management must be continued (no abandonment) but the management of ECA is regulated in order to achieve environmental goals (restrictions in fertilisation, pesticide use, etc.). Modern agroforestry systems seek to marry production and protection as well, thus the approach is comparable. However, the definitions and management guidelines of tree-based ECA are oriented along traditional examples. For instance, tree lines must consist of indigenous trees, wooded pastures should resemble the traditional examples of the jura and alpine region. The goal of timber production requires certain forms of management which will make the agroforestry systems look different from traditional tree-based ECA and will probably reduce their value for biodiversity protection. This might lead to resistance from proponents of nature protection who will fear that the biodiversity value of tree-based ECA could be reduced (Herzog et al in press).

A discussion process would have to be initiated between different stakeholders (farmers, NGOs, administration) based on facts and propositions elaborated through research such as the SAFE project.

### 6 Conclusions

Implementation of the same European tree planting or rural development regulations varies considerably between countries and regions in the European Union (Table 5). This draft report touches on some of these differences, and particularly on options for interpretation of EU Regulations in a manner which recognises the contribution of widely-planted trees to the eventual creation of woodlands, to the diversification of farm income and habitats, to the potential agri-environmental benefits of such systems, and to the need to disseminate examples of good practices throughout the EU.

**A tale of two countries:**

**In the UK** the planting grant is reduced pro-rata below that available for conventional plantations, based in the UK on the number of trees planted per ha. No income support grant whatsoever is payable, and the additional tree protection and pruning costs are not supported. Agri-environmental grants do not refer to tree planting, except for hedgerows.

**In France** the grant is a % of the total cost of the plantation, and this percentage is the same for forestry plantations as for agroforestry (40% usually, sometimes more in some provinces). This method is fair, and appears to work well. It was recently decided that some of the additional extra costs for agroforestry, such as tree shelters, which are necessary as a protection against machinery, herbicides or domestic animals, would be eligible costs. This was approved by Brussels. Income support grants are payable on the proportion of the land covered by trees, and agroforestry is now also eligible for agri-environmental payments.
<table>
<thead>
<tr>
<th>Agroforestry System</th>
<th>France (before 2001)</th>
<th>France (after 2001)</th>
<th>UK</th>
<th>Italy</th>
<th>Spain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Timber-trees planted as hedgerows or boundary features</td>
<td>Forestry grants available for planting hedges, but in limited amounts. Some regional grants available in some regions. Lump area of 10 m² wide withdrawn from the CAP CP</td>
<td>Three different AE measures (5.1, 6.2, 7.1) allow the plantation, restoring and tending of hedges.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Timber-trees planted at wide-spacing in pastures</td>
<td>No grants available</td>
<td>Forestry grants available (DERF/SDF/C01) for landowners. Agro-environment grants scheme submitted to Brussels.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercreps forbidden, except for walnut (3 to 7 years)</td>
<td></td>
<td>Intercropping legal, CAP compensatory payments available for intercrops.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Intercropping or grazing in new or existing fruit tree orchards</td>
<td>Grants available for establishing some fruit tree species in some regions</td>
<td>Unchanged</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No CAP compensatory payments for intercrops</td>
<td>Intercropping legal, CAP compensatory payments available</td>
<td>Some local AE measures were adopted that prevent intercropping in orchards to avoid nitrogen leaching…</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercropping forbidden by some local product contracts such as the “Grenoble walnut”</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5. Management and improvement of existing woodlands and woodland grazing/hunting systems</td>
<td>Grants available to thin forests. To be completed.</td>
<td>AE measures include the management of forests for grazing.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To be completed.</td>
<td></td>
<td>To be completed.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*Table 5 Potential Grant Assistance to Five ‘Model’ Agroforestry Systems*
References


Annex 1 – Questionnaire circulated in Forestry Officials in SAFE Countries

1. Are the payment levels and conditions for different forestry grants the same in all parts of your Region or do they vary in different locations – if they do differ what are the differences and the reasons for these?
2. Are there any supplements payable to groups of farmers operating together?, and assistance with the costs of producing management plans?
3. If a farmer wished to plant broadleaved or coniferous trees as hedgerows or boundary strips would there be a minimum area and width necessary for each area of planting, and what total area on the farm should be planted before becoming eligible for grants?. Do the payment levels vary for different size planting schemes and for different species?
4. If a farmer wished to plant broadleaves like poplar or cherry at wide spacing in pastures with individual tree protection and proposing a good regime of silvicultural pruning (say at spacings of 5 x 5m or 10 x 10m) what grant assistance would be allowed?. Would he/she be allowed to continue grazing between the trees, and would he/she receive any agricultural ‘set-aside’ payments in recognition of the fact that the area will eventually be totally shaded by trees? Would he/she continue to receive agricultural aid for grazing livestock units and would this change in any way?
5. If a farmer planted broadleaves like poplar and cherry in arable fields with a spacing of 10 x 3 or 14 x 3 to allow access for conventional harvesting machinery for cereal growing (and eventual pasture), and again managed the trees with the intention of producing high-quality timber, would he/she be eligible for planting or maintenance grants of any type, and if so how much? How would these payments affect any agricultural grants previously payable for the crops?
6. Are there grants available for establishment of new orchards of walnut or fruit trees, and any regulation to prevent small-scale cropping or animal grazing between the trees?
7. Grazing in existing woodland can be an important source of revenue, and can create an attractive parkland landscape. Are there any grants available for the restoration of existing woodland, which includes areas of pasture-reseeding or grazing beneath the trees?
8. Are grants currently available to assist the establishment and management of short-rotation coppice? If so what species are encouraged, and are they expected to be managed with specific planting-spacings or cutting cycles?
9. Your replies above relate to subsidies available from the Regional Administration. Are you aware of other State, Regional, NGO or private organisations that provide assistance to farmers to establish trees on farms?
10. Have you any comments about whether the establishment of wide-spaced, parkland, trees. Or increased use of ‘timber belts’ may affect the taxation status or financial value of the land in your Region? Is this one reason why farmers may be disinclined to plant trees?
11. Are payments conditional on a plan being agreed for the whole farm area? If so, is agroforestry or dual cropping allowed?
12. Have you any general comments about possible encouragement of silvoarable or silvopastoral systems which could be given by changes in the subsidy or taxation structure in your Region?

In all the above cases it would be very useful to comment also on the phasing through time of the payments which may due.