



Coffee agroforestry systems that reduce crop losses due to pests and diseases, while providing ecosystem services

Rolando Cerda, Clementine Allinne, Christian Gary, Philippe Tixier, C. Harvey, Jacques Avelino

► To cite this version:

Rolando Cerda, Clementine Allinne, Christian Gary, Philippe Tixier, C. Harvey, et al.. Coffee agroforestry systems that reduce crop losses due to pests and diseases, while providing ecosystem services. 4. World Congress on Agroforestry, May 2019, Montpellier, France. 933 p. hal-02734134

HAL Id: hal-02734134

<https://hal.inrae.fr/hal-02734134>

Submitted on 2 Jun 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Long-term monitoring of grafted honeylocust trees for the production of fodder pods

Dupraz C. (christian.dupraz@inra.fr), Dufour L., Bourdoncle J.-F., Sellier A.

UMR System, INRA, Montpellier, France

Bumper harvests of honeylocust (*Gleditsia triacanthos* L.) pods on some isolated trees often draw attention of farmers and researchers on the value of this tree as a potential fodder producer for ruminants (Detwiler 1947, Dupraz and Newmann, 1994). In vivo digestibility studies of the pods provided encouraging results with sheep (Foroughbakhch *et al*, 2006). In 1988, an orchard was established with 16 grafted varieties that were identified by a survey of honeylocust trees in Southern France. The orchard includes a variety selected in the USA (Millwood variety). Pod production was monitored since plantation. Alternate bearing is a distinctive trait of all cultivars, but high year production are not synchronised between all varieties. Growing a mixture of different cultivars would therefore allow a sustained pod production. Measured yields are small, as the local site conditions are harsh. The tree size has remained almost the same for the last 20 years, indicating a severe water shortage at the site. Better soil conditions could easily induce higher yields, but the extrapolation of extraordinary heavy harvest from isolated trees is definitely not advisable. The adoption of honeylocust fodder trees by farmers rely on the availability of grafted trees at a reasonable cost, and this proves to be the limiting factor for adoption at the moment.



The orchard of grafted honeylocust trees established in 1988 at Melgueil (Montpellier, France) was monitored for almost 30 years for pods production.

Keywords: fodder tree, alternate bearing, *Gleditsia triacanthos*, pod.

References:

1. Detwiler S.B., 1947, Notes on honey-locust. USDA, Washington DC (On Microfilm)
2. Dupraz C, Newman SM, 1997, Temperate agroforestry: the European way. CABI, pp 181-236
3. Foroughbakhch R, Dupraz C, et al, 2006. Journal of Applied Animal Research 41-46.