

Organic plantation of traditional and resistant apple tree varieties to solve spontaneous vegetation management problems and rodent mammals control

Summary

The project consists in making a new plantation of organic apples with two types of varieties: conventional varieties in organic production and varieties resistant to mold (Venturia inaequalis). In this plantation, a specific strategy for against pests and diseases is applied, which contemplates the main difficulties identified in organic apple plantations in the geographic area of Girona since 2002, to demonstrate the viability of organic fruit production.

Objectives

The main objectives are to consolidate the organic production of apples of traditional and resistant varieties, and to solve the two main problems of the organic production identified in the fruit area of Girona: management of spontaneous vegetation and control of micro rodents. The specific objectives are to diversify production, restore, preserve and improve biodiversity, add value to the agricultural products obtained and foster cooperation for innovation between the production and research sectors.

Description of project activities

A new organic plantation of apples was made during the winter of 2015-16 in the municipality of Armentera, Alt Empordà (Girona), with traditional varieties and varieties resistant to mold, with installation of irrigation by dripping, structure for the tutoring of the trees to cover them with polyethylene netting, perimetral spine for protection against voles. During the years 2016-17 a sanitary defense program has been implemented that contemplates the control of spontaneous vegetation and the control of voles.

Final results and practical recommendations

During the second year, a higher level of pests and diseases was observed: symptoms of leafblight in sensitive varieties, sensitivity to fungal disease alternate (in Golden Reinders and Golden Orange) and, a sensitivity to oidium (in Crimson Crisp). Good grey aphid control has been observed with pre and postfloral applications of Azadirachtin and large activity of numerous species of auxiliary fauna (syrphids, coccinellids of various species, chrysopids, arachnids, etc.). The presence of plants planted between rows as hosts for auxiliary fauna, constituted a source of food and reservoir that facilitated the development and activity of the useful species. The presence of the *Ceroplata sinensis* in the majority of the varieties was detected during pre-harvest.

During the winter 2016-17 there was an important colonization of voles throughout the plot that required severe actions to avoid further damage. The control of the spontaneous vegetation in the tree line was done with a rotating machine of metal fingers coupled to the tractor, combined with the work of a conventional shredder and manual work. The presence of flowering plants between rows increased biodiversity and favored the activity of auxiliary fauna.

Conclusions

The new plantation was made with all the necessary infrastructure normally. The varieties have shown a

different degree of sensitivity to diseases and pests. The activity of auxiliary fauna has been favored by the presence of host plants for useful species. The control of voles with preventive passive measures has not been sufficient, and there has been a significant colonization of voles in the plantation. It has been possible to acquire good knowledge of the control options for spontaneous vegetation in the tree line.

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Keyword-category

Agricultural production system
Farming / forestry competitiveness and
Farming practice
Pest / disease control

Territorial scope

Province

Tarragona
Lleida
Girona
Barcelona

County

Selva
Segrià
Pla d'Urgell
Noguera
Baix Llobregat
Baix Empordà
Baix Camp
Alt Empordà

Project dissemination *(publications, seminars, multimedia...)*

III Jornades de Tècnics d'ADVs de Catalunya, 22/11/2016. Jornada Cooperació per a la innovació DARP, Barcelona, 21/06/2017. IV Jornada interactiva de protecció vegetal, 19/09/2017 a Mas Badia.

Pàgina web del projecte

Other project information

Visites: 8/03/2016 Grup de Fructicultors de Giropoma Costa Brava; 13/09/2016 Consell de Giropoma. 2/08/2017 Grup de Fructicultors de Giropoma Costa Brava. 13/09/2017, Tècnics assessors de la Comissió Tècnica de fruiters de Mas Badia. 25/09/2017 Grup de Fructicultors de Giropoma Costa Brava.

Projecte period

Approved budget

Starting date (month-year): Novembre 2015	Total Budget:	123.104,81 €
End date (month-year): Setembre 2017	<i>Funding source DARP:</i>	50.637,96 €
Project status: <i>Finalised</i>	<i>Funding source UE:</i>	38.200,56 €
	<i>Own funds:</i>	34.266,29 €

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Basic regulation: Ordre ARP/258/2015, de 17 d'agost, per la qual s'aproven les bases reguladores dels ajuts a la cooperació per a la innovació a través del foment de la creació de grups operatius de l'Associació Europea per a la Innovació en matèria de productivitat i sostenibilitat agrícoles i la realització de projectes pilot innovadors per part d'aquests grups, i es convoquen els corresponents a 2015.

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