



4th World Congress on Agroforestry

20-22 May 2019
Montpellier, France

Book of Abstracts



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Cattle seed dispersal services and perspectives for management in a high biodiversity Mediterranean silvopastoral system

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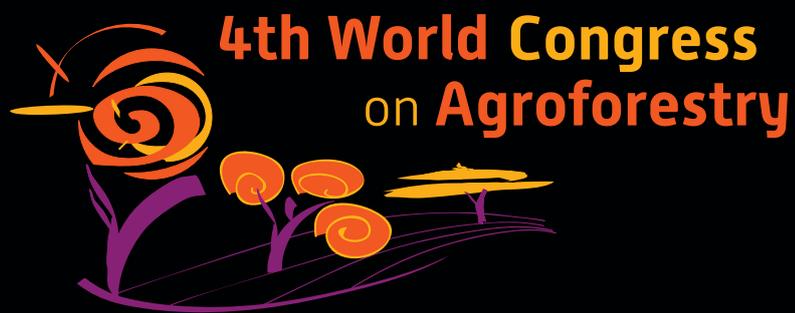
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In Mediterranean traditional silvopastoral systems are composed mostly with oaks, with an overall lack of fleshy-fruited species, key elements in Mediterranean flora. A mixed composition may enhance biodiversity and diversify fodder for livestock, and at the same time guarantee higher resistance, resilience and a richer network of ecological interactions. Here we investigated the interactions of cattle and native fleshy-fruited species in a high biodiversity silvopastoral system inside the last large forest remnant in western Sicily, Italy. Along two fruiting seasons we used sampling transects covering the gradient from the forest to the pastureland and analyzed 132 cattle dungs, of which 47.7% contained an average of 67.2 (± 40.3) *Pyrus amygdaliformis* seeds. Just 2.1% were predated, resulting in a density of 238 seeds/ha. *Pyrus* is the most abundant tree in the pastureland, and cattle, other than retrieving nutritional rewards from the fruits, is effectively promoting its seed dispersal. This interaction is contributing to create a dynamic and self-regenerating alternative silvopastoral system, where the presence of other fleshy-fruited species extends the resource availability for other native animals. However, in the past 24 years woody vegetation increased more than 68%, so we shed perspectives on whether leave secondary succession or actively manage vegetation expansion to maintain this fruit-rich alternative silvopastoral system.



Location of the study site, pastureland with expanding fleshy fruited trees and shrubs, *Pyrus amygdaliformis* tree full with fruits and its seeds in cattle feces

Keywords: diversification, frugivory, mutualistic interactions, active management, secondary succession.



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