

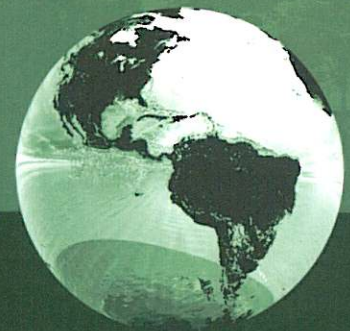


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PROGRAM AND ABSTRACT BOOK

Abstracts

proportion not necessarily improves ecological processes, and PPA has important role on nutrient retention and biomass input on streams. Legal Reserves potentially reduce erosion and improve nutrient retention, depending of its location.

CO.28

SURVIVAL OF HOLM OAK WOODLANDS IN FIRE PRONE LANDSCAPES IN NORTHEASTERN PORTUGAL

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Introduction It has been observed that holm oak (*Quercus rotundifolia*) woodlands survive wildfires in Northeastern Portugal which self-extinguish in contact with these woodlands. The mechanisms underlying this phenomenon are unknown. As part of an effort to understand the role of holm oak woodlands in landscape fire hazard, we have tested the hypothesis that holm oak woodlands are fire resistant and that this is due to fire behavior modification at the shrubland-woodland interface. **Methods** To test this hypothesis we simulated fire behavior across edges of holm oak woodlands. For that purpose we quantified structural attributes of litter, herb, shrub and tree components in 10 locations along 60m transects placed in 12 woodland edges. With these data we built fuel models which were used to simulate fire behavior with Behave Plus software under physical conditions of the study area. **Results** There were strong variations in fire behavior along the exterior-interior gradients in holm oak woodland edges which are related to variations in the structure of the vegetation. Fireline intensity, surface rate of spread, and flame length were higher in the exterior than in the interior. There was a strong decrease in these attributes at the boundary. Finally, the differences increased with shrubland age in the exterior. **Discussion** Changes in simulated fire behavior suggest that wildfire spread rate and intensity decrease when in contact with holm oak woodlands which may lead to their natural extinction. The particular conditions when this is more likely to occur are still to be known.

CO.29

***Spodoptera frugiperda* (J.E. SMITH) RESPONSE TO THE QUANTITY, QUALITY AND SPATIAL STRUCTURE OF AVAILABLE FOOD IN TWO AGRICULTURAL LANDSCAPES OF THE DEPARTMENT OF TOLIMA, COLOMBIA**

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My objective was to determine the effects of vegetation patterns of food resources in the Valle Cálido del Alto Magdalena (Colombia), on the regional and local abundance of the fall army worm, *Spodoptera frugiperda* (Lep., Noctuidae). Army worms are pests on cotton, corn, sorghum and grasses in America. A vegetation map was developed to select two contrasting resource areas: central with more than 75% seasonal crop coverage and north with less than 50%. The areas were separated by 130 km, with thirteen central sampling sites and ten northern, each site separated by two km, containing 8 to 9 sexual pheromone (ChemTica[®]) traps. The number of adults per trap were counted twice weekly for 24 months. The vegetation map was revised each crop season (n=4). Analysis ranges (150, 250 y 500 meters in diameter) were established around each sampling site. Range analysis generated indices of food quantity (% crop type), quality (crop type and phenology) and spatial distribution (proximity of crops to shrubsteppe and grasses to predict the abundance of adults. Weekly autocorrelation capture lags were significant. The analyzed variables correlated significantly to the weekly captures (95%). General linear models with a Poisson response (total capture/area/site/week) were generated for each analyzed distance. Akaike value was used to select the best models: 150 and 250 m range, including lag capture. The first model explained the captures based on area (north-south) and quality resources index. The second model, incorporated area and indices of quality, quantity and proximity to seasonal crop patches. This study suggest that the scale of the vegetation pattern determines the quantity of *S. frugiperda* captures, an indicator of species dynamics and key to preventing pest problems.