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Citrus Inventory (2004) in Bella Vista, Corrientes — Argentina

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Abstract

The domestic market is the primary target for citrus in Bella Vista, Corrientes, Argentina. Since 2001 economic changes took place and the export of fresh fruit began to the European market. A comprehensive inventory was developed at the request of the Citrus Growers Association in order to determine future investment strategies. In a first step, we assessed the citrus growing area regarding the geographical location of the plots, prevailing agronomic practices (species, varieties, agro-chemical use, age of plantations), and farmers' access to extension services. An initial inventory was based on Landsat 5 and Landsat 7 satellite images. Before the visual interpretation, the images were rectified and processed using ERDAS Imagine. ArcView software was used to develop the GIS and ground-truthing of the GIS information was complemented by questionnaires.

The results show that 23 % of the citrus plots are abandoned. Only some 380 plots are actively exploited, corresponding to a production surface of 3,021 ha. The average age of these plots is 11 years, indicating that the maximum production potential has not yet been reached. The largest share of 49 % of the area is occupied by lemon, followed by oranges (32 %) and tangerines (19 %). In the case of lemon, one single variety (“Villa Franca”) is used on 46 % of the total lemon-growing area, while Valencia represented 84 % of the oranges. This high concentration on few varieties carries danger signals, as reliance on few genotypes is potentially associated with economic risks and a loss in agro-biodiversity. Despite their recognised importance, only 40 % of the citrus area is currently treated with agro-chemicals and extension reaches less than 30 % of all citrus growers. This inventory highlights that current citrus production levels in Bella Vista appear to be less associated with spatial features but rather with a lack of information by farmers and possibly an over-reliance on few genotypes. Further sociology studies are needed to explain the poor use and access of extension services.

Keywords: Agro-chemicals, extension, GIS, satellite images