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Sum Insured Determination for Cereal, Citrus and Vineyards in the Spanish Agricultural Insurance System

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In general, insurance is a form of risk management used to hedge against a contingent loss. The conventional definition is the equitable transfer of a risk of loss from one entity to another in exchange for a premium or a guaranteed and quantifiable small loss to prevent a large and possibly devastating loss being agricultural insurance a special line of property insurance.

Agriculture insurance, as actually are designed in the Spanish scenario, were established in 1978. At the macroeconomic insurance studies scale, it is necessary to know a basic element for the insurance actuarial components: sum insured. When a new risk assessment has to be evaluated in the insurance framework, it is essential to determinate venture capital in the total Spanish agriculture. In this study, three different crops (cereal, citrus and vineyards) cases are showed to determinate sum insured as they are representative of the cases found in the Spanish agriculture.

Crop sum insured is calculated by the product of crop surface, unit surface production and crop price insured. In the cereal case, winter as spring cereal sowing, represents the highest Spanish crop surface, above to 6 millions of hectares (ha). Meanwhile, the four citrus species (oranges, mandarins, lemons and grapefruits) occupied an extension just over 275.000 ha. On the other hand, vineyard target to wine process shows almost one million of ha in Spain.

A new method has been applied to estimate crop sum insured in these three cases. Under the maximum economic impact assumption, the maximum market price has been used to insurance each species. Depending on crop and reliability of the data base available, the insured area or insured production has been used in this estimation. When for a certain crop varieties or type of varieties show different insurance prices a geometric average was used as average insurance price for that particular crop. One extreme difficult case was vineyards, where differentiate prices based on Denomination of Origin (DO), varieties and autonomous communities made this estimation more complex.

The macroeconomic results obtained based on MARM (Ministerio de Agricultura, Alimentación y Medio Ambiente) prices and crop data in 2009 are showed and discussed.

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