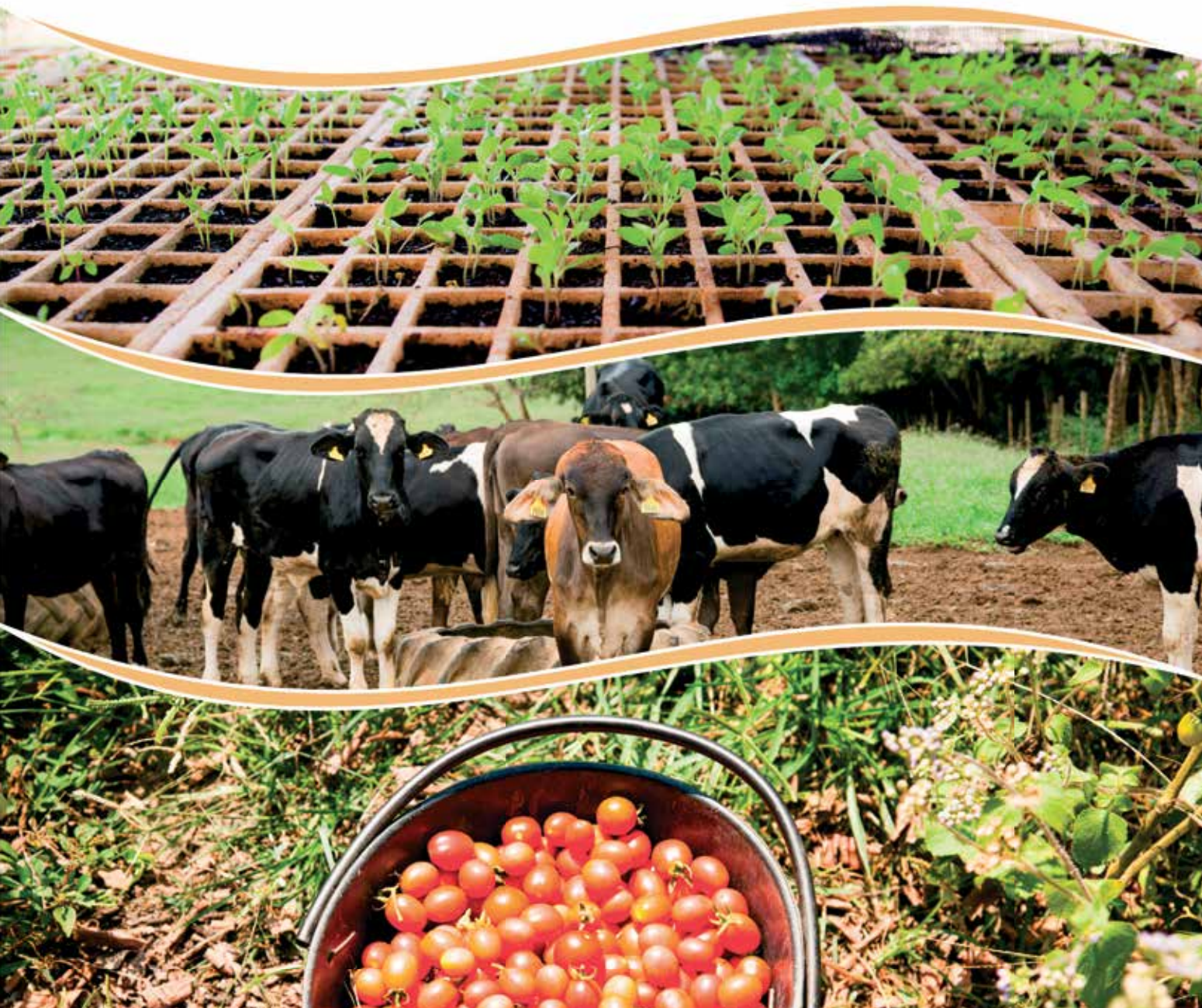
ICAS VI

SIXTH INTERNATIONAL CONFERENCE
ON AGRICULTURAL STATISTICS

23-25 October 2013
Rio de Janeiro, Brazil

Improving Statistics for Food Security, Sustainable Agriculture, and Rural Development.
Linking statistics with decision making.

Proceedings



Ministério do Planejamento,
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e Estatística – IBGE

Diretoria de Pesquisas

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technical, because probability samples demand high economic cost for obtaining results within sampling errors tolerable to the municipal level.

Therefore, to support agricultural research, besides information from the agricultural census and cadastral surveys, data derived from professional discussion of members from local, state, regional and national agricultural statistics committees are used. Subsequently, these results are then aggregated to the system of National Accounts in order to achieve the estimated Gross Domestic Product of the agricultural market.

This study compares the data found in surveys conducted by IBGE with data from other institutions or other publications related to agriculture in general, so that could be possible to reflect about methodologies that will ensure greater reliability to the results provided by IBGE.

Thus, descriptive analyses were conducted comparing data from subjective surveys and census data with estimates of the Brazilian Association of Vegetable Oil Industries (ABIOVE), the Monitoring Sugarcane and Coffee Satellite Images (CANASAT and CAFESAT - INPE). Furthermore, remote sensing images available in public institutions were used in order to evaluate cultivated areas under central pivot and supposed areas with crops of coffee, in the city of Romaria, Minas Gerais State, Brazil.

Despite the criticism, in general, the results obtained by means of subjective inferences, without formal sampling, were more approximated of estimates indicated by satellite imagery or used by the agribusiness, than the census data. This can occur either by census errors, and because specialized professionals have been producing their forecasts based the same independent sources of information collected in this study.

The results suggest that partnerships oriented to the use of administrative records of several sources of information, as well as the use of satellite imagery available in public institutions might define success on estimates of acreage and crop production. Moreover, it would provide a reduction of excess subjective aspects that may be present in committees of agricultural statistics of the various spheres of government. It is hoped that this procedure adds a quantitative component, making the estimates more reliable and less prone to errors, and would contribute to the targeting efforts for planning the agricultural census and others surveys focused on agricultural activity.

Keywords: agricultural estimative; agricultural surveys; agricultural census; satellite images; agricultural data sources.

Beef cattle stocking rate, a key to the conservation of the pastoral system in Brazilian biomes

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Abstract

In Brazil, beef cattle are raised in predominantly extensive systems. The feeding base is represented by native and/or cultivated pastures. The latter may be in a well conserved state or may present some degree of degradation. The amount of animals per hectare, supported by the pasture by each time unit, is basically related to the pasture production. There is interaction between quality and production, and changes in these parameters are strongly affected by the stocking rate. Therefore, the adjustment in the stocking rate is the most important management factor and the main determinant of animal production and pasture composition. Municipal data from the 2006 agriculture and cattle raising business census were considered with the objective to analyze, by means of typologies, the use of pastoral areas in Brazil. In the census, the producers declared their pastoral areas according to the following classification: native pasture areas (PN), cultivated pasture areas in good conservation status (PC) and cultivated pasture areas with some degree of degradation (PCD). They also indicated the number of bovine in each type of pasture. The data were submitted to exploratory factorial analysis, with varimax rotation. The first two factors (extracted by main components) explained 0.83 of the (co)variance, and the estimate of the Kaiser-Mayer-Olkin (KMO) adequacy test was 0.76, which meant good adjustment of the variables selected. The commonalities of the variables selected, PN area; total pasture area (TP), bovines in PN (Bov_PN); bovines in PCD area (Bov_PCD); bovines in PC area (Bov_PC); bovines in total pasture

area (Bov_APT); and the stocking rate (TxLota) were 0.65; 0.97; 0.77; 0.74; 0.79; 0.87; and 0.99, respectively. The first factor was associated with the variables PN, TP, Bov_PN, Bov_PCD, Bov_PC, and Bov_APT, which directs to the latent variable correlated to those municipalities with large pasture areas, in general, and also with the largest cattle population. The variable TxLota presented the most significant factorial load in the second factor, that is, all those municipalities with the greatest concentration of cattle per unit area are represented in the second factor. The municipalities that were best represented in factor_1 are different from the ones represented in factor_2. The non-parametric correlation between the classifications of the two groups of municipalities formed by the factorial scores in the first and the second factors is small (0,24). This indicates that the context of those municipalities with the highest stocking rate is a lot different from the ones with the largest areas and cattle herds. The application of livestock development policies in the different Brazilian biomes should take into account all the distinguishing features of the municipalities, regarding their context, especially the pasture areas and their vocation for primary livestock production.

Keywords: multivariate analysis; typology; land use.

Administrative Records for Official Statistics: food for thought on Uganda's livestock data

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Abstract

This paper presents a methodology to rapidly assess routine livestock data systems and identify options for improvement. The methodology has been developed by the Uganda Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and the Uganda Bureau of Statistics (UBOS) in collaboration with the FAO-World Bank-ILRI-Africa Union Inter African Bureau for Animal Resources (AU-IBAR) Livestock Data Innovation in Africa Project. Uganda, as several other developing countries, does have a system of routine data collection which explicitly targets livestock. The paper describes the routine livestock data system of Uganda; presents and applies to Uganda a methodology to rapidly assess livestock administrative records; and suggests options for improvement, with a focus on 'field experiment' or pilots with control groups as effective ways to promote institutional changes in the system of routine livestock data collection.

Keywords: administrative records; livestock; Uganda.

Building a statistical program to support evidence-based policy and relationships within Government

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Abstract

The Australian Bureau of Statistics (ABS) is Australia's national statistical agency, providing high quality statistics on a wide range of economic, environmental and social issues. By providing trusted statistics to government, business and the community, and through providing statistical leadership across the national and international statistical community, the ABS supports public debate and informed decision making in an increasingly complex world.

In undertaking this role ABS faces a range of challenges including fiscal pressures, demand for