

Detection and Characterization of Clusters in the Organic Agrofood Industry in Catalonia

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Agglomeration economies can constitute an important factor of companies' competitiveness and/or a whole sectors and regions. The study analyses the localization of certified organic businesses (farms, industry and traders) identifying spatial clusters and describing their characteristics compared to the non-cluster areas, based on spatial statistics supported by geographic information systems.

The main results are three: organic operators are not distributed in a random way in the territory; six clusters have been detected out of the total of 2.850 businesses; there are valid explanatory elements for the environment (rural development indicators) of full set of cluster areas. Nevertheless, comparing them, important differences in terms of competitiveness can be observed. There is no evidence found for a situation of a cluster as an "organic district".

The findings can lead to different industrial policies like a differentiation between giving support to less favoured areas, to areas already competitive on their own and to others that still haven't detected the economic potential of organic farming and productions but that are ready to start with it. The design of actions using or strengthening the own dynamics of agglomeration economies is proposed, as well as specific support to reconversion to organic production within the existing conventional cluster in the territory.



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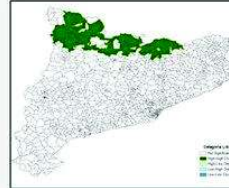
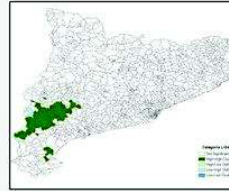
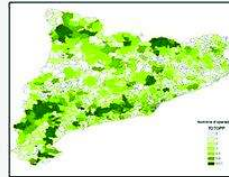
1/5 #ICRPS2021 “Detection and characterization of clusters in the organic agrofood industry in Catalonia”: Agglomeration economies can constitute an important factor of companies’ competitiveness or a whole sector or region. Have a look at the slide for an overview of the study.

Detection and characterization of clusters in the organic agrofood industry in Catalonia

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Organic farming	Producció agrària ecològica
Agglomeration economies	Economies d'aglomeració
Competitiveness	Competitivitat
Spatial statistics	Estadística espacial
Catalonia	Catalunya





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2/5 #ICRPS2021 Spatial statistics supported by geographic information systems are used for identifying clusters -concretely local indicator of spatial association (LISA) and cluster maps- answering to three research questions. Data is based on registered organic businesses.

Research questions

I. Certified organic operators are distributed in a random way in the territory?

II. Spatial clusters can be detected?

III. If yes, which are their characteristics?

Possible scenarios

- a) The agents follow the same localization patterns as the whole agrofood sector
- b) Does exist a type of territory that is technically more adequate for organic farming?
- c) Does there exist a special sensibility of the territory representing a cluster in the sense of "Organic district"?

Methodology

- > LISA-Moran global and local
- > Descriptive
- > Contrast of means
- > Qualitative

Data set

Directory of operators CCPAE 10/2015 (n=2.850)
 Directory of operators CCPAE 10/2015
 Agra Census 2009
 Interviews to experts

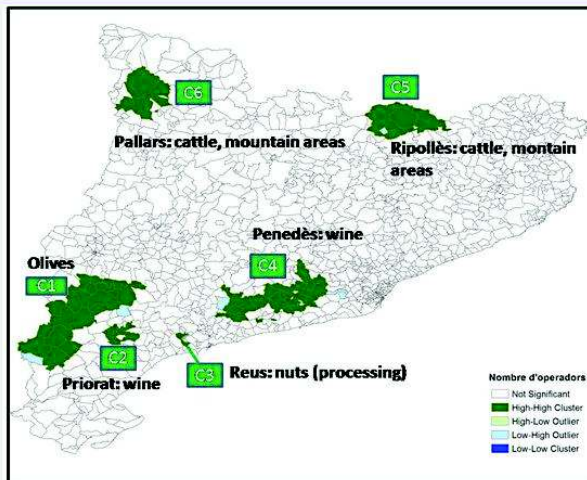


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3/5 #ICRPS2021 Six different clusters were identified: "Olivera" – mainly olives; "Priorat" – wine; "Reus" – nuts; "Penedès" – wine; "Ripollès" – cattle; "Pallars" – cattle. There are valid explanatory elements (rural development indicators) for the different cluster areas.

Results of detection of clusters





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4/5 #ICRPS2021 Some clusters are more dynamic and competitive (wine and nut processing), others more pendent on subsidies (olive and mountain cattle), but all of them are situated in areas with an already existing specialised production scheme. Slide: analysis of means indicators

Results analysis of means

Variable	Mean cluster	Mean others	p-value (t)	St. Sig	Sign
All clusters					
% female owners (MOF)	26.9	23.5	0.01 **		+
% owners aged under 45	19	16.7	0.045 *		+
% Receptor of Rural Development Funds	17.3	12.5	0 **		+
% Receptor of agri-environment-commitment payments	9.9	5.3	0 **		+
% Receptor of investment for modernization payments	4	2.1	0 **		+
C1					
% Other complementary activities	1.8	6.1	0.002 **		-
% University studies (MOF)	0.8	2.7	0.012 *		-
% Receptor of Rural Development Funds	20.8	12.7	0 **		+
% Receptor of agri-environment-commitment payments	11.8	5.5	0 **		+
C2					
% Receptor of Rural Development Funds	5.5	13	0.05 **		-
C4					
% female owners (MOF)	28.2	23.6	0.029 **		+
% Receptor of investment for modernization payments	3.7	2.2	0.019 **		+
C5					
% Receptor of Rural Development Funds	28.8	12.8	0 **		+
% Receptor of agri-environment-commitment payments	24.3	5.5	0.009 **		+
% Receptor of investment for modernization payments	5.9	2.2	0.001 **		+
C6					
% Other complementary activities	13.7	6	0.029 *		+
% owners aged under 45	27.8	16.9	0.023 *		+
% Receptor of Rural Development Funds	36.3	12.8	0 **		+
% Receptor of agri-environment-commitment payments	23.1	5.6	0 **		+
% Receptor of investment for modernization payments	14	2.2	0 **		+

St. Significance: * = 95% ; ** = 99%



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5/5 #ICRPS2021 In policy terms, the design of actions using or strengthening the own dynamics of agglomeration economies is proposed, as well as specific support to conversion to organic production of activities within the existing conventional cluster in the territory.

Conclusions

- **Organic businesses are not distributed in a random way in the territory and different cluster can be detected.**
 - Some more competitive and dynamic (wine and nuts processing), others less competitive and depending on subsidies (olives, cattle)
 - All of them take advantage of the benefits of agglomeration economies
 - All the clusters show a development of organic farming in an already existing specialized production scheme but there are other traditional food cluster that are not detected as an organic cluster (pig/ meat processing, fruits, etc.)
 - At a first look, there is no evidence for a cluster in the understanding of a "biodistrict", but going into more details some signals for their existence can be observed
- **In policy terms,**
 - The findings can lead to different industrial policies like a differentiation between giving support to less favored areas, to areas already competitive on their own and to others that still haven't detected the economic potential of organic farming and productions but that are ready to start with it.
 - The design of actions using or strengthening the own dynamics of agglomeration economies is proposed, as well as specific support to reconversion to organic production within the existing conventional cluster in the territory.