

Methodology for selecting organic and comparable conventional farms

*Frank Offermann, Jörn Sanders, Hiltrud Nieberg
Johann Heinrich von Thünen-Institut, Braunschweig*

In order to provide insight into the relative performance of organic farms, and to allow an evaluation of policy impacts on the relative competitiveness of organic farming, a comparison with similar conventional farms is made. The underlying purpose is to deduce what profit the organic farms would make if they were managed conventionally. An approximation of this hypothetical situation is made by using comparable conventional farms from an FADN database as a reference. As many farm characteristics are influenced by the farming system, the choice of indicators for the selection of comparable conventional farms has to be restricted to 'non-system determined' factors (Offermann and Nieberg, 2000; Nieberg et al. 2007). This often severely limits the number of indicators that can be used, especially as information on natural production conditions in farm accounts is generally sparse.

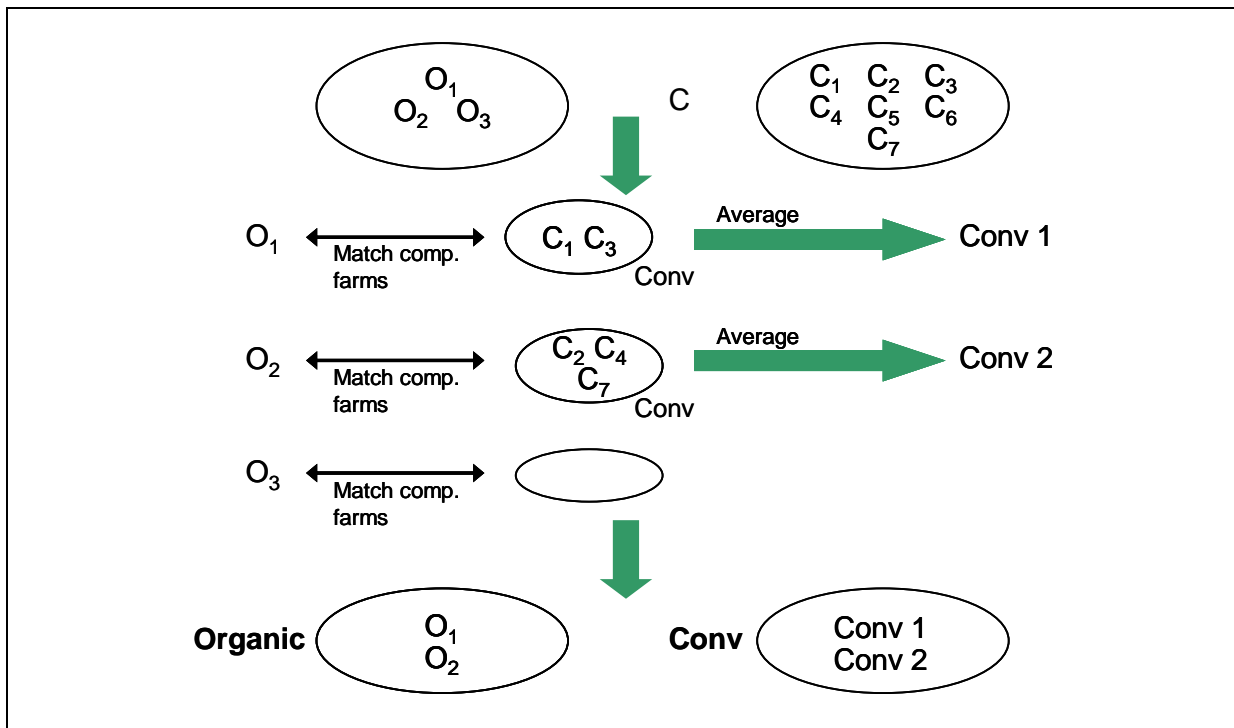
For selecting comparable conventional farms, the following selection variables have been used:

Area	Selection variable	Range
Similar natural production conditions	German index for yield potential of agricultural land in EUR/ha	+/- 30%
Same region	Federal states (city states have been merged to neighbouring states)	-
Similar endowment with production factors	UAA	+/-20% or +/- 10 ha
	Arable area (only for grazing livestock farms without dairy production)	+/-20% or +/- 10 ha
	Milk sold	+/- 20% or 25.000 kg
Identical farm type	Arable, Horticulture, Permanent crops, Grazing livestock, Pig+Poultry, Mixed arable, Mixed livestock, Mixed arable and livestock	-
Identical occupation	Full-time, Part-time	-

The technical procedure can be described as follows:

1. Creation of two samples from FADN data: Sample O (organic farms); Sample C (conventional farms)
2. For each farm of Sample O, a sample of comparable conventional farms C_{Ci} is selected from Set C. To avoid distortions, Set C_C must be weighted for further analysis. This is done by calculating the average of the sample C_{Ci} to get a single ('artificial') comparable conventional farm CCF_i for each organic farm. This procedure implies that a conventional farm from Set C can be a member of more than one Set C_{Ci}.
3. To arrive at Set OF, all farms for which no comparable conventional farm could be selected are eliminated from Set O. Sets CCF and OF constitute the basis for further comparative analysis.

Figure 1: Illustration of the technical approach to extracting organic and comparable conventional farms for further analysis



Source: Own presentation

References

- OFFERMANN, F. and NIEBERG, H. 2000. *Economic Performance of Organic Farms in Europe. Organic Farming in Europe: Economics and Policy, Vol.5. Stuttgart-Hohenheim: University of Hohenheim.*
- NIEBERG H, OFFERMANN F, ZANDER K 2007. *Organic farms in a changing policy environment: impacts of support payments, EU-enlargement and Luxembourg reform. Organic Farming in Europe: Economics and Policy, Vol. 13, Stuttgart-Hohenheim.*