



HAL
open science

Can an organic market garden without motorization be viable through holistic thinking?

Kevin Morel, Charles Guégan, Francois Leger

► To cite this version:

Kevin Morel, Charles Guégan, Francois Leger. Can an organic market garden without motorization be viable through holistic thinking?. International Symposium on Innovation in Integrated and Organic Horticulture (INNOHORT), Jun 2015, Avignon, France. hal-02952042

HAL Id: hal-02952042

<https://hal.inrae.fr/hal-02952042v1>

Submitted on 29 Sep 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Can an organic market garden without motorization be viable through holistic thinking?

The case of a permaculture farm



Kevin Morel, UMR SADAPT, INRA, Paris, kevin.morel@agroparistech.fr
Charles Guégan, Ferme du Bec Hellouin, France, recherche@institutsylva.com
François Léger, UMR SADAPT, AgroParisTech, France, francois.leger@agroparistech.fr



A global challenge

Increasing scarcity, environmental and social costs of oil resources



CONTEXT



Local innovations

Permaculture practitioners claim to design viable market gardens without motorization by promoting manual labor and holistic thinking

OUR QUESTION :

Can these market gardeners create a decent income with an acceptable level of working time ? How ?

A CASE STUDY

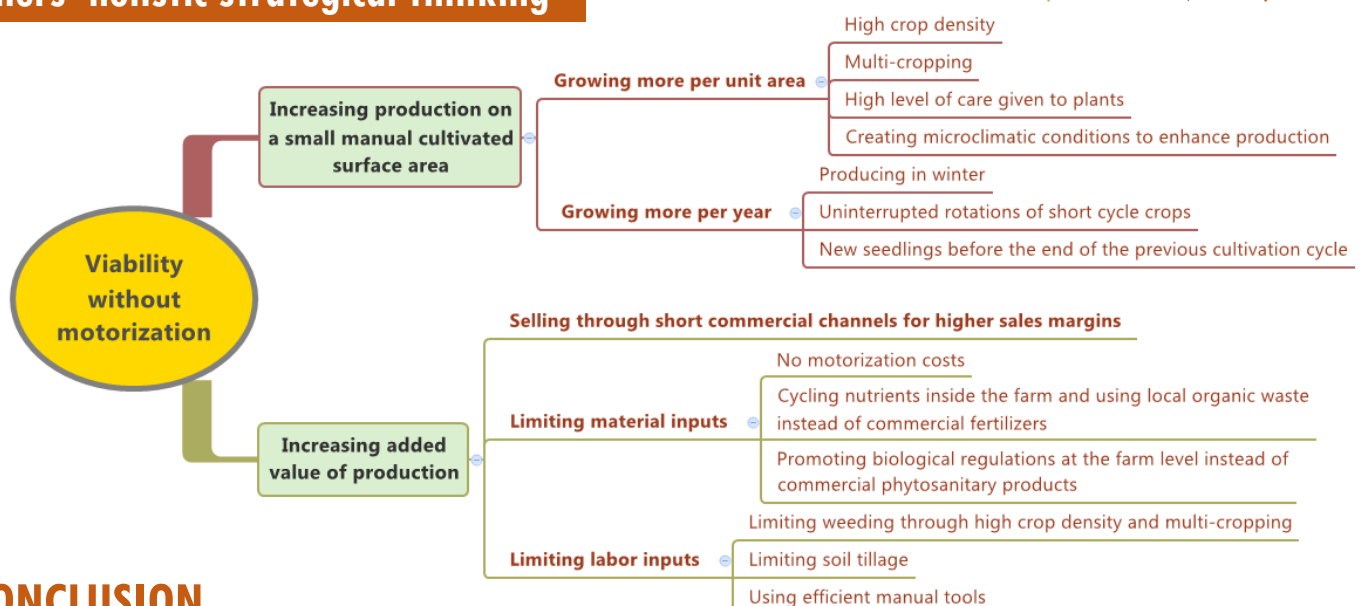
- On the Bec Hellouin farm (Normandy)
- Harvest quantities and production working time measured from 2012 to 2014 on 1061m² (40% under greenhouses, 76 vegetables types grown)
- Estimation of income and global working time based on farm data and accountancy expertise
- Qualitative analysis of semi-structured interviews to approach farmers' strategies

Income (€) and working time

| Year | 2013 | | 2014 | |
|--|--|------------|--------------|--------------|
| | Low | High | Low | High |
| Investment hypothesis | | | | |
| Net Gross sales* | 31 079 | | 54 298 | |
| - Seeds and young plants* | 4 000 | | 6 500 | |
| - Fertilization, other supplies and small equipment* | 1 500 | | 3 000 | |
| - Other purchases and expenses* | 4 000 | 2 000 | 4 000 | 2 000 |
| - Property tax | 100 | | | |
| - Labor cost (employee) | 0 | 0 | 10 098 | |
| - Social security charges and insurance | 4 000 | | | |
| = Annual disposable income | 17 479 | 19 579 | 26 700 | 28 700 |
| - Interest expenses (bank) | 0 | 5 000 | 0 | 5 000 |
| - Depreciation | 2 000 | 4 000 | 2 000 | 4 000 |
| = Annual net income** | 15 479 | 10 579 | 24 700 | 19 700 |
| Monthly net income** | 1 290 | 882 | 2 058 | 1 642 |
| Farmer's weekly working time | 43h/week including administrative and commercial tasks | | | |

*excluding value-added tax; ** before personal taxes
 Acceptable for farmers; Not acceptable for farmers

Farmers' holistic strategical thinking



CONCLUSION

Decent income and acceptable level of working time are possible on 1000m² cultivated without motorization thanks to a holistic way of thinking combining ecological, technical and commercial strategies. However, no conservation crops were grown (e.g. potatoes). As these crops are expected by consumers, collaboration between motorized and non-motorized market gardeners has to be further investigated.