



Production & Distribution of Food Crop Diversity in Urban Horticultural Plots in Havana (Cuba)

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Introduction

Urban horticultural plots have been a major element of Cuba's national strategy to ensure food security for citizens. Urban horticulture in Havana has become an internationally recognized popular movement, especially since production focused on local, self-sufficient and ecological approaches. This study explores production conditions of selected horticultural plots in Havana (Cuba).

Here in this poster we present:

- appearance and size of urban agriculture plots;
- examples for cultivation methods;
- plant species composition;
- data on the economic performance of horticultural plots.

Results

No remarkable differences in appearance (e.g. structure of the plant beds, fencing of horticultural plots and their production methods (irrigation, plant protection, fertilization, tillage; Figures) were found, however, the size of the plots differs between 0.03 and 14 ha. All plots used so called agroecological cultivation methods. E.g. in 25 of 30 plots compost and pesticides from plant origin were used (e.g. prepared from *Nicotiana tabacum* & *N. rustica*, *Azadirachta indica*) and combined e.g. with lime.

47 food crop species (Table) from 27 families were identified in all plots. Species grown provided yields (in total of all crops per plot) from 4.5–348 tons ha⁻¹ year⁻¹, with leafy-vegetables being the most cultivated species and *Lactuca sativa*, *Cucumis sativus* & *Brassica rapa ssp chinensis* being the species with highest yields per ha.

Table: Most frequently grown plants (n= 30)

Species	English name	Number of plots	% of n
<i>Allium fistulosum</i> L.	Chives	27	90%
<i>Lactuca sativa</i> L.	Lettuce	26	87%
<i>Petroselinum crispum</i>	Parsley	23	77%
<i>Beta vulgaris</i> L.	Beets	23	77%
<i>Brassica rapa</i> L. subsp. <i>chinensis</i>	Chinese cabbage	22	73%
<i>Spinacia oleracea</i> L.	Spinach	20	67%
<i>Solanum lycopersicum</i> L.	Tomato	17	57%
<i>Allium</i> spp.	Alliaceae	16	53%
<i>Raphanus sativus</i> L.	Raddish	16	53%
<i>Plectranthus amboinicus</i>	Country borage	16	53%



Transplanting



Workers at one of the plots



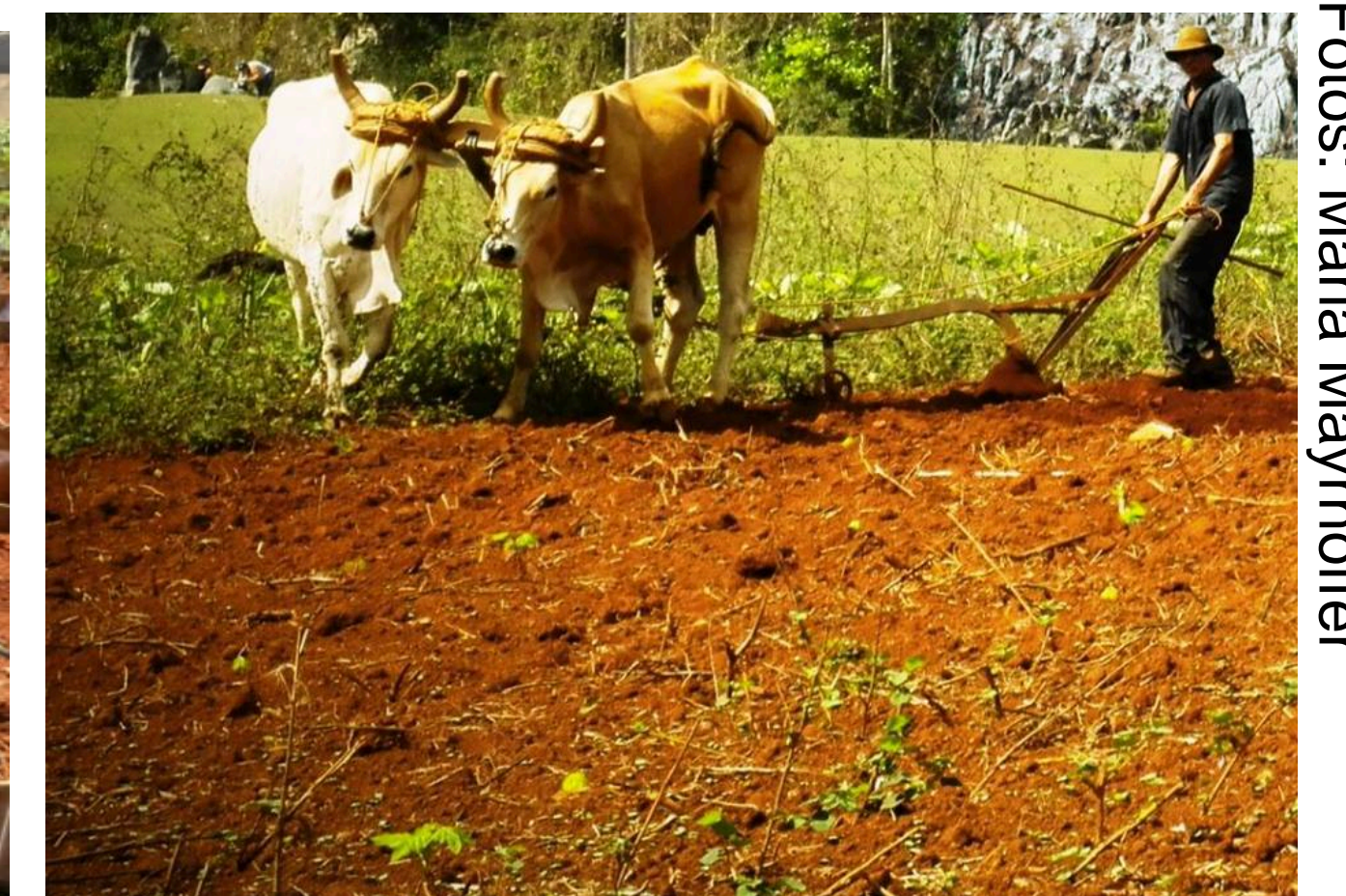
Sales point in front of the plot

Methods

The selection of horticultural plots (n=30) occurred via judgment sampling. In 2013, plant species composition, yields, management of the plots and socio-economic factors that influence production were examined based upon ethnobotanical survey techniques, structured and semi-structured interviews with producers, administrators and workers. On-site observation of work processes, sales activities and visits to farmers' markets completed this data.



Drip-irrigation-system



Ploughing with oxen



Application of compost



Self-propagated seeds (*Moringa oleifera*)



Plant association (lettuce + potato)



Production of vermi-compost



Microfibershade screen



Plant bed boundary, fibre cement

Conclusion

Horticultural production in Havana exemplifies a land use system that generates high production volumes through low external and financial input.

The variability of data (unreliably sources) obtained on yields and prices did not allow for a thorough economic calculation of individual plots at this time. Further studies will be required on that topic of yields and economy of urban farming in Havana.

Full paper with references:

Please see details on results and full list of sources in: MAYRHOFFER, Maria (2013): Production and distribution of food crop diversity in urban horticultural plots in Havana (Cuba). Master Thesis. University of Natural Resources and Life Sciences Vienna. Available with the corresponding author C. R. Vogl. christian.vogl@boku.ac.at

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