

Garden (Assenmacher (CC BY-SA, 3.0 Lizenz))

Mobile cultivation beds (德国)

Mobile vegetable cultivation system for urban areas with "baker boxes" as main elements

The main technology applied in the urban gardening project "Princess gardens" can be described as mobile vegetable culitivation system based on the use of "baker boxes". "Baker boxes" are plastic boxes (size: average area of 40 cm x 60 cm x 35 cm) made out of heat-resistant materials, which do not contain softeners. The bottom part as well as the side parts are formed in a grid pattern (holes of 1cm³ size). For the vegetable production, cultivation units ("box towers") are built out of two boxes by placing them on top of each other. The lower box is filled with organic material (composition of the material like in a compost) and the upper box is filled with garden mould (or other earth material birtourbe).

of the material like in a compost) and the upper box is filled with garden mould (or other earth material suitable for cultivation). To prevent the washing out of earth material through the grid pattern, carton is put on the bottom as well as on the side walls of the upper box. During a period of time (length can vary from 1 to 3 years) the upper box can be cultivated according to the principles of "good practise" (e.g. crop rotation). During this time, the lower box serves as compost. In the course of each year this box is checked if the ongoing decomposition processes have lead to the creation of free space in the box. In this case, organic material needs to be refilled.

In the end of the 1-3 years-cultivation period the upper box is emptied and the contained earth material can be used for purposes such as landscaping. The box is then filled with organic material and switched with the lower box, which should contain "ready to cultivate"compost material. The cultivation can then be restarted.

Purpose of the Technology: The purpose of the technology is to allow cultivation on sealed or contaminated soils. Through the use of the box towers as cultivation units the roots of the plants never get in touch with the soil. While the main rooting zone is to be found in the upper box, deeper rooting plants can grow down to 70 cm into the lower box without reaching the soil in place.

Another purpose of the technology is to create a mobile cultivation system. If needed, the

boxes can be easily moved away even during the vegeation period. Last but not least, the technology has the purpose to create a space, where knowledge sharing on a practical basis regarding the topics e.g. agriculture, sustainability and health can take place.

Establishment / maintenance activities and inputs: For the establishment of the technology first and foremost a sufficient number (depending on the size of the gardening area) of "baker boxes" is needed

Maintenance activities consist of refilling the lower box with organic material. This is also true for the required inputs.

Natural / human environment: The environment is strongly influenced by humans, as the first urban structures in this area already were established about 200 years ago. Regarding the topic soil this led to the conversion of the natural soils in place to Technosols.

拁



地点: Berlin, 德国

分析的技术场所数量:

选定地点的地理参考

13.41114, 52.50307

技术传播: 均匀地分布在一个区域 (0.006 km²)

在永久保护区?:

实施日期:

介绍类型

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Mobile cultivation beds (Assenmacher)

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SLM组

• Cultivation on sealed or contaminated soils

解决的退化问题



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SLM措施

结构措施 - S111 其它



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技术规范

edited by Peter Kirch on the basis of Daniel Müller/dkmnews in "Prinzessinengärten- Anders gärtnern in der Stadt", Nomadisch Grün (Hg.), Dumont Buchverlag, Köln, 2012, page. 115

Location: Berlin. Germany

Date: 08.10.2015

Technical knowledge required for land users: moderate

Main technical functions: increase of biomass (quantity), promotion of vegetation species and varieties (quality, eg palatable fodder), spatial arrangement and diversification of land use

Structural measure: boxes Spacing between structures (m): various Depth of ditches/pits/dams (m): 0,35 Width of ditches/pits/dams (m): 0,4 Length of ditches/pits/dams (m): 0,6

Construction material (other): plastic (food-safe)

Change of land use type: urban area to urban gardening area

Layout change according to natural and human environment: area is limited through infrastructure elements (roads) and buildings.



Author: Peter Kirch

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lively meeting place far beyond the neighborhood.

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场外影响

与技术建立成本相比的效益

与技术维护成本相比的效益

An economic analysis is hard to make, as the main goal of the project is not economical profit. In the interviews it was stated, that each year about 50.000 people visit the garden. To have an outreach to such a high number of people with a budget of about 500.000 € is regarded as "benefical" by the project members. Only looking at the financing part it was stated in the interview that the garden is one of the very few urban gardening projects that can provide for its recurrent costs itself.

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采用该技术的地区内土地使用者的百分比 单例/实 ⁰ 1-10% 11-50% > 50%		在所有采用这种技术的人当中,有多少人在没有获得物质奖励的情况下 采用了这种技术? 0-10% 11-50% 51-90% 91-100%

最近是否对该技术进行了修改以适应不断变化的条件?

否

什么样的变化条件?

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长处:土地使用者的观点

- light and long-lasting production units
- a great part of the needed material has been recylced
- standardized format of the production units (fitting even to international cargo norms)

长处:编制者或其他关键资源人员的观点

- mobile, flexible cultivation system
- allows cultivation on sealed or polluted soils
- open access technology
- knowledge sharing as key priority

弱点/缺点/风险:土地使用者的观点如何克服

- limited productivity
- are highly dependent on irrigation, as the boxes dry-out fast (high evaporation/ surface area)
- Soil can be easily lost/washed out throught the grid pattern (especially in the long term, when the erosion measures are reduced (decomposition of carton)
- The spacing in between the boxes serves as habitat for snails.
- The carton sometimes rots away in the course of the cultivation period. This leads to a loss of soil material out of the boxes.

弱点/缺点/风险:编制者或其他关键资源人员的观点如何克服

- dependent on a high supply of "baker boxes"
- dependent on external inputs (especially organic material)
- allows only for hand labour

参]

编制者

Peter Kirch

实施日期: July 7, 2015

资源人

Robert Shaw - 土地使 Christian Bärich - None Peter Kirch - SLM专业人员

WOCAT数据库中的完整描述

https://qcat.wocat.net/zh/wocat/technologies/view/technologies_1678/

链接的SLM数据

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文件编制者

- 0 0
- Humboldt Universität zu Berlin (HU Berlin) 德国
- Nomadisch grün GmbH 德国
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主要参考文献

• Urban Gardening. Über die Rückkehr der Gärten in die Stadt. Christa Müller, 2011.: ISBN 3-86581-244-9

Editors

审查者

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Fabian Ottiger

Alexandra Gavilano

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