

# Reference figures for organic farming inspections

Rebekka Schmidt, Ulrike Klöble

KTBL-Paper 470





#### **Authors**

Rebekka Schmidt | Dr. Ulrike Klöble Association for Technology and Structures in Agriculture e.V. (KTBL) Bartningstraße 49 | 64289 Darmstadt

# **Editorial team**

Beate Huber, FiBL Frankfurt | Dr. Jochen Neuendorff, GfRS Göttingen | Matthias Stein, Kontrollverein ökologischer Landbau e.V., Karlsruhe

# Including work by

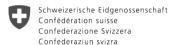
Werner Baensch | Heike Borges | Anette Brodbeck | Thomas Busjan | Martin Geiger | Sonja Güntner | Hermann Jakob | Martin Klotz | Dr. Hartmut Kolbe | Boris Liebl | Luc Mertz | Dr. Bernd Nagel-Held | Dr. Jochen Neuendorff | Alfred Paulsen | Markus Puffert | Christina Rempe | J. Peter Schwingenschlögl Jürgen Wagenitz | Dr. Paula Weinberger-Miller | Darko Zimmer

# And friendly support from

BIOS-Biokontrollservice Österreich | BCS-Öko-Garantie GmbH

FiBL Forschungsinstitut für biologischen Landbau e.V. | GfRS Gesellschaft für Ressourcenschutz mbH | IMO Institut für Marktökologie GmbH | Kontrollverein ökologischer Landbau e.V. | ÖKOP Zertifizierungs GmbH | SLK Salzburger Landwirtschaftliche Kontrolle GesmbH

The English edition was supported by SECO (Swiss State Secretariat for Economic Affairs)



Eidgenössisches Volkswirtschaftsdepartement EVD Staatssekretariat für Wirtschaft SECO

The publisher accepts no responsibility for decisions made on the basis of information in this publication, nor for the results of such decisions.

© 2009

Association for Technology and Structures in Agriculture e.V. (KTBL)

Bartningstraße 49 | 64289 Darmstadt

Phone: +49 6151 7001-0 | Fax: +49 6151 7001-123

E-Mail: ktbl@ktbl.de | www.ktbl.de

All rights reserved. Without agreement of the KTBL use of text and photographs as a whole or as extracts represents an infringement of copyright punishable by law. This applies in particular to multiplication, translation, microfilming of the contents as well as their storage and processing in electronic systems.

Published with support from the German Federal Ministry of Food, Agriculture and Consumer Protection (BMELV)  $\mid$  Bonn

# Translated by

Norman Dunn, Food Farm Communication | Ludwigshafen

#### Editorial

Monika Pikart-Müller | KTBL

# Cover photograph

© www.oekolandbau.de/Copyright BLE 2002-2005/Thomas Stephan | Munich

# Sales

KTBL | Darmstadt

#### Print

Druckerei Lokay | Reinheim

Printed in Germany

ISBN 978-3-939371-78-6

# Foreword

Consumers have confidence in the quality of products from organic farming and pay more for organically produced foods. All the more important, therefore, are inspections to ensure that legal standards required by the EC Organic Farming Regulation are obeyed.

The responsible and complex task of carrying out such inspections is conducted by inspectors of state certified inspectorates. The reference figures in this paper have been prepared to help them check plausibility of farming data and offer reliable estimation of production and wastage and calculation of product flows. For instance what production inputs can be expected e.g. seed, plants, fertilisers, feed or raw materials for further processing? And how much can normally be produced from these inputs in terms of yield, performance or sold products? The reference figures in this paper can always be applied when the required information is not available on farms being inspected or where farmers' answers have to be verified. The reference figures in this compilation for helping in organic farming inspections are naturally only based on the results calculated during time of collection and everyone using these figures are thus asked to assist in their updating and pass on any suggestions and advice to the KTBL.

In the first instance this KTBL paper is addressed to inspectors carrying out on-farm inspections or for those wishing to learn more about any sector new to them. But it can also be a valuable information source for farmers or advisers preparing for inspections. Our aim is to ensure, as far as possible, that all inspectorates apply the same figures and that methodology in farm inspections is made more uniform. Numerous inspectorates in Austria and Germany support these aims.

My special thanks go to the editorial team including Beate Huber, Research Institute of Organic Agriculture, Frick, Schweiz, Dr. Jochen Neuendorff, Resource Protection Ltd. (GfRS), Göttingen, and Matthias Stein, Kontrollverein ökologischer Landbau, Karlsruhe, as well as all the authors and experts involved. Their contribution ensures that inspections in organic farming will become more transparent and uniform and thus further strengthen consumer confidence in organic products.

Association for Technology and Structures in Agriculture e.V. (KTBL)

DR. KARL KEMPKENS Chairman, KTBL Working Group Organic Farming

# Contents

1	Introduction
1.1	Inspections made simpler and more uniform
1.2	To whom do the reference figures for inspections
	in organic farming apply?
1.3	Overview of the presentation
1.4	Data basis of reference figures for organic
	farming inspections
2	Production
2.1	Crop production
2.1.1	Fertilising10
2.1.2	Forage crops, pasture
2.1.3	Vegetables
2.1.4	Cereals, grain legumes, oil and fibre crops28
2.1.5	Rootcrops
2.1.6	Fruit
2.1.7	Wine
2.2	Animal production34
2.2.1	Poultry
2.2.2	Cattle
2.2.3	Sheep
2.2.4	Pigs
2.2.5	Goats
2.2.6	Other livestock types
2.2.7	Farmyard manures and feeds
2.3	Energy production
2.5	Energy production
3	Processing
3.1	Catering
3.2	Baking
3.3	Brewing
3.4	Brandy production

3.5	Meat processing
3.6	Fruit juice and berry wine production82
3.7	Feed production
3.8	Coffee roasting
3.9	Preserves production
3.10	Dairying84
3.11	Milling
3.12	Sauerkraut production
3.13	Edible oil production
3.14	Pasta manufacture
3.15	Wine production91
4	Volumetric weight and storage volumes92
5	Documentation for private certification systems which
	may be used during inspection of processing enterprises 95
5.1	Certification of management systems95
5.2	Product certification systems
Abbro	eviations97
Eleme	ents and chemical compounds97
Contr	ibutor addresses98
KTBL	publications

R. SCHMIDT, U. KLÖBLE

# 2.2.2 Cattle

# Performance data cattle

Table 44: Performance data dairy cow

Factor	Unit	restrictive <sup>1)</sup> concentrate rationing	Production system quality-oriented <sup>2)</sup> concentrate rationing	Performance- oriented <sup>3)</sup> concentrate rationing
Milk production	kg/(cow • year)	5 500-6 500	5 500-6 000	7 000-9 000
On basic forage	kg/(cow • year)	4 000-5 000	4 500-5 000	3 500-4 000
Milk from basic ration	0/0	> 65-85	> 70-90	> 50-60
Livweight	kg	650	600	650
Slaughterweight	kg	357	288	325
Killing-out	0/0	55	48	50
Production life	years	4	5	3.5
Replacement rate	heifer/year	0.25	0.2	0.29
Calving-to-calving period <sup>4)</sup>	days	375–400	375–400	375–400

<sup>1)</sup> Especially Fleckvieh herds attempt a high performance from grass silage as rough forage through restricting concentrates.

Redelberger, H. (2004): Management-Handbuch für die ökologische Landwirtschaft: Verfahren – Kostenrechnungen – Baulösungen, Darmstadt. KTBL-Paper 426.

Table 45: Rearing performance, replacement calves

Factor	Unit	Amount
Daily liveweight gain	kg	0.8
Liveweight at 16 weeks	kg	129
Mortality	%	1–20

KTBL (2006): Betriebsplanung Landwirtschaft 2006/07. KTBL-Datensammlung, Darmstadt. Figures from conventional farming.

KTBL-Paper 470

**Animal production** 

Table 46: Performance data beef cattle

Factor	Unit	Intensive feeding housed			Medium feeding intensity grazing	
		Bull <sup>1)</sup>	Bullock <sup>2)</sup>	Heifer <sup>2)</sup>	Bullock <sup>2)</sup>	Heifer <sup>2)</sup>
Daily liveweight gain	kg	1.2-1.5	0.9-1.1	0.7-0.9	0.8-0.9	0.6-0.7
Feeding period	ays	380-420	350	< 333	450	< 457
Start weight	kg	125-150	250-280	220-250	250-280	200-230
Endweight	kg	550-700	570-630	520-600	540-610	520-600
Slaughterweight	kg	300-385	320-350	280-320	300-340	280-320
Killing-out	0/0	57	56	54	56	54
Mortality <sup>1)</sup>	0/0	2	2	2	2	2

<sup>&</sup>lt;sup>1)</sup> KTBL (2006): Betriebsplanung Landwirtschaft 2006/07. KTBL-Datensammlung, Darmstadt. Figures from conventional farming.

Table 47: Performance data, weaners from suckler herds

Factor	Unit	Young bulls	Young heifers
Birth weight <sup>1)</sup>	kg	37-43	35–40
Weaning age <sup>1)</sup>	months	8–12	8-12
Weaning weight1)	kg	280-350	260-310
Slaughterweight <sup>2)</sup>	kg	155–195	140-165
Killing-out <sup>2)</sup>	0/0	56	54
Mortality <sup>3)</sup>	0/0	2	2

<sup>&</sup>lt;sup>1)</sup> KTBL (2002): Ökologischer Landbau, Kalkulationsdaten. Sonderveröffentlichung 043, Darmstadt. Figures from conventional farming.

KTBL-Paper 470

<sup>2)</sup> Farms that aim for a high feed quality – mostly milking Swiss Brown without silage feeding, Production is mostly for direct marketing of cheese, non-pasteurised milk, etc.

<sup>3)</sup> Farms with performance-oriented concentrate rationing, mostly with Holstein-Friesians, aim for high production, They have a large milk quota and limited housing space. Aimed for is maximum milk production per unit forage area or cow place.

<sup>4)</sup> KTBL (2006): Betriebsplanung Landwirtschaft 2006/07. KTBL-Datensammlung, Darmstadt. Figures from conventional farming.

<sup>&</sup>lt;sup>2)</sup> Redelberger, H. (2004): Management-Handbuch für die ökologische Landwirtschaft: Verfahren – Kostenrechnungen – Baulösungen, Darmstadt.

<sup>&</sup>lt;sup>2)</sup> Hartmann, W. (2006): Oral communication.

<sup>&</sup>lt;sup>3)</sup> KTBL (2006): Betriebsplanung Landwirtschaft 2006/07. KTBL-Datensammlung, Darmstadt. Figures from conventional farming.