

Tropentag 2023

**International Research on Food Security, Natural
Resource Management and Rural Development**

Competing pathways for equitable food systems transformation: trade-offs and synergies

Book of abstracts

Editor: Eric Tielkes

Reviewers/scientific committee: Ayobami Adetoyinbo, Folkard Asch,
Christian Bateki Adjogo, Bonnie Blaimer, Michael Brüntrup,
Robert Cárcamo Mallen, Tsu-Wei Chen, Michelle Chevelev-Bonatti,
Claudia Coral, Teresa Da-Silva-Rosa, Emmanuel Donkor, Christoph Gornot,
Stef De Haan, Caroline Hambloch, Harry Hoffmann, Gudrun Keding,
Marcos Lana, Katharina Lohr, Dagmar Mithöfer, Janvier Ntwali, Regina Rößler,
Constanze Rybak, Lilli Scheiterle, Barbara Schröter, Johannes Schuller,
Verena Seufert, Stefan Sieber, Jonathan Steinke, Silke Stöber, Götz Uckert,
Martin Wiehle, Stefan Winter

Editorial assistance: Janna Pfister

Impressum

Bibliografische Information der Deutschen Nationalbibliothek

Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet über <http://dnb.ddb.de> abrufbar.

1. Aufl. - Göttingen: Cuvillier, 2023

Tropentag 2023: Competing pathways for equitable food systems transformation: trade-offs and synergies Tielkes, E. (ed.) - Witzenhausen, DITSL

© DITSL

Steinstrasse 19, 37213 Witzenhausen

Telefon: 05542-6070

<https://www.ditsl.org>

Alle Rechte vorbehalten. Ohne ausdrückliche Genehmigung des Verlages ist es nicht gestattet, das Buch oder Teile daraus auf fotomechanischem Weg (Fotokopie, Mikrokopie) zu vervielfältigen.

The authors of the articles are solely responsible for the content of their contribution.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without prior permission of the copyright owners.

Online-Version: <http://www.tropentag.de/>

© CUVILLIER VERLAG, Göttingen 2023

Nonnenstieg 8, 37075 Göttingen

Telefon: 0551-54724-0

Telefax: 0551-54724-21

www.cuvillier.de

1. Auflage, 2023

Gedruckt auf umweltfreundlichem, säurefreiem Papier aus nachhaltiger Forstwirtschaft.

ISBN 978-3-7369-7880-5

eISBN 978-3-7369-6880-6

Prevalence and intensity of gastrointestinal nematode infection in small ruminants in three West African countries

LINDA CLETCHIO GABRIELLA TRAORÉ¹, MAMADOU COULIBALY², AMINATA BEYE³,
FELIX HECKENDORN⁴, H. OUMOU SANON⁵, SITA SANOU⁵, HAWA COULIBALY²,
DRISSA COULIBALY², TAMSIR MBAYE⁶, MARIÈME FALL BA⁶, EVA SCHLECHT⁷,
REGINA ROESSLER⁸

¹Nazi Bony University (UNB), Dept. of Animal Prod. Syst. (SNA/SPA), Burkina Faso

²Inst. Polytechnique Rurale / de Formation et de Recherche Appliquée (IPR/IFRA) / Institut d'Economie Rurale, Breeding Science and Technology / Cattle Program, Mali

³Cheikh Anta DIOP University, Senegalese Inst. of Agricultural Research, Dept. of Plant Biology (FST/UCAD), Senegal

⁴Research Inst. of Organic Agriculture (FiBL), Animal Science Dept., Switzerland

⁵Institute of Environment and Agricultural Research (INERA), Dept. of Animal Production, Burkina Faso

⁶Senegalese Inst. for Agric. Res. (ISRA), National Forestry Research Centre (CNRF), Senegal

⁷University of Kassel / University of Goettingen, Animal Husbandry in the Tropics and Subtropics, Germany

⁸University of Kassel, Animal Husbandry in the Tropics and Subtropics, Germany

This study was carried out to provide missing information on the prevalence and intensity of gastrointestinal nematode (GIN) infections of small ruminants in three West African countries. The use of communal grazing areas in these countries favours the spread of GIN infections across small ruminants and may reduce production performances and herders' income. Faecal samples of 1,235 small ruminants were collected in Burkina Faso, Mali and Senegal in late dry (May), rainy (August) and early dry (November) season of 2022. Individual Faecal Egg Counts (FEC) were performed by a modified McMaster technique. Animals were selected in several villages according to the following parameters: species (sheep, goats), age (young: 6–12 months, adult: >12 months) and sex (male, female). The Kruskal-Wallis test was applied to assess the influence of these parameters on FEC intensity, expressed as eggs per gram of faeces (EPG). The overall prevalence of GIN was 70.8 %, 82.6 % and 66.8 % in Burkina Faso, Mali and Senegal, respectively. In all countries, the rainy season corresponded to the highest infection period. The mean $\pm$ standard deviation of EPG across all countries was 230 ± 350 , $1,023 \pm 1,176$ and 424 ± 352 for late dry, rainy and early dry season. Infection intensity was higher in young than in adult animals, and in male than in female animals in the rainy season, whereas no differences could be observed between these

Contact Address: Linda Cletchio Gabriella Traoré, Nazi Bony University (UNB), Dept. of Animal Prod. Syst. (SNA/SPA), 04, Rue Guisga, 8645 Ouagadougou, Burkina Faso, e-mail: gabriella.traore@yahoo.fr

groups in the late dry season. Similarly, there was no significant difference in the mean EPG between sheep and goats late dry season. The results indicate that better monitoring and control of GIN infections are necessary during the rainy season and especially in young and male sheep and goats. For further study it would also be interesting to learn more about anthelmintic resistance in GIN and non-allopathic control options.

Keywords: Faecal egg counts (FEC), gastrointestinal nematodes, prevalence, small ruminants, West Africa