



Sustainability of broiler production in the context of climate change - Evaluation of new incubation strategies

Dzidzo Nyuiadzi, Bertrand Méda, A. Travel, Cécile Berri, L. Bignon, Christine Leterrier, Laurence L.A. Guilloteau, Vincent Coustham, Léonie Dusart, Frederic Mercerand, et al.

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16-18 March 2015



Full programme

CLIMATE SMART Agriculture

2015

Third Global Science Conference



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¹Institut de l'Environnement et de Recherches Agricoles (INERA), 04 BP 8645 Ouagadougou 04, Burkina Faso

5. Measurement of climate change and its effect: comparison between an objective method and population perceptions

Azeufouet Alain Simplice¹, Fofiri Nzossie Eric Joël², Bring Christophe²

¹Ministère de l'Agriculture et du développement rural /DESA, BP. 294 issea Yaoundé, Cameroon

²Département de géographie, Université de Ngaoundéré BP 454, Cameroon

6. A set of indicators to evaluate policies for climate smart agriculture

Bonati Guido, Altobelli Filiberto

Istituto Nazionale di Economia Agraria, Via Nomentana 41, 00161 Roma, Italy

7. Developing and evaluating CSA practices at country level: lessons learned from Malawi

Phiri George¹, Lipper Leslie², Asfaw Solomon³, Cattaneo Andrea⁴, Cavatassi Romina⁵, Paolantino Adriana³, McCarthy Nancy⁶, Spairani Alessandro⁷, Branca Giacomo⁸, Grewer Uwe⁹, Mann Wendy¹⁰

¹CSA Technical Coordinator, FAO, Malawi

²Senior Environmental Economist, FAO Rome, Viale delle Terme di Caracalla, Rome, Italy

³Economist, FAO Rome, Italy

⁴CSA Project Leader, FAO Rome, Italy

⁵CSA Project Coordinator, FAO Rome, Italy

⁶LEAD Analytics, Washington DC, USA

⁷CSA project officer, FAO Rome, Italy

⁸University of Tuscia, Viterbo, Italy

⁹Agricultural Mitigation Consultant, FAO Rome, Italy

¹⁰Senior Policy Consultant, FAO Rome, Italy

8. Developing and evaluating CSA practices at country level: lessons learned from the Zambian experience

Kokwe Misael¹, Lipper Leslie², Arslan Aslihan³, Cattaneo Andrea⁴, McCarthy Nancy⁵, Spairani Alessandro⁶, Branca Giacomo⁷, Grewer Uwe⁸, Mann Wendy⁹

¹CSA Technical Coordinator, FAO Zambia, FAO Representation Hse 5, Addis Ababa Drive, Ridgeway 10101 LUSAKA, Zambia

²Senior Environmental Economist, FAO Rome, Viale delle Terme di Caracalla, Rome, Italy

³Natural Resource Economist, FAO Rome, Italy

⁴CSA Project Leader, FAO Rome, Italy

⁵LEAD Analytics, Washington DC, USA

⁶CSA project officer, FAO Rome, Italy

⁷University of Tuscia, Viterbo, Italy

⁸Agricultural Mitigation Consultant, FAO Rome, Italy

⁹Senior Policy Consultant, FAO Rome, Italy

9. Millet and sorghum leaf pruning and transplantation as adaptation techniques to rainfall variability in the Sahel

Alhassane A., Traore S.B., Sarr B., Lawali M. N., Seybou O. A. B., Chaibou B.

Centre Régional AGRHYMET, PO Box 11011, Niamey, Niger

10. CSA menus of practices in the MICCA pilots

Rioux Janie, Rosenstock Todd, Kirui Josephine, Mpanda Mathew, Massoro Erasto, Karttunen Kaisa Food and Agriculture Organization of the UN, Viale delle Terme di Caracalla, Rome 0015, Italy

11. Sustainability of broiler production in the context of climate change – Evaluation of new incubation strategies

Nyuiadzi Dzidzo^{1,2,10}, Méda Bertrand¹, Travel Angélique², Berri Cécile¹, Bignon Laure², Leterrier Christine^{3,4,5,6}, Guilloteau Laurence⁷, Coustham Vincent¹, Dusart Léonie², Mercerand Frédéric⁸, Delaveau Joël⁸, Grasteau Sandrine¹, Tona Kokou⁹, Bouvarel Isabelle², Collin Anne²

¹INRA, UR83 Recherches Avicoles, F-37380, Nouzilly, France

²Institut Technique de l'Aviculture, F-37380, Nouzilly, France

³INRA, UMR85 Physiologie de la Reproduction et des Comportements, F-3738, Nouzilly, France

⁴CNRS, UMR7247, F-37380, Nouzilly, France

⁵Université François Rabelais de Tours, F-37000, Tours, France

⁶IFCE, F-37380, Nouzilly, France

⁷INRA Val-de-Loire, F-37380, Nouzilly, France

⁸INRA, UE1295 Pôle d'Expérimentation Avicole de Tours, F-37380, Nouzilly, France

⁹Centre d'Excellence Régionale sur les Sciences Aviaires (CERSA), University of Lomé, B.P. 1515, Lomé, Togo

¹⁰Institut Togolais de Recherche Agronomique (ITRA), BP 1163, Lomé, Togo



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Climate-smart Strategies

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14:00-18:00

11. Sustainability of broiler production in the context of climate change – Evaluation of new incubation strategies

Nyuiadzi Dzidzo^{1,10}, Média Bertrand³, Travel Angélique³, Berri Cécile³, Bignon Laure³, Letemer Christine^{3,4,5,6}, Guilloteau Laurence¹, Coutham Vincent³, Dusart Léonie³, Mercerand Frédéric¹, Delaveau Joëll¹, Grateau Sandrine¹, Tona Kokou⁹, Bouvarel Isabelle³, Collin Anne³

¹INRA, UR83 Recherches Avicoles, F-37380, Nouzilly, France

²Institut Technique de l'Aviculture, F-37380, Nouzilly, France

³INRA, UMR85 Physiologie de la Reproduction et des Comportements, F-3738, Nouzilly, France

⁴CNRS, UMR7247, F-37380, Nouzilly, France

⁵Université François Rabelais de Tours, F-37000, Tours, France

⁶IFCE, F-37380, Nouzilly, France

⁷INRA Val-de-Loire, F-37380, Nouzilly, France

⁸INRA, UER1295 Pôle d'Expérimentation Avicole de Tours, F-37380, Nouzilly, France

⁹Centre d'Excellence Régionale sur les Sciences Aviaires (CERSA), University of Lome, B.P. 1515, Lomé, Togo

¹⁰Institut Togolais de Recherche Agronomique (ITRA), BP 1163, Lomé, Togo

12. An analytical framework for Climate-Smart Agriculture at the community level

Chandra Alvin, McNamara Karen, Dargusch Paul

School of Geography Planning and Environmental Management, University of Queensland, St Lucia Campus, Brisbane, QLD 4072, Australia

13. Are cropping practices developed by Sub-Saharan farmers climate-smart? Case study of millet cropping system in Senegal

Tall Laure¹, Mbengue Medoune², Ndour B. Yacine³, Masse Dominique³, Clermont-Dauphin Cathy¹

¹Institut Sénégalaïs de Recherches Agricoles (ISRA), Laboratoire National sur les productions végétales (LNRPV), Dakar, Senegal

²Institut de Recherche pour le Développement (IRD), LMI IESOL, Dakar, Senegal

³Institut de Recherche pour le Développement (IRD), UMR Eco&Sol, Montpellier, France

14. Namibia specific climate smart agricultural land use practices: a budding vehicle for improving ecosystem services

Kuhn Nikolaus J., Naanda Martha Talamondjila, Bloemertz Lena

Physical Geography and Environmental Change, Department of Environmental Sciences, University of Basel (UNIBAS), Klingelbergstrasse 27, 4056 Basel, Switzerland

15. A two-dimension evaluation of CSA practices. Evaluating practices by indicators and reduce non-observable variable bias

Maldonado Jorge¹, Gómez John², Comer-Doloff Caitlin³, Lizarazo Miguel³

¹Universidad de los Andes, Bogotá, Colombia

²International Center for Tropical Agriculture (CIAT), Decision and Policy Analysis, Cali, Colombia

16. Balancing complexity and usability when modelling farm scale production and greenhouse gas emissions

Hutchings Nicholas, Kristensen Ib

Dept of Agroecology, Aarhus University, Blichers Alle 1, 8830 Tjele, Denmark

17. An impact assessment of distinct agricultural climate protection measures for the implementation on 10 000 Swiss farms

Prechtl Ulrich E., Alig Ceesay Martina, Wolff Veronika, Gaillard Gérard

Agroscope, Institute for Sustainability Sciences, Reckenholzstrasse 191, CH-8046 Zurich, Switzerland

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¹INRA, UR83 Recherches Avicoles, F-37380, Nouzilly, France

²Institut Technique de l'Aviculture, F-37380, Nouzilly, France

³INRA, UMR85 Physiologie de la Reproduction et des Comportements, F-3738, Nouzilly, France

⁴CNRS, UMR7247, F-37380, Nouzilly, France

⁵Université François Rabelais de Tours, F-37000, Tours, France

⁶IFCE, F-37380, Nouzilly, France

⁷INRA Val-de-Loire, F-37380, Nouzilly, France

⁸INRA, UER295 Pôle d'Expérimentation Avicole de Tours, F-37380, Nouzilly, France

⁹Centre d'Excellence Régionale sur les Sciences Aviaires (CERSA), University of Lome, B.P. 1515, Lomé, Togo

¹⁰Institut Togolais de Recherche Agronomique (ITRA), BP 1163, Lomé, Togo

World poultry production continuously increases to respond to the growing demand for animal protein sources. Selection for fast-growing broilers in temperate climate has resulted in high performances regarding growth and feed efficiency but also to a high sensitivity to their climatic environment. Thus, the higher frequency of extreme temperatures events predicted to occur with climate change might affect negatively broiler performances. Furthermore, the energy cost for heating poultry houses at batch start or cooling them later during heat waves is a major environmental concern. In this context, it becomes necessary to develop and evaluate new strategies and techniques to improve broiler robustness and adaptability without altering flock performances. Thermal manipulations during specific phases of embryonic development to acclimate embryos to cooler or warmer temperatures may be efficient ways to achieve this aim. This strategy could improve the thermotolerance of broilers later in their life when they experience cold or heat stress. Our hypothesis is that cold acclimation of embryos could increase chick robustness and hence decrease the energy use for heating at batch start, while heat acclimation could limit the mortality during heat waves. Consequently, production costs and greenhouse gas emissions from broiler production could be reduced and animal welfare improved. In that context, a large panel of indicators was chosen with researchers and poultry professionals to evaluate the sustainability of this technique according to its economic, social and environmental dimensions. Results should allow the evaluation of this strategy at a farm scale as a tool to limit the negative impacts of different climatic environments on broiler performances. This approach combining experimental data and multicriteria analysis will be evaluated both in temperate (France) and tropical (Togo) countries.

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