



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 Mercierand, et al.

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16-18 March 2015



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

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

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

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

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

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10. CSA menus of practices in the MICCA pilots

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

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Climate-smart Strategies

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

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

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

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

Kuhn Nikolaus J., Naanda Martha Talamondjila, Bloemertz Lena

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

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

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

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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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