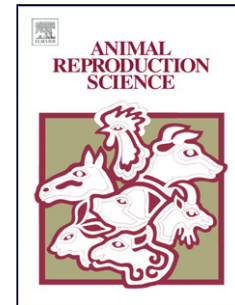


Accepted Manuscript

Title: Cyclodextrins or cholesterol-loaded-cyclodextrins? A better choice for improved cryosurvival of chicken spermatozoa

Authors: Agnieszka Partyka, Maciej Strojecki, Wojciech Nizański



PII: S0378-4320(17)31062-X
DOI: <https://doi.org/10.1016/j.anireprosci.2018.04.076>
Reference: ANIREP 5839

To appear in: *Animal Reproduction Science*

Received date: 20-12-2017
Revised date: 6-4-2018
Accepted date: 17-4-2018

Please cite this article as: Partyka A, Strojecki M, Nizański W, Cyclodextrins or cholesterol-loaded-cyclodextrins? A better choice for improved cryosurvival of chicken spermatozoa, *Animal Reproduction Science* (2010), <https://doi.org/10.1016/j.anireprosci.2018.04.076>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Cyclodextrins or cholesterol-loaded-cyclodextrins?

A better choice for improved cryosurvival of chicken spermatozoa

Agnieszka Partyka^{1*}, Maciej Strojcki¹, Wojciech Nizański¹

¹Department of Reproduction and Clinic of Farm Animals, Faculty of Veterinary Medicine,
Wrocław University of Environmental and Life Sciences, Wrocław, Poland

*Corresponding author:

Highlights

- cyclodextrins (HBCD, MBCD) and cholesterol-loaded cyclodextrins (HCLC, MCLC) were tested for improved cryosurvival of chicken spermatozoa
- CLCs did not improve chicken sperm quality after cryopreservation.
- 2 mg HBCD increased sperm motility and mitochondrial activity up to 3 hrs of post-thaw storage
- MBCD was detrimental to chicken spermatozoa.

E-mail address: partykaagnieszka@gmail.com

Abstract

This study was designed to test if treating chicken sperm with i) the cyclodextrins 2-hydroxypropyl- β -cyclodextrin (HBCD) and methyl- β -cyclodextrin (MBCD) alone improve fresh, liquid-stored and cryopreserved semen quality, or ii) cholesterol-loaded cyclodextrins (CLCs): 2-hydroxypropyl- β -cyclodextrin loaded with cholesterol (HCLC) and methyl- β -cyclodextrin loaded with cholesterol (MCLC) enhance chicken semen quality for application to assisted reproductive technologies. Three consecutive experiments were performed with different concentrations of additives: Exp. 1: 1, 2, 4 mg of HBCD and MBCD in fresh and liquid stored semen; Exp. 2: 1, 2, 4 mg of HCLC and MCLC in fresh and liquid stored semen; and Exp. 3: 1, 2 mg of HBCD, HCLC, 1 mg MBCD, MCLC in cryopreserved and post-thaw storage semen. Sperm motility parameters were assessed by CASA system and comprehensive sperm characteristics were evaluated by flow cytometry. Supplementation with 4 mg HBCD, MBCD, HCLC and MCLC

Download English Version:

<https://daneshyari.com/en/article/8403929>

Download Persian Version:

<https://daneshyari.com/article/8403929>

[Daneshyari.com](https://daneshyari.com)