Fertility disturbances of dimethylacetamide and glycerol in rooster sperm diluents: discrimination among effects produced pre and post freezing-thawing process.

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Abstract:

With avian sperm cryopreservation protocols, the most widely used cryoprotectants (CPAs) are the glycerol (GLY; in gradual freezing: in-straw freezing method), and the dimethylacetamide (DMA; in pellets by plunging into liquid nitrogen: in-pellet rapid freezing method). Use of both methods results in a small portion of thawed live sperm with lesser fertilizing ability compared with the semen samples immediately after collection. This study was conducted to assess the pre-freezing damage occurring to the sperm due to the interaction with the cryoprotectants (CPAs) GLY (8%) and DMA (5%), as well as the post-freezing damage resulting from both freezing methods. Data for each treatment, in fresh and frozen-thawed samples, were compared for sperm motility, fertilizing capacity and sperm-egg penetration holes/germinal disc (SP holes/GD). Hens (n = 50) were artificially inseminated (10 hens/treatment) six times with 3 day intervals between inseminations. The treatment of fresh sperm with DMA led to a reduction (P

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