Summary

Data Collection Method: Two ejaculates were collected from eight stallions of proven fertility at Company X. The raw ejaculates were extended 1:1 and centrifuged. The sperm-rich band was then collected, split into 4 aliquots, and extended with the corresponding extender. All samples were loaded into 0.5ml straws using a semi-automatic straw filling and sealing machine and cryopreserved using conventional freezing methods. Two straws per treatment from each ejaculate were thawed in a water bath at 37°C. Total motility (TM) and progressive motility (PM) were measured using Computer Assisted Sperm Analysis (CASA) and viability was measured using a NucleoCounter® SP-100.

Key Insights from data:

Cryopreservation dramatically decreases both motility and viability.

Glucose was the most effective non-permeating cryoprotectant at preserving progressive motility.

Fructose was the most effective non-permeating cryoprotectant at preserving viability.

Trehalose was the least effective non-permeating cryoprotectant at preserving motility and viability.

Ideas for Further Research and Development: Further research on the optimal concentration and fertilising capacity of sperm cryopreserved in media supplemented with these sugars should be conducted using pregnancy trials.