

FERTIFY™ STUDY ANALYSIS

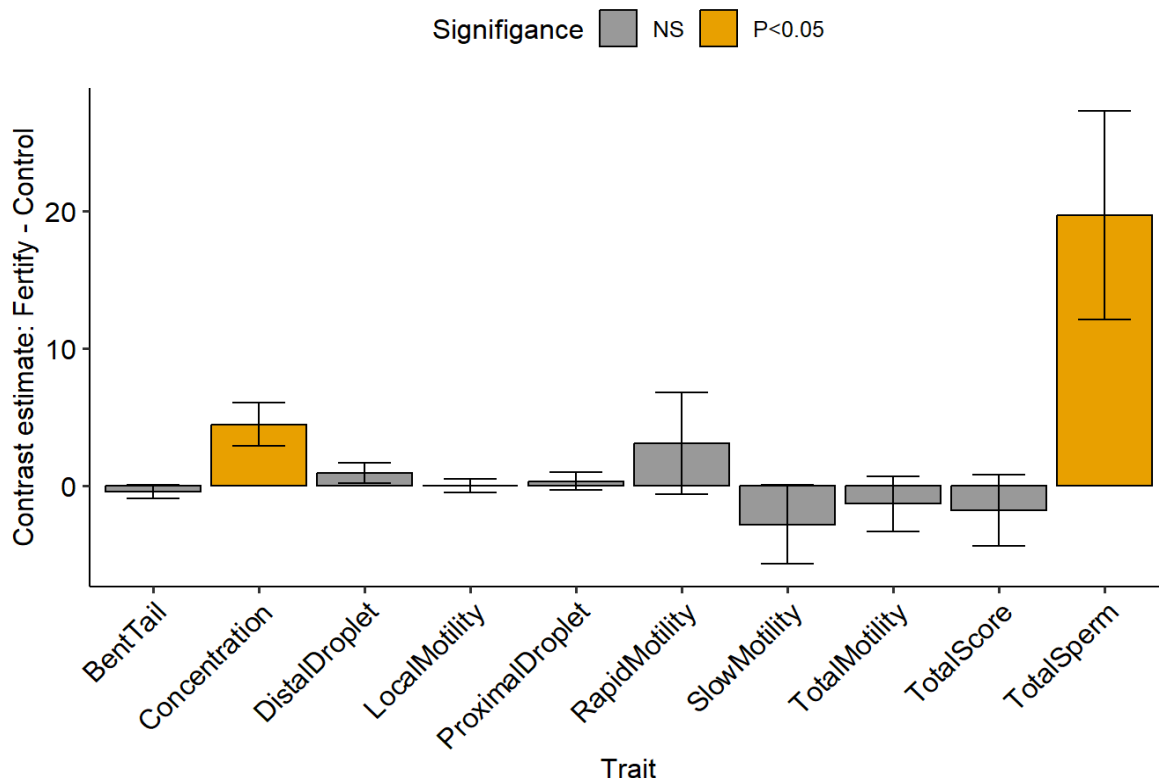
Results released: 1-20-2023
Study performed by Garrett See (Acuity™)

OBJECTIVE

To determine effect of Fertify supplementation on boar sperm production, motility, and morphology. Boar fertility traits analyzed were bent tails, concentration, distal droplets, local motility, proximal droplets, rapid motility, slow motility, total motility, total score and total sperm. Total sperm and concentration were calculated at the boar stud.

RESULTS

Boars supplemented with Fertify had on average 19.70 billion sperm per ejaculate more than control boars ($P < 0.05$). Further boars supplemented with Fertify™ had a greater concentration ($P < 0.05$).



MODEL

Contrasts between LS means were estimated using a mixed model containing the fixed effects of Treatment, Concentration, Collection Month, date difference between collection and analysis and collection technician. The random effect of boar was also included.

METHODS

Data cleaning

Fertility traits removed due to high correlations with other traits:

- Progressive motility
- Circular motility
- Immotile sperm
- Progressive score

Collections with total motility less than 60% were removed from all analyses.

Exploratory data analysis

Summary of treatment design by collection

| Treatment | MinDate | MaxDate | MonthsUsed | n |
|-----------|---------|---------|------------|-----|
| Control | 1 | 3 | 4 | 113 |
| Fertify | 1 | 3 | 4 | 99 |

Summary statistics of boar fertility traits

| Trait | Mean | SD | Min. | Max. | n |
|-----------------|--------|-------|-------|--------|-----|
| BentTail | 4.10 | 2.14 | 0.58 | 16.11 | 212 |
| Concentration | 57.95 | 6.28 | 48.30 | 88.91 | 210 |
| DistalDroplet | 3.69 | 2.48 | 0.33 | 20.39 | 212 |
| LocalMotility | 3.80 | 1.88 | 0.54 | 13.38 | 212 |
| ProximalDroplet | 5.93 | 2.48 | 1.71 | 17.43 | 212 |
| RapidMotility | 41.34 | 13.33 | 13.74 | 74.28 | 212 |
| SlowMotility | 27.81 | 12.82 | 6.51 | 64.42 | 212 |
| TotalMotility | 81.60 | 8.24 | 60.41 | 96.70 | 212 |
| TotalScore | 70.73 | 10.76 | 41.96 | 92.47 | 212 |
| TotalSperm | 101.54 | 28.04 | 22.14 | 164.28 | 212 |

