

## **Abstract**

One of the most common methods for preserving sperm is freezing, which has an adverse effect on sperm quality. This research studies the protective effect of vitamin E on the quality of frozen spermatozoa. Treatments consisted of four groups of sperm containing different concentrations of vitamin E (0, 300, 600 and 1200 ppm) with three replicates per group. The results showed that the highest sperm motility duration (33.83 s), the highest percentage of sperm motility (68%), the highest sperm density (5.067 mmol) and the highest amount of calcium ( $4.56 \pm 0.85$  mmol/l) and magnesium ions ( $2.08 \pm 0.79$  mmol/l) in treatment with vitamin E at 1200 mg and the lowest duration of sperm motility (2.21 s), the lowest percentage of sperm motility (29.33 mmol), The lowest sperm (3.63 mmol) and the lowest amount of calcium ion ( $2.5 \pm 0.81$  mmol/l) and magnesium ( $1.07 \pm 0.55$  mmol/l) were observed in control treatment. Therefore, vitamin E concentration during sperm motility, sperm motility, sperm density, concentration of calcium and magnesium ions is due to the protective effect of vitamin E, which acts as an antioxidant, and the destructive effects of free oxygen radicals Which was destroyed during freezing and freezing, and the percentage of healthy sperm increased.

**Keywords: vitamin E, sperm freezing, sperm quality, grass carp.**



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