



DUST LEVELS OF POLLEN ON THE CHARACTERISTICS OF SEMEN IN RABBITS (*Oryctolagus cuniculus*)

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INTRODUCTION

The domestic rabbit (*Oryctolagus cuniculus*) is an animal of prolificacy recognized since antiquity. There is great diversity of foods available, regionally, which need to be further evaluated for use in feed. Thus, it is of interest to research the availability and nutritional value of foods unconventional, that can replace adequate and economically, the foods commonly used in livestock rations. A diet rich in protein, minerals, vitamins and nutritional principles, makes females and males become suitable for breeding. Seeking an alternative product has pollen powder chemical composition rich in proteins, with large amounts of essential amino acids, vitamins B, C, D, E, besides being a precursor of vitamin A and beta carotene, minerals, enzymes, carbohydrates, lipids, trace elements, plant fiber, minerals and protein molecules, such as flavonoids, among other substances. Several studies show that, in humans, the pollen extract is effective in the prophylactic treatment of adenomas and inflammation of the prostate. Pollen is rich in plant hormones and enzymes that act on the prostate and has no known side effects, in addition to regulating the endocrine glands.

MATERIALS AND METHODS

The work was carried out to verify the influence of dietary supplementation of different levels of pollen powder in semen quality of rabbits (*Oryctolagus cuniculus*). The experiment was conducted in Rabbit Experimental Farm of Mall of the State University of Maringá - PR. We used 36 male New Zealand White, to evaluate the production of semen, from January to April 2008. The animals were housed in individual cages equipped with automatic watering and semi-automatic feeder. Water was provided ad libitum, and feed once a day. Rabbits with a mean age of 11 months and average weight of 3.44 kilograms, were distributed in a completely randomized design with 6 treatments and 6 animals per experimental unit. The treatments were: 1) control, 2) 0.25 g, 3) 0.50 g, 4) 0.75 g, 5) 1.00 g, 6) 1.25 g of pollen powder / kg diet. The composition of the mix of pollen powder was 85.38% dry matter, 20.18% crude protein, 1.11% crude fiber, 1.95% of ethereal stratum and 2.97% mineral matter. Were made eight samples of semen from the start of treatment with pollen powder in the diet. Were evaluated by observation volume in the glass collector graduated color rated on a scale designed specifically for this purpose, the pH with tornasol, motility and sperm motility (diluted 0.03 mL of semen in 0.15 ml of citrate sodium and 2.94%) in contrast microscope phase 40x, sperm concentration in diluted formaldehyde in buffered saline to 1:100 and completing the Neubauer at 40x and morphology (assuming normality primary and secondary) to from 2 smears stained by the modified Williams. Statistical analysis was performed using generalized linear models (SAS, 1992), through procedimento GENMOD, considering that the errors had different probability distributions, which function as cation binding.

RESULTS AND DISCUSSION

The partial results obtained indicated that the different levels of pollen powder does not work with $P > 0.05\%$ on the amount of gelatine (average 0.52 ± 0.12 mL), motility (mean $54, 00 \pm 1.14\%$). The pH (mean 8.50 ± 1.04), color (average of 1.74 ± 1.10 points), sperm concentration (mean $2.62 \times 10^8 \pm 1.08 \times 10^8$ spz / mL semen), the rate of normal spermatozoa (mean $49.64 \pm 1.07\%$) and abnormalities on the total (average $51.15 \pm 1.06\%$). Moreover, there was subjective effects $P < 0.05\%$ of pollen powder in the diet. Thus, one can conclude that there was no effect of pollen powder added to the diet on semen quality of rabbits.

REFERÊNCIAS

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SAS INSTITUTE Inc. SAS/STAT software: changes and enhancements, release 6.07. Cary, NC: SAS Institute Inc. 1992. ch. 16, p. 287 - 366. (SAS Technical Report P-229).

TABLE 1. Average estimated standard error of the sperm parameters of semen from New Zealand White rabbits fed with 0.00, 0.05, 0.10, 0.15, 0.20 and 0.25% pollen / kg.

| Parâmetros | Média estimada | Erro padrão | Distribuição de probabilidade |
|-------------------------------------|-----------------------|------------------------|-------------------------------|
| Volume de gel (mL) | 0,52 | 0,12 | Normal |
| Motilidade progressiva (%) | 54,00 | 1,14 | Binomial negativa |
| pH | 8,50 | 1,04 | Poisson |
| Cor | 1,74 | 1,10 | Poisson |
| Concentração espermática (spz / mL) | 2,62 X10 ⁸ | 1,08 X 10 ⁸ | Poisson |
| Espermatozoides normais (%) | 49,64 | 1,07 | Binomial negativa |
| Espermatozoides anormais (%) | 51,15 | 1,06 | Binomial negativa |

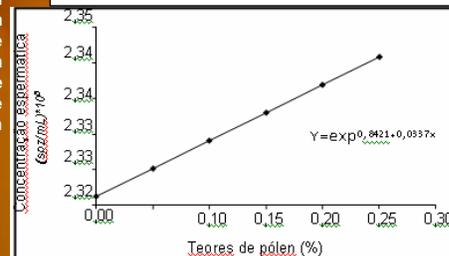
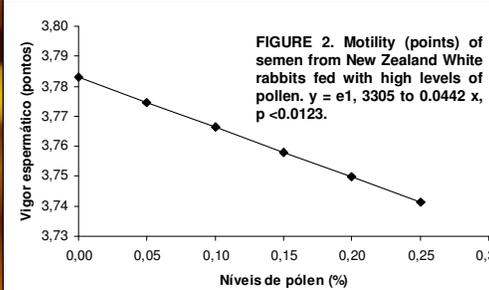
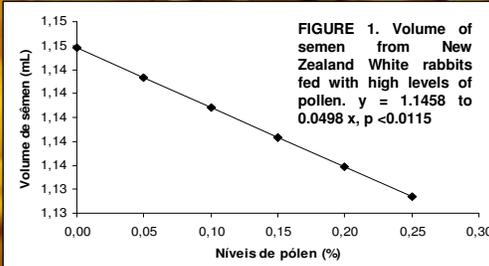


Figure 3. Sperm concentration of New Zealand White rabbits at 90 days of feeding with increasing levels of pollen powder. Spz = spermatozoa.

It can be concluded that the addition of pollen powder in the diet of rabbits reduced semen volume, but increased the concentration of spermatozoa, which in general can be considered a beneficial effect to be added to the diets the values in minimum of 0.125% for the diet for breeding rabbits and may reach 0.25% of the diet

