

Phytogenics: improving tom's fertility through the power of nature

Roberto Montanhini Neto, DVM MSc PhD, Global Lead
Monogastrics, Delacon Biotechnik GmbH



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Phytogenic compounds can have direct antioxidant effects.

It is widely recognized that fertility problems are strongly associated with males, even though females may also influence the flock's breeding performance parameters. Therefore, concentrating efforts on actions that improve males' reproductive functionality is recommended. Among the aspects recognized as significantly impairing males' fertility, oxidative stress has the greatest evidence of harm, particularly on semen quality, the viability and functionality of sperm cells, and even the integrity of loaded genetic material inside the sperm. The oxidation is due to the high levels of lipid compounds in the seminal components, which are highly susceptible to attack by free radicals. Furthermore, oxidative stress can also impact the production and excretion of reproductive hormones, especially testosterone, and consequently affect spermatogenesis, the process by which spermatozooids are formed in the testicular tissues.

The scientific literature is relatively abundant regarding the use of active ingredients from plants, the so-called phytogenic compounds, to mitigate the harmful effects of oxidative stress on male fertility in different species. Numerous assays with experimental animal models have demonstrated the impact of oxidative stress. In these studies, the addition of phytogenic additives in the diet resulted in the recovery of the most critical male-fertility

parameters. Above, positive results in biological markers indicate the reduction of the impact of free radicals.

Phytogenic compounds can have direct antioxidant effects, such as the scavenging of free radicals by polyphenols, or even indirect ones, by stimulating the animals' organism to synthesize higher amounts of endogenous antioxidant substances (glutathione-peroxidase, superoxide dismutase, etc.). Such substances, in turn, guarantee protection against oxidative processes. Certain phytogenic compounds, such as some essential oils and saponins, can also directly affect hormonal regulation and, consequently, spermatogenesis.



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Scientific validations have proven the effectiveness of PFAs.

Based on extensive and deep knowledge in the universe of phytogenic compounds and their respective effects on the metabolism of farm animals, Delacon Biotechnik GmbH, a pioneer and global leader in the production of phytogenic feed additives for animal nutrition, recently launched a revolutionary natural solution to improve the fertility of breeding males. This well-formulated phytogenic feed additive (PFA) has a unique formulation specially developed to address reproductive issues and control the effects of oxidative stress in this category of breeding males. In its composition, a comprehensive range of essential oils, flavonoids, and saponins, all obtained from natural sources, provide an increase in the oxidative resilience of semen and its components and optimize reproductive hormonal processes.

Scientific validations have proven the PFA's effectiveness in improving the reproductive parameters of breeding

males, as well as the females that received semen from males treated with this additive. Among these validations, an experiment was carried out in a Midwestern US integration with 1,200 breeding toms from the Hybrid strain treated with the PFA, which was added into the production phase feed. The tom's reproductive parameters were then compared to more than 10,000 other toms that did not receive the product.

It was observed (see *Figure 1*) that breeding toms treated with the PFA in this experiment had a significant increase in both the amount of semen (by 5%) and the packed sperm volume (by 6.5%), compared to those that did not receive the additive (Control group). Subsequently, this improvement in the semen quality of treated toms also increased the inseminated females' production of fertile eggs by 3.5%. *Sponsored text by Delacon.*

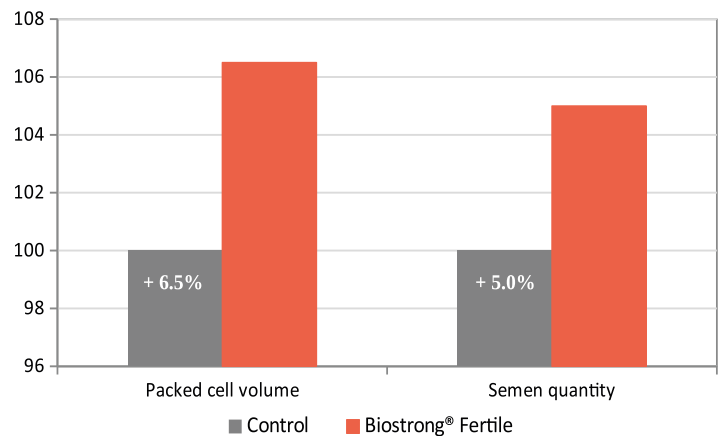


Figure 1 – Effects of Biostrong® Fertile on toms' packed sperm volume and semen quantity.

Prinzen Palletiser, the latest addition to the Prinzen product range

To meet the increasing demand of further mechanization in automated egg handling the Prinzen Palletiser is the latest addition to the Prinzen product range. The capacity and functionality of the automatic palletiser perfectly matches the packing capacity of the Prinzen packer range starting from 25,200 (Prinzen70) up to 39,600 (Speedpack 110).

The palletiser receives stacks of six trays from an automatic stacker and places stacks onto a pallet. It can handle 40,000 eggs per hour on pallets, i.e. 110 cases, by lifting 4 stacks of trays in each movement. The palletiser operates independent and connects with any suitable type of farm packer. The frame design is compact and matches various egg room lay-outs and uses very little floor space.

Product manager Willy Groot Zevert about the new product: "The Prinzen Palletiser 110 automatically places the stacks onto the standardized plastic pallet concepts used in the egg business. This of course saves time, because the farmer doesn't have to stop to move trays manually anymore. And egg quality output improves as this allows the poultry farmer now to focus extra on selecting the eggs. The Prinzen Palletiser 110 greatly reduces the tir-



ing work of handling stacks and pleasantly improves the egg collecting work. And the attractive price of the palletiser really invites to invest in yourself."