

## INCLUSION OF SPROUTED GREEN GRAM (*Vigna radiata*) OF BROILER BREEDER MALES HATCHABILITY

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**Abstract:** The study, carried out from Feb to March 2024 in a Local breeding farm in hosur area at krishnagiri district. 600 broiler breeder males, females 6500 housed in cages at 53 weeks of age in an open house. The introduction of feed mixed with 5 gms sprouted green gram at the age of 53, 54, 54 weeks all the males weekly 3 days. Artificial insemination was as per the procedure. Collection of semen samples was made by abdominal massage method and the ejaculate volume was measured at each collection and studied the weekly hatchability of the flock. Inclusion of sprouted green gram influences the reproductive performance of broiler breeder males.

**Keywords:** Broiler breeder male, green gram, Over Body weight, Hatchability.

### INTRODUCTION

Reproduction is the first and most important requisite of livestock and poultry breeding. The importance of the broiler breeder male for fertilizing eggs is rivaled only by his genetic influence on broiler breeder progeny (Fiser and Chambers, 1981). Many efforts have been put to improve the fertility rate by monitoring the diet of the female breeder chickens. But very often the quality of the semen is neglected which is also equally important for higher fertility rate. Semen quality can be improved by manipulating nutrient requirements in male diet, especially with vitamins and minerals (Gallo et al., 2003). Sprouted green beans are low on calories, contains notable amounts of amino acids and antioxidants than normal ones. It is endowed with a rich array of antioxidants like phenolic acid, flavonoids, caffeic acid and cinnamic acid. Moreover, sprouting green bean reduces the levels of phytic acid, which is an antinutrient that lowers the absorption of minerals like zinc, magnesium and calcium. Arginine is a nutritionally important amino acid that serves multiple physiological functions in animals (Jobgen et al., 2006; Mateo et al., 2007). The phytochemical exerts beneficial effects on gametogenic and androgenic functions of testes and are an aphrodisiac, which helps to enhance the libido of the birds. Phytochemicals also act as nervine tonic, regulating neurohormonal functions, stimulating the activity of seminiferous tubules and regulating the blood circulation level of androgen. In conclusion, breeder performance can be enhanced

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with the use of phytochemical rejuvenators, which ultimately results in Hatchability. The nutritional factors that could improve the fertility of poultry males as well as their associated mechanisms to allow poultry producers to overcome low-fertility problems, especially in aging poultry males, thereby obtaining beneficial impacts on the poultry production industry (Fouad et al., 2020).

## MATERIAL AND METHODS

The study, carried out from Feb to March 2024 in a Local breeding farm in hosur area at krishnagiri district. 600 over weighted broiler breeder males, females 6500 housed in individual cages at 53 weeks of age in an open house. The introduction of feed mixed with 5 gms sporulated green gram at the age of 53, 54, 54 weeks all the males weekly 3 days. Artificial insemination was as per the procedure. Collection of semen samples was made by abdominal massage method and the ejaculate volume was measured at each collection and studied the weekly hatchability in the same breeder farm hatchery.

## RESULTS AND DISCUSSION

### Body weight of Males:

| AGE | ACTUAL BODY WEIGHT (GMS) | STD BODY WEIGHT (GMS) | +/- (GMS) |
|-----|--------------------------|-----------------------|-----------|
| 53  | 5521                     | 4475                  | +1046     |
| 54  | 5540                     | 4490                  | +1050     |
| 55  | 5603                     | 4505                  | +1098     |

Fertility is reduced in overweight broiler breeders due to reduced mating success (which limits sperm transfer to the female), by a reduction in the duration of fertility, and possibly by impaired sperm transport to the site of fertilization (Robinson et al., 1992).

### Feed inclusion of sprouted green gram that may enhance the Hatchability of Aged Broiler Breeder males:

| AGE | ACTUAL HATCHABILITY | STD HATCHABILITY | +/-   |
|-----|---------------------|------------------|-------|
| 55  | 72.2                | 63.3             | +8.9  |
| 56  | 72.7                | 62               | +10.7 |
| 57  | 71.4                | 60.7             | +10.7 |
| 58  | 70                  | 59.5             | +10.5 |

|    |      |      |       |
|----|------|------|-------|
| 59 | 70.1 | 58.4 | +11.7 |
| 60 | 69.5 | 57.2 | +12.3 |
| 61 | 69.2 | 56.1 | +13.1 |
| 62 | 67.6 | 54.8 | +12.8 |
| 63 | 65.6 | 53.3 | +12.3 |
| 64 | 64.5 | 51.7 | +12.8 |
| 65 | 63.5 | 50   | +13.5 |

Turmeric belongs to the ginger family (Zingiberaceae), and its main active component curcumin is responsible for its antioxidant characteristics (Soleimani et al., 2018). Yan et al. (2017) determined the effects of turmeric on the semen quality in roosters.

Ginger might enhance the fertility of male poultry. Indeed, adding 15 g of ginger root powder/kg diet increased the fertility of aged male breeders because of the increased number of live sperm, total antioxidant capacity of the seminal plasma, sperm membrane integrity, forward motility, and sperm penetration (Akhlaghi et al., 2014a), while consuming 100 µL of ginger essential oil/kg body weight maximized the fertility of male quails (Herve et al., 2018).

### Conclusion

The dietary supplementation of sprouted green gram as an organic source could be used to improve the hatchability of aged and over weighted broiler breeder's males.

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