

Inclusion of ProsperEO™ Improves Growth and Reproductive Performance

RESEARCH SUMMARY

A blend of **ProsperEO™** was fed to quail to evaluate the effect of essential oils and **Actifibe™ Prebiotic** on reproductive success. Feeding **ProsperEO™** increased body weight, fertility, and hatchability in meat type quail.

BACKGROUND

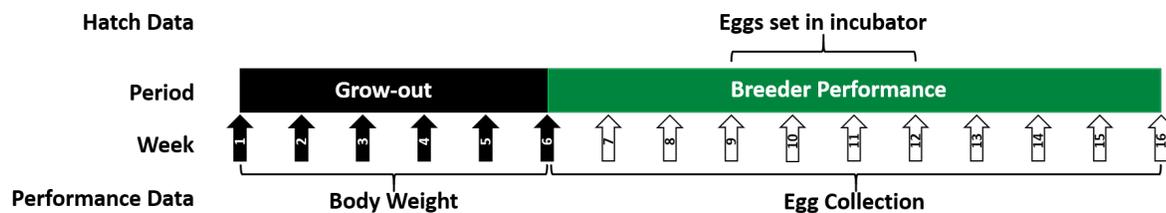
Essential oils possess unique properties, such as antimicrobial and antioxidant activities, advantageous to reproductive success in poultry. Prebiotics can stimulate the immune system and promote beneficial bacteria in the gastrointestinal tract of poultry. Previous research has shown these properties improve the health and performance of breeding hens.

Reproductive traits are highly conserved across poultry species. Therefore, meat type quail provide a valuable model for the evaluation of reproductive performance in poultry. In this study, quail were used to evaluate the inclusion of **ProsperEO™** on egg production, fertility, and hatchability.

MATERIALS AND METHODS

Eighty-four meat type quail were split into two treatments, with each treatment receiving 7 replicate pens of 6 birds. Birds were reared under standard industry conditions, with birds challenged every 7 days using concentrated fecal material collected from adult quail. Body weight was collected weekly, and all mortalities were recorded. Final body weights were collected after 6 weeks.

At 6 weeks of age, 8 trios (1 male, 2 females) were randomly selected from each treatment and moved to breeder battery cages. Egg production was recorded daily for 10 weeks. Beginning at week 6 of lay and continuing until week 10, eggs were collected for incubation. Eggs were incubated for 17 days and evaluated for fertility and hatchability.



RESULTS

The effect of essential oils and prebiotics on growth of meat type quail was evaluated. Birds fed **ProsperEO™** had significantly greater body weights throughout grow-out than those fed the control diet (**Figure 1.**)

FIGURE 1

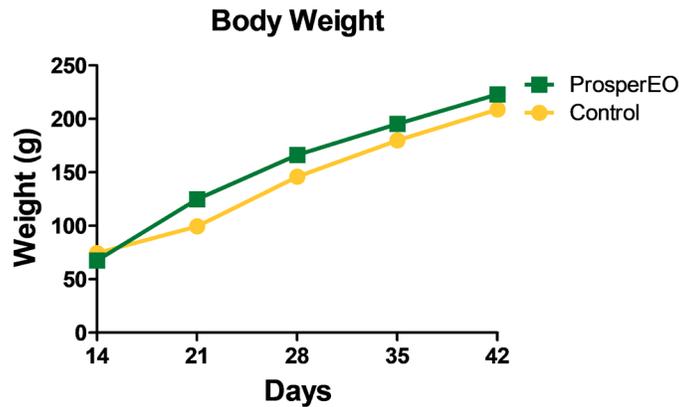


Figure 1. The effect of ProsperEO™ on body weight of meat type quail

The effect of ProsperEO™ on reproductive performance in breeder hens was evaluated. Egg production was unchanged with the addition of ProsperEO™. Hens on the control diet produced 1 more egg per bird over 10 weeks compared to hens fed ProsperEO™ (Figure 2A). However, fertility was improved by 2.5% when birds were fed ProsperEO™ (Figure 2B). Similarly, hatchability was observed to increase by 3.5% when birds were fed ProsperEO™ (Figure 2C).

FIGURE 2

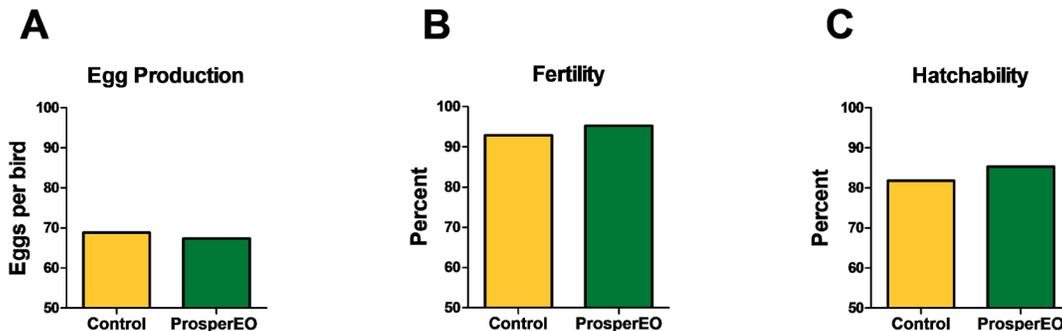


Figure 2. the effects of ProsperEO™ on reproductive performance of breeder hens

CONCLUSION

Ralco's unique blend of Microfused® Essential Oils and Actifibe™ Prebiotic found in ProsperEO™ delivers a multifaceted approach to improving growth and reproductive performance in poultry. Inclusion of ProsperEO™ in poultry feed improves measures of growth and reproductive performance in meat type quail. Although egg production was largely unchanged, fertility and hatchability were improved with ProsperEO™ included in the diet. Conservation of reproductive traits in poultry suggests these compounds may be beneficial to the reproductive performance of poultry.