

Impact of dietary sodium diformate on the laying performance of commercially reared hens – A performance analysis

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Introduction

Organic acids have long been used in animal nutrition to stabilize feed and enhance animal performance. Sodium diformate (Formi NDF, ADDCON; hereafter abbreviated as NDF), a double salt of formic acid, has been widely used in poultry production since 2009 as an additive to support gut health and digestibility, especially of protein and minerals, such as calcium. A global meta-analysis on its impact on broiler performance is available. However, its impact in layer production systems was yet to be thoroughly investigated.



Material and methods

The final data set contained the results of 15 trials with NDF-inclusion, which ranged from 0.1% to 0.3%, covering around 200,000 hens. The average level of dietary NDF-inclusion from the dataset in all treated layers was 0.19%. Bird age ranged from 26 to 78 weeks, with an average age of 52 weeks. Results are expressed as percentage difference from the negative control. A $P < 0.05$ value was considered significant.

Results

The performance of layers based on hen-day (HD) percentage was highly significantly increased by 4.0% ($P < 0.0001$), from 89.1% HD in the negative control to 92.5% HD in the NDF-groups (Table 1). A significant difference ($P < 0.01$) in performance was noted between younger and older hens: birds less than 55 weeks of age had only an improvement of 2.3% ($P < 0.001$) against the negative control, whereas hens at or above 55 weeks of age reached a significantly improved HD percentage of 6.6% ($P = 0.002$).

Table 1: Effect of Formi NDF (NDF) on the hen-day percentage of laying hens (Meta-analysis based on 15 trials)

Control	NDF	Difference (%)	P-value	Age in weeks
89.1 ± 4.8	92.5 ± 3.5	4.0 ± 3.0	0.00006	51.7 ± 13.0

Conclusion

It is concluded that dietary sodium diformate (Formi NDF) can improve layer performance, especially of aging hens, under a wide variety of production conditions worldwide.