(SPARING EFFECTS OF NATURAL ANTIOXIDANT DERIVED FROM TWO LEVELS OF DATE PALM POLLEN (PHOENIX DACTYLIFERA) EXTRACT ON ANTIOXIDANT ENZYMES, PERFORMANCE, DIGESTIBILITY, BIOCHEMICAL PARAMETERS AND IMMUNITY OF EGYPTIAN *FAYOUMI* LAYING CHICKENS)

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ABSTRACT

One-hundred and fifty, 42 wk-old Egyptian Fyoumi laying chickens were used to clarify the sparing effect of natural antioxidant derived from two different amounts of DPP extract on body antioxidant enzymes of Egyptian Fayoumi laying hens and assessment its implication on performance, digestibility, biochemical, and immunity parameters. Extraction of date palm pollen (30 %weight per volume) was carried out with water plus acetone. The study time was 12-wk, where it divided into three successive equal period (4-wk per each). The serum samples were used to evaluate total serum protein, glutathione reductase activities, malondialdehyde, glutathione-*S*-transferase, glutathione peroxidise and superoxide dismutase. Also, the digestibility were estimated at the end of the experiment, besides, the performance efficiency and effectiveness were noticed. Both DPP extract amount supplementations had a positive effects on all serum biochemical parameters, where the higher concentration are more effective than both lower and control groups. DPP extract decreased malondialdehyde concentration, where increased all antioxidant activities and glutathione level. The digestibility are improved with extract amount increased. Finally we could conclude that, DPP extract supplementations, have a potent antioxidant activity and a positive impact on productivity and egg quality, and consequently, it may be considered fundamental at production and any other stress conditions.

Keywords: Layers, antioxidant, productivity, immunity.