REPLACING YELLOW CORN WITH PRICKLY PEAR PEELS IN GROWING JAPANESE QUAIL DIETS WITH OR WITHOUT ENZYME SUPPLEMENTATION

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Abstract :

The experimental work of the present study was carried out at the Poultry Research Station, Poultry Production Department, Faculty of Agriculture, Fayoum University. This experiment was conducted to study effect of replacing yellow corn (YC) with prickly pear peel (PPP) in growing Japanese quail diets with or without enzyme supplementation. The enzyme used in this study was kemzyme dry (KD). At 10 days of age, birds were divided into six treatments (60 birds each), each treatment contained 3 replicates of 20 birds each.

The experimental treatments were as follows:-

1. **The control diet (D_1).**
2. **The control diet (D_1) + 0.1% KD (D_2).**
3. **15% YC in D_1 was replaced by PPP.**
4. **15% YC in D_2 was replaced by PPP.**
5. **30% YC in D_1 was replaced by PPP.**
6. **30% YC in D_2 was replaced by PPP.**

Results obtained could be summarized in the following:

1- Replacing YC with PPP on live body weight in growing Japanese quail diets with or without enzyme supplementation was insignificant at all ages studied.

2- Quails fed control diet + KD or PPP 15% + KD had higher live body weight gain (LBWG) during the period from 10 to 38 days of age, while those fed diets containing PPP 30% + KD had lower LBWG during the same period.

3- Quails fed control diet had lower feed intake (FI) during all periods studied, while those fed diet containing 15% PPP + KD had the highest FI value during the period from 10 to 38 days.

4- Quails fed control diet + KD had better feed conversion values during the period from 10 to 38 days of age followed by control, 15% PPP +KD and 15% PPP.

5- Replacing YC with PPP on crude protein conversion and caloric conversion ratio in growing Japanese quail diets with or without enzyme supplementation was insignificant at 10-38 days of age.

6-Replacing YC with PPP in growing Japanese quail diets with or without enzyme supplementation were insignificant, regarding slaughter parameters.

7- Quails fed diet containing 15% PPP + KD had higher serum AST and ALT while quails fed diet containing 30% PPP + KD had the highest content of serum glucose.

8- Higher moisture and protein (lower EE%) values were observed for quails fed diet containing 15% PPP, while those fed control diet + KD had higher EE% (and consequently lower moisture, protein and ash%).

9- The percentage of mortality was 3.33% in quails fed diet containing 15% PPP or 30% PPP +KD. However, in quails fed diet containing 15% PPP + KD or 30% PPP, the percentage of mortality was 1.67%. The percentage of mortality was zero% in quails fed the other experimental diets.

10- Quails fed diet containing 15% PPP (D3) gave the best economical and relative efficiency values being 2.77 and 103.23%, respectively followed by quails fed control diet + KD (D2) when compared with the other treatments or the control.

In conclusion, the best performance was seen when 15% PPP was incorporated in quail diets. This would lead to conclude that PPP could be substituted by YC as source of energy in quail diets un-supplemented with KD without any adverse effect on the performance of quail.

Key words: prickly pear peel, enzymes, performance, Japanese quail.