

## EFFECT OF DIFFERENT PERIODS OF EARLY FASTING ON COMPENSATORY GROWTH AND CARCASS TRAITS OF BROILER

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**ABSTRACT :** A total of 240 one day old Ross308 broiler chicks were used to evaluate the effect of different periods of feed restricted of early fasting by 40% date palm powder in diet on some productive and carcass characteristics of Ross308 broiler. The birds were randomly allocated to four feed restricted by date palm powder 0 day (T1), 7-14 days (T2), 7-21 days (T3) and 7-28 days (T4). Each group was replicated 3 times with 20 birds per replicate. The results indicated that dilution of diet from 7 to 14 days of age significantly increased ( $P \leq 0.05$ ) in productive traits (body weight, weight gain, feed conversion ratio, production index), carcass traits (carcass yield and main cuts) and glucose in plasma. A significantly decreased ( $P \leq 0.05$ ) in mortality, abdominal fat, secondary cuts and some blood plasma parameter (cholesterol, triglycerides, albumin and total protein).

**Key words :** Dilution feed, date palm seeds powder, compensatory growth, carcass, broiler.

### INTRODUCTION

A new strain of broiler was a highly weight, due to genetic and nutrition improvement (Naji, 2006), a highly growth of broiler was negative affected of immunity response, caused increased of mortality (Zhang *et al*, 2009), as result of ascites (Baghbanzadehand Decuypere, 2008), sudden death syndrome (Olkowskia *et al*, 2008) and skeletal deformities (Cook, 2000), because of a negative genetic correlation coefficient between growth rate and immunity (Druyan *et al*, 2007). Studies show that was reduce the growth rate in the early ages and compensation in advanced ages of broiler (Saber *et al*, 2011), the phenomenon of compensatory growth in broiler chickens subjected to early feed restriction (Santoso, 2002), increased interest in concept is attributed to problems associated with early life fast growth rate, especially in broilers fed ad libitum (Zhan *et al*, 2007), factors that influence compensatory growth in the broiler chicken include the nature, severity and duration of under nutrition (Buyse *et al*, 1997), as well as the age at the commencement of under nutrition and the degree and pattern of realimentation (Zubair and Leeson, 1996), Many studies have reported improvement in feed efficiency during compensatory growth in restricted-refed broilers (Rincon, 2000). There are many ways to restricted feed, includes quantitative and qualitative of feed (Butzen *et al*, 2013), feed dilution with some substances will slow the growth rate of broiler (Atapattu and Silva, 2016). Date seeds are the by-product of date

stoning, either for the production of pitted dates or for the manufacture of date paste (Barreveld, 1993), the date seed is a hard coated seed, usually oblong, ventrally grooved, with a small embryo. Date pits weigh 0.5 g to 4 g and represent 6 to 20% of the fruit weight depending on maturity, variety and grade (Banat *et al*, 2003), the percentage composition of date palm seeds found is: moisture 5-10%, protein 5-7%, oils 7-10%, fibre 10-20%, carbohydrates 55-65% and ash 1-2% (Ibrahim, 2012). The current study was conducted to assess the effect of feed dilution by date palm seeds powder on compensatory growth and carcass traits of broilers.

### MATERIALS AND METHODS

This field experiments were conducted at the Agricultural Research and Experiments Station, Agriculture college-Al-Muthanna University from 25/10/2017 until 9/12/2017.

#### Bird trial

A total of 240 one-day-old Ross308 broiler chickens were randomly assigned to 12 cages pens (1× 1.5 m), a density of 20 birds/cage in a randomized complete design. Four treatment diets were used with 3 pens per treatment, the treatment were as follows:

1. First treatment (T1): control (basal diet).
2. Second treatment (T2): diluted diet with 40% date palm seeds powder from 7-14 days of birds age.
3. Third treatment (T3): diluted diet with 40% date palm seeds powder from 7-21 days of birds age.