



Factors that Affect Pellet Quality

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The feed given to broilers is manufactured at significant cost into a pelleted form. Pellets reduce broiler production costs by increasing feed intake and growth rate while reducing feed. Pellet quality is expressed using a method called the Pellet Durability Index (PDI). Also poor Physical Pellet Quality (PPQ) produces more fine particles during feed transportation from feed mill to poultry house feed lines but of using of fat inclusion like the mixer-added vegetable oils had a negative effect (-40 value) on PPQ. Also there are element that affect pellet quality such as type and level of feed ingredient inclusion, especially distiller's dried grains with soluble (DDGS) and mixer-added fat, and feed milling process. Some factor like increasing the conditioning temperature, when feed formulation allowed, also reduced energy consumption and increased throughput at the pellet mill. Also particle size is the factor that causes the least influence on pellet quality. Reducing particle size increases particle surface area relative to its volume, thereby increasing the number of contact sites among particles.

Keywords: Pellet, PDI, Poultry, Feed

INTRODUCTION

The modern poultry industry uses auger feed lines to transport feed for broilers to pans to make feed available for them while greatly reducing labor costs. The feed given to broilers is manufactured at significant cost into a pelleted form. Pellets reduce broiler production costs by increasing feed intake and growth rate while reducing feed. Pellet quality is expressed using a method called the Pellet Durability Index (PDI). A series of studies was conducted to determine the effects of these destructive forces on both pellet quality and nutritive value. Abdollahi et al. (2013) who indicated pelleting is one of the relevant hydrothermal processes in poultry feed production. Some authors (Hancock, 2010; Corzo et al., 2011; Lilly et al., 2011) asserts that poor Physical Pellet Quality (PPQ) produces more fine particles during feed transportation from feed mill to poultry house feed lines. Moreover, poor PPQ negatively changed feed intake pattern of broilers. Furthermore, pellet quality is defined as the ability to resist fragmentation and abrasion during handling without breaking up and to reach feeders without generating a high proportion of fines (Amerah et al., 2007; Jezerska et al., 2019). In addition, Rigby et al. (2018) evaluated that the effects of different factors such as type and level of feed ingredient inclusion, especially distiller's dried grains with soluble (DDGS) and mixer-added fat, and feed milling process (feed particle size, conditioner retention time, die thickness) were investigated on pellet durability index (PDI) (Cemin, 2017; Whittaker, 2017; Muramatsu et al., 2015; Pope, 2016).

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