

Development of Low Cost Poultry Feed Pelleting Machine

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Abstract

This paper describes the design, construction features, operational procedures and performance indicators of a low cost, small scale poultry feed pelleting machine. No binding agents are used and thus mash form feeds need to be mixed with water before being pelleted. Mash form diet mixed with water is fed to the machine through a top loading funnel. Through a narrow neck, the wetted feed is directed to a one end of a horizontally placed metal cylinder. A removable metal die plate is attached to the other end of the cylinder. A screw fixed inside the cylinder is rotated by a two wheel tractor or an electric motor. Due to the rotation of the screw, feed entered into the cylinder moves toward the other end of the cylinder to which die plate is fixed and comes out through the dies. Feed comes out as thread but eventually cut into pellets. The pellet diameter is changed by using different die plate. As feed moves through the cylinder, a heat is generated and water is removed to a certain extent. The moisture content of the pellets could be reduced to 14% after five hours of sun drying. The machine could pellet 40 kg/hr. The major draw back of the machine was the difficulty of controlling pellet length. The optimum pellet quality and machine performance were given at 450 ml/ kg of air dried feed. It was concluded that this machine is suitable for small scale poultry farmers. Further modifications are in progress.

Keywords: feed pelleting, machine, poultry