

EFFECT OF CLEARANCE AND THE MASH MOISTURE AND FEEDER SPEEDS IN SOME INDICATIONS THE PERFORMANCE FOR THE RING TYPE FISHS PELLET MILL

Bassim Aboud Abbas Al-Shamari

ABSTRACT

This research included studying the effect of clearance and the mash moisture and the feeder speeds in some indications the performance of the ring type fishs pellet mill by used three clearances between press rollers and the inner surface of dies (1.5 , 3.0 , 4.5 mm) at two levels for moisture mash content (17.5 and 21.4%) .and used screw feeder speeds at three levels (10 , 20 , 30rpm) The technical indications that studied are :

Power consumption , productivity , specific energy , specific capacity and also studied pellet content moisture and pellet temperature and pellet bulk density and pellet nutritional value which included the precentage of pellet moisture, protein, fats, fiber, ash, and carbohydrates .

The experiment carried out in 10/ 1/ 2004 in Al-Autafia company for feeds production Ltd in Baghdad .

This experiment carried out employment the factorial experiment under completely randomized design with three replication. The results showed the following:

The changing of the clearances between the rollers pressure and the inner surface of dies from 1.5 to 3.0 and to 4.5 mm (with constant feeder speeds and mash moisture) to increase power consumption and specific

energy and pellet temperature and pellet bulk density and decrease productivity and specific capacity and pellet content moisture and apparent also found significant effect in pellet nutritional value .

The changing of the mash moisture level from 17.5 to 21.4% (with constant feeder speeds and clearances) to increase specific capacity and pellet content moisture and decrease power consumption and specific energy and pellet bulk density and pellet temperature , and the change in the mash moisture has a significant effect in pellet nutritional value .

The changing of speeds feeder from 10 to 20 and 30 RPM (with constant clearance and mash moisture) to increase the power consumption and productivity and specific energy and pellet bulk density and decrease of the specific capacity and pellet content moisture and pellet temperature , also apparent found significant effect in pellet nutritional value.

The changing of the clearances from 1.5 to 3.0 and to 4.5 mm and speeds feeder from 10 to 20 and 30 rpm to increase the power consumption and and specific energy and pellet bulk density and decrease specific capacity and pellet content moisture and significant effect in pellet nutritional value.

The changing of the mash moisture level from 17.5 to 21.4% and speeds feeder from 10 to 20 and 30 rpm to decrease pellet temperature and significant effect in pellet nutritional value.

The changing of the clearances from 1.5 to 3.0 and to 4.5 mm and mash moisture level from 17.5 to 21.4% to decreases in productivity at two clearance 1.5 and 3.0 mm and increase it at the clearance 4.5 mm and significant effect in pellet nutritional value .

The changing of the clearances from 1.5 to 3.0 and to 4.5 mm and mash moisture level from 17.5 to 21.4% and speeds feeder from 10 to 20 and 30 rpm to decreases in productivity at two clearance 1.5 and 3.0 mm

and increase it at the clearance 4.5 mm and significant effect in pellet nutritional value (pellet moisture, protein, fats, fiber and carbohydrates and non significant effect in ash.