Utilization of Skipjack Tuna (Katsuwonus pelamis L.) Gill in Diet as a Source of Protein on Carcass Quality of Broiler Chickens

Jein Rinny Leke1*, Jet S. Mandey1, Meity Sompie1, Fenny R. Wolayan1

1Nutrition Department, Animal Husbandry Faculty, Sam Ratulangi University, 2Animal Nutrition Department, Animal Husbandry Faculty, Sam Ratulangi University, Manado 95115, North Sulawesi, Indonesia
*Correspondinge-mail: rinileke@yahoo.com

INTRODUCTION: In the prospect of skipjack tuna (Katsuwonus pelamis L.) fish that abundant in the west Pacific ocean, using as a protein source for chicken diets, a study was carried out to determine the effect of skipjack tuna gill meal (STGM) on carcass percentage, abdominal fat percentage and TBFW. Five dietary treatments containing 0, 3, 6, 9, and 12% levels (factor A) substituted to fish meal. Methods of processing containing sun dried, steamed, boiled processing (factor B) were fed to 225 broiler chickens according to factorial design. Treatments were administrated during 35 days and feed were provided ad libitum. Result showed that dietary skipjack tuna gill meal up to 12% significant difference (P>0.05) compared to control on carcass percentage, abdominal fat percentage and mortality, and methods of processing exert no significant effect (P>0.05) in carcass percentage, abdominal fat percentage and mortality. There was no significant difference (P>0.05) between levels and methods. It can be concluded that skipjack tuna gill meal can be substituted to fish meal up to 12%.

Keywords: Skipjack Tuna Meal, Fish Meal, Carcass Quality

INTRODUCTION

In recent year, poultry nutritionists have aimed their researchs towards the use of non-conventional feedstuffs in partial or total replacement of the conventional ingredients. Agro-industrial products are being evaluated to access their nutritive potential to support poultry productivity. Fishmeal is a conventional animal protein source which increased to the diet increases poultry production (Islam, 1993). Research has confirmed that fishmeal is a useful protein source for poultry (Islam et al., 1990). However, there are a number of unfavorable characteristics, which present factors in fishmeal usage (Mikulec et al., 2004). Moreover, poultry is a competitor of being in respect of dry fish consumption. Effort of reducing production cost from feed to find alternative feed materials of relatively same nutritive value as the fish meal. There are many non-conventional feeds and by-products could be utilized effectively to improve the supply of local poultry feeds. Fish by-products are the most important by-products processed at reasonable prices. These fish by-products have the potential as high protein supplements for poultry. One of them is skipjack tuna gills as animal-derived protein source of poultry feed. Gill of skipjack tuna as protein source will decay if it is not processed due to containing good nutrients for bacterial growth. Skipjack gill is also a living habitat for bacteria beside intestine. For these reasons, the skipjack gill could be utilized as bird feed through processing. Processing to make gill meal can be done through a) sun drying, b) steaming, and c) boiling. The important factor needed to be considered in fish processing is drying temperature.