

Investigate the Effect of Added Gray Garlic (*Allium Sativum* L) On Plates and Body Compounds of Nile Tilapia (*Oreochromis Niloticus*) Ahmad Abdallah Ahmad Al Khraisat National Agricultural Research Center (NARC), Livestock Research Directorates, Fishers Research Department, Baqa 'a, Jordan, P.O. Box 639 – Baqa 'a 19381 Jordan, Mobile: +962 775 540 533 Email: a.khraisat@hotmail.com

Abstract: We conducted a nutrition study to investigate the effects of Garlic Powder (*Allium sativum* L) on the function and structure of Nile tilapia (*Oreochromis Niloticus*). Dietary composition Experimental Diets 0% 1.5% 3% 4.5% 6% Concentrated poultry feed a 20 20 20 20 20 Yellow corn 20 20 20 20 20 Soybean meal 33 33 33 33 33 Barley 10 10 10 10 10 Wheat bran 15 15 15 15 15 Corn Oil b 0.5 0.5 0.5 0.5 0.5 Starch 0.5 0.5 0.5 0.5 0.5 Vitamin premix c 0.25 0.25 0.25 0.25 0.25 Mineral premix d 0.25 0.25 0.25 0.25 0.25 Salt (NaCl) 0.5 0.5 0.5 0.5 0.5 Limestone (CaCO₂) 0.5 0.5 0.5 0.5 0.5 Garlic Powder (Feed Additive) 0 1.5 3 4.5 6 Corn Starch (Binder Additive) 0.5 0.5 0.5 0.5 0.5 Proximate Analyses (DM) Dry matter (DM) 89.42 89.42 89.42 89.42 89.42 Crude protein (%) 27.91 27.91 27.91 27.91 27.91 Crude fat (%) 5.08 5.08 5.08 5.08 5.08 Energy(kcal/100gr) 237 237 237 237 237

a Concentrated Poultry Feed , Brocon–10 special , Wafa Agricultural Co. Ltd , Amman Jordan b Corn Oil, Jordan c Vitamin Premix (Composition Per 1kg): A=1600000 IU, D3=400000 IU, E=40000 mg, K3=2000 mg, B1=6000 mg, B2=8000 mg, B3=12000 mg, B5=40000 mg, B6=4000 mg, B9=2000 mg, B12=8 mg, H2=40 mg, C=60000 mg, Inositol=20000 mg d Mineral premix (composition per 1kg): Iron:6000 mg, Zinc:10000 mg, Selenium:20 mg, Cobalt:100 mg, Copper:6000 mg, Manganese:5000 mg, Iodine:600 mg, CoCl₂:6000 mg DM, dry matter. It is consistent with Shalaby et al. (2006) reported that body weight, diet, intake of protein (PER) and growth rate (SGR) of Nile tilapia (*Oreochromis niloticus*) when eating a diet Consume garlic powder at 30g / kg ration) Significant increase.

Ingredients	DM	CP	EE	CF	Ash	NFE%*	GE	Kcal/kg**
Concentrated poultry feed	92.24	33.14	4.2	10.41	16.19	36.06	371.1	
Soybean meal	92.4	48.6	1.76	2.55	8	39.09	449	
Yellow corn	89.72	8.68	4.17	1.21	1.31	84.63	435	
Wheat bran	89.05	16.13	3.42	9.81	5.41	65.23	390.1	
Barley	91.75	10.89	2.08	4.46	3.06	79.51	406.6	

*NFE= 100–(CP + EE + CF + Ash). Recently, Salah (2012) reported that it contains 17% protein, 0.8% fat, 3% minerals, and different amounts of vitamins (thiamine, riboflavin and niacin) and enzymes (allinase, peroxidase and myrosinase). Five isitrogen and low–fat diets were prepared, with high concentrations of 0 (regulated), 15, 30, 45, and 60 g / kg. Three tilapias (15 per container) were manually fed, each with an initial weight of 22.60±0.04 grams, with visual satiety as the main factor, two meals a day for 8 weeks. The study was performed to examine the activity of the additional garlic powder (*Allium sativum* L) in the immune system and body of Nile Tilapia (*Oreochromis Niloticus*). Garlic is a natural food supplement that helps improve food intake and therefore reduces food costs (Corzo–Martinez et al., 2007; Rehman and Munir, 2015).

1 Fish farming: fingers of small tilapia (*Oreochromis niloticus*) collected from Ghour Al Safi Aquaculture/NARC, Karak District, Jordan. These diets have been reported to contain nitrogen (27.91% crude protein) and isocaloric (2370 kcal / Kg DM). **Gross energy was calculated by multiplication the factors 4.1, 5.6 and 9.44 kcal GE/g DM carbohydrate, protein and fat, respectively (Jobling, 1983). Adding 4.5% of the intake and 6% of garlic to the fish's diet promotes less than 3% of gray starch in the diet before it becomes very different (p> 0.05) Moreover, the observed weight (gr, %) and SGR of 30 g / kg of gray fish were higher than that of the control group, which was different from the control group (p 0.05). The powdered garlic will not seriously

affect the humidity and ash content. It also contains 0.2% essential oils, which is especially notable when the plant is finished in powder form. Fish and debris was removed by respiration and about 50 percent of the water in each aquarium was replaced daily with fresh water. Prepared tablets, dried at room temperature for 24 hours and stored in a refrigerator (4 °C). The basic lining was prepared by grinding the grain into grains with a 0.5 mm mesh. The ingredients and oil (corn oil) slowly add the mixture by hand for 15 minutes to ensure uniformity of the ingredients. Proximate analysis of the tested ingredients (% on DM basis). All data and activities were analyzed through SPSS 19 procedures. The FCR of all garlic feed powders resulted in a lower control group ($p < 0.05$). This is evidence that adding nutrients to garlic improves growth and safety of fish. Although growth is increased with the addition of garlic, the amount of garlic in fish can be reduced due to bad odors. Fish and add 30 g / kg of garlic feed to the highest protein feed. Garlic is an important medicinal plant that is grown in many countries. It is used as a diet for humans and animals and to treat many diseases in traditional medicine (Shalaby et al., 2006). Each therapist is replaced by three imitations of aquariums. C, the oxygen dissipation was 7.69 ± 0.55 mg / L and the pH was 7.13 ± 0.19 . 2- Feeding: New tubers bought from the local market (Dearalla, Balqa Government, Jordan). Add water (600 ml) until the mixture begins to thicken. Composition of the experimental diets are calculated according to the following figures: a- $WG (g / fish) = [final\ weight (g) - initial\ weight (g)]$. b- $Body\ weight = (starting\ first\ weight) / first\ weight \times 100$ c- $SGR (\% / day) = [Last\ body\ weight - Ln\ body\ weight] \times 100 / way\ sim\ level (d)$. According to the AOAC method (2002), the food and fish were analyzed in detail. However, compared with the control group, the growth of the fish-fed subgroup and the 30 g / kg meat-eating stalks were higher ($p < 0.05$). But the biggest growth results were found in fish that received 30 g / kg of garlic from their diet. On a fish farm, nutrition is as important as eating 40–50% of the cost of production. 2011; in ongoing Stanacev. e $SR = 100 [Total\ number\ of\ fish\ at\ the\ end\ of\ the\ test / Total\ number\ of\ fish\ at\ the\ beginning\ of\ the\ test]$. And ash with heating (550 °C). They make progressive progress. The body weight of the fingers was 22 g (meaning the original weight was 22.60 ± 0.04 g). During the experiment, the water temperature was 25.49 ± 0.78 °C and also. C). C) for daily use. Table 1. Table 2. for 24 hours. for 4 hours).