Broiler Trail with DPS - Philippines

Introduction
Two growth trials were conducted on a university research farm comparing the response of Peruvian fishmeal and DPS 30 in broilers. Birds fed diets with DPS 30 had significantly better growth and feed efficiency.

Materials and Methods
Two trials were conducted; the second trial was conducted to confirm the excellent results from the first trial. The first trial utilized 100 broiler birds (50 on each treatment) and the second trial utilized 2000 broiler birds (1000 on each treatment). Both trials had the same treatments, shown here:

Time	Feed Name	Control (Fishmeal)	DPS
Weeks 0 to 2	Chick Booster	3.0% Peruvian Fishmeal	2.5% DPS 30
Weeks 3 to 4	Broiler Starter	Common Diet	Common Diet
Week 5	Broiler Finisher	Common Diet	Common Diet

Each trial lasted five weeks: first two weeks on separate treatments and last three weeks on common diets. Even when the birds were on the common diets, the data collected was maintained separately for each treatment. The two Chick Booster Feeds were formulated to be isocaloric (similar in metabolizable energy) and isonitrogenous (similar in crude protein content) and similar in all other nutrients (individual amino acids, etc.).

Data collected was:
a.) Average initial weight of birds
b.) Initial population of birds
c.) Average weekly weights
d.) Feed offered weekly
e.) Feed left (uneaten) weekly

From this data the following parameters were calculated:
a.) Average weekly gain
b.) Average weekly feed intake
c.) Feed conversion ratio

Results
The results are shown in Tables 1, 2, & 3.

TABLE 1. Body Weight and Weekly Weight Gain (grams)

Trial	1	**1**	1	**1**	2	**2**	2	**2**
Treatment	Control	**DPS**	Control	**DPS**	Control	**DPS**	Control	**DPS**
Age (wk)	Body Wt	**Body Wt**	Weekly Gain	**Weekly Gain**	Body Wt	**Body Wt**	Weekly Gain	**Weekly Gain**
Initial	52	**51**			45	**45**		
1	102	**132**	50	**81**	101	**126**	56	**81**
2	177	**328**	75	**196**	195	**405**	94	**279**
3	405	**685**	228	**357**	395	**715**	200	**310**
4	775	**1070**	370	**385**	735	**1095**	340	**380**
5	1225	**1575**	450	**505**	1250	**1600**	515	**505**

TABLE 2. Weekly Feed Consumption (grams)

Trial	1		2	
Treatment	Control	**DPS**	Control	**DPS**
Age (wk)				

TABLE 3. Feed Conversion (FCR)

Trial	1		2	
Treatment	Control	**DPS**	Control	**DPS**
Age (wk)				

1	150	**150**	120	**145**
2	215	**300**	255	**325**
3	505	**495**	515	**505**
4	830	**715**	835	**795**
5	1025	**1000**	1200	**1100**
C 1-2	365	**450**	375	**470**
C 1-3	870	**945**	890	**975**
C 1-4	1700	**1660**	1725	**1770**
C 1-5	2725	**2660**	2925	**2870**
***C = Cumulative**				

1	3.00	**1.85**	2.14	**1.79**
2	2.87	**1.53**	2.71	**1.16**
3	2.21	**1.39**	2.58	**1.63**
4	2.24	**1.86**	2.46	**2.09**
5	2.28	**1.98**	2.33	**2.18**
C 1-2	2.92	**1.62**	2.50	**1.31**
C 1-3	2.46	**1.49**	2.54	**1.46**
C 1-4	2.35	**1.63**	2.50	**1.69**
C 1-5	2.32	**1.75**	2.43	**1.85**
*C = Cumulative				

Discussion
The trials showed that the average weekly gain of the birds with DPS was higher during the first two weeks of life versus the control. After the first week the birds on DPS were 31 grams heavier in the first trial, and 25 grams heavier in the second trial. In the second week the birds on DPS had even heavier weights, by as much as 121 grams in trial 1, and 185 grams in trial 2.

After the birds were shifted from the chick booster feed to the broiler starter and finisher feeds, both treatments in both trials had similar weekly gains.

The birds fed DPS had greatly improved weight when they were harvested at about 35 days of age. This improved weight was likely due to the edge in weight gain during the first two weeks. Overall feed intake was about equal for the two treatments on both trials. The corresponding FCR was also in favor of the DPS treatment, due to the higher weight gains.

Summary
The graphs below demonstrate that DPS greatly increased weight gain. This increase was present in both trials. The economics justify utilizing DPS, because of the higher weight gain and better feed conversion. At harvest, birds fed DPS, had better financial returns than birds fed fishmeal.

FIGURE 1. Weight Gain Trial One

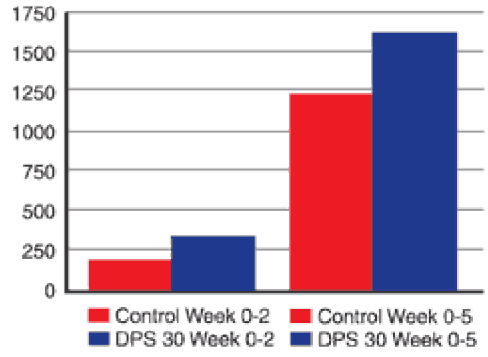

FIGURE 2. Weight Gain Trial Two