

# **Raising broiler using EM treated feed in Korea**

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## **Abstract**

A study was conducted to evaluate the efficacy of Effective Microorganisms (EM) in increasing the productivity of broilers. The chicks were fed with EM treated feed without antibiotics, and EM solution was sprayed onto the poultry houses. The study revealed that EM enhanced production with reduced costs. The maturation period was shortened, and the odour was lowered. The prospects for expanding EM in poultry production is presented.

## **Introduction**

The Rural Extension Service station recommended EM-feeding technology as an advanced model project in 1994. One of the farmer who took up this recommendation was Mr. Sunghwan Choi, a 35 year old farmer at Yun Chun-ri who raised 120,000 chicken (broilers) a year. The result of this experiment is described in this paper.

## **Materials and methods**

An experiment was carried out on a farm located at Yunchun-ri, Shinkuang-Myon, Hampyong, Korea, owned by Mr. Sunghwan Choi aged 35 years. The experiment was conducted in 4 batches using 30,000 broiler chicken per batch (total number = 120,000 chicken). In this experiment, EM treated feed was prepared by adding EM to chicken feed not treated with any antibiotics. The EM treated feed was allowed to ferment for several weeks before using it to feed the broilers. The broilers were fed using a mixture of 3 parts of EM-treated feed to 97 parts (v/v) of mixed formula without antibiotics. Mist spraying of the broiler house using 0.1% EM solution was carried out at 10day intervals as a means of controlling diseases.

## **Results**

The results showed that broiler fed and sprayed with EM have better growth rate of 96% compared to the normal raising rate of 87% (Table 1). The broilers raised with EM-treated feed and sprayed with EM were free from diseases in respiratory organs and the digestive system even though no antibiotics or any other medication was used. The broiler house was also cleaner (lower foul smell compared to conventional systems) and more convenient since the application of rice husk/hull was reduced from 5 times to 2 times per cycle. The maturity period was reduced by 3 days, which resulted in a saving on feed (Table 1). The meat quality of EM-fed broilers was also better.

The economic benefits of using EM-treated feed is shown in Table 1, while the reduction in expenses for disease control is shown in Table 2. These show that \$5,032.00 can be saved from the cost of production of 30,000 broilers per cycle. The savings were obtained from reduction in cost for disease control, floor cleaning and feeding duration; as well as the

increase in the raising rate.

**Table 1. Benefit of Using EM-treated Feed per Cycle of 30,000 Broilers**

Item	Conv. Feed	EM-feed	Savings (\$)
Raising rate (%)	87	96	724
Disease control (\$)	931	238	693
Feed duration (days)	38	35	3,103
Feed required (kg)	2.05	1.76	
Floor cleaning (\$)	2,427	1,916	511
Total			5,032

Note: Optimum weight of broiler - 1.6kg

**Table 2. Expenses for Disease Control per Cycle of 30,000 broilers**

Item	Conventional	EM-Treated
Sterilization	97	97
Pabulums	64	64
Antibiotics	268	0
Coccidium prevention	215	0
Gumboro prevention	230	0
Fumigation	57	0
EM-Solution	0	77
Total cost	931 (100%)	238 (26%)

### **Conclusion**

The data obtained from 4 cycles of broiler production at 30,000 birds per cycle showed that broiler production using EM technology is better than the conventional technology of using antibiotics and chemicals. Apart from lower expenses (thus higher profit), EM technology also brings other benefit such as better environment (less odour), better meat quality, shorter maturation period and free from antibiotics and medication which have been associated with certain side effects to humans. The average expenses for feeding broilers was reduced from \$1.25/kg to \$1.01/kg, a saving of nearly 20%. To date about 850 people have visited the farm per year and the possibility of many more farmers using EM technology in broiler production is very high.