INTRODUCTION

Importance of the study

With increasing concerns about antibiotic resistance, the ban on sub therapeutic antibiotic usage, there is increasing interest in finding alternatives to antibiotics for poultry production and using probiotics is an approach that has potential to reduce enteric disease in poultry and subsequent contamination of poultry products.

Background

Broiler production is the economic activity that has shown the greatest progress in Indonesian in the last decades. This development has resulted mostly from the intense selection process conducted since first using cross-breeding in broilers. However, the intense selection for economic traits has led to an increased fat deposition in these animals as described by Havenstein *et al*. (1994).

The abdominal fat pad represents one of the main regions of fat deposition in chickens(Michelan Filho, 1986), and it seems to be directly related to total carcass fat (Becker *et al*.,1981).Excessive fat is one of the main problems faced by the broiler industry nowadays, sinceit does not just reduce carcass yield and feed efficiency, but also cause rejection of the meat by the consumers (Kessler *et al*., 2000) and difficulties in processing (Chambers, 1990).

Probiotics are pure cultures of one or more live microorganisms that exhibit a beneficial effect on the health of the host when they are ingested. Improved epithelial cell integrity, increased immune response, well balanced gut micro flora, better utilization and digestion of diet are also additive beneficial effects of dietary probiotics (Jin *et al*., 1998; Wenk, 2000; Panda *et al*., 2001; Linge, 2005).

Gibson and Roberfroid (1995) defined a prebiotic as a non-digestible food ingredient which beneficially affects the host by selectively stimulating the growth of and/or activating the metabolism of one or a limited number of health-promoting bacteria in the intestinal tract, thus improving the host's microbial balance. It has been shown that prebiotics stimulate the growth of endogenous

microbial population groups such as bifidobacteria and lactobacilli is specifically stimulated and these bacteria species are perceived as beneficial to animal health.

Lactobacillus reuteri is a gram-positive bacterium that naturally inhabits the gut of mammals and birds. First described in the early 1980s, some strains of *L. reuteri* are used as probiotics. BioGaia AB in Sweden owns several commercially important strains and a large number of different patents for commercial usage of *L. reuteri*.In animal studies, tamarind has been found to lower serum cholesterol and blood sugar levels.Because of that, this experiment will use tamarind kernel powder as feed additive and *lactobacillus reuteri* as probiotic in broiler rations.

Statement of the problems

Based on background, the problems can be described by following questions :

1. Do tamarind kernel powder and *L. reuteri* can increase the productive performance of broiler ?
2. Do tamarind kernel powder and *L. reuteri* can increase the percentage of carcass on broilers?
3. Do tamarind kernel powder and L.reuteri can lower the levels of abdominal fat on broilers?
4. What is the best dose in used ?

Potential Benefit

To know the effect of tamarind kernel powder on abdominal fat on broiler (*gallus domesticus*).

Hypothesis

H0 :Tamarind kernel powder and *L. reuteri* have not significant effects on the abdominal fat on broilers.

H1 : Tamarind kernel powder and *L. reuteri* have significant effects on the abdominal fat on broilers.