









ding to SNI 1-3820-1995 (Indonesian National Standardization Agency, 1995) the protein content of sausage was at least 13%.

In this experiment the protein content of fermented urutan after conditioning was gratify to the quality standard requirement. Soluble protein profiles in fermented urutan were analyzed by SDS-PAGE, polyacrylamide gel with a 10 % concentration, consider to one of the soluble proteins in water (sarcoplasmic protein) was albumin with a molecular weight of 66.2 kDa. The separation ability with 10 percent polyacrylamide gel concentration was between 40-200 kDa (Laemmli, 1970 in [6]). According to Buckle et al. [13] during the fermentation occurs tissue hydrolysis by enzymes which produced by microorganisms. Peptidase enzymes breakdown polypeptide into a simple bond. The degradation of proteins into peptides related to the activity of peptidase enzymes at starter cultures and non-starter microorganisms which occur on the product during fermentation and ripening [17].

From the experiment we found the soluble protein profiles generally differ in terms of the types of LAB inoculum and time of production process as shown in figure 2. The protein bands at the time before fermentation, protein bands were observed thicker when compared with after fermentation and after conditioning. This suggests that the protein of fermented urutan is still aggregates molecules with large weight. After fermentation, thickness of the bands reduced, which indicates there has been a degradation of proteins into simpler forms. After conditioning, no protein band was appear. It may the protein has been degraded into simpler form with molecular weight less than 20 kDa or degrade into peptides and amino acids which not detected by 10% polyacrylamide gel concentration.

## V. CONCLUSIONS

In conclusion, the use of LAB inoculum powder (*P. acidilactici* U318 and *L. plantarum* U201) in fermentation of urutan give physicochemical characteristic such as pH, moisture content, protein, fat and also the soluble protein profile better than urutan without LAB inoculum. The controlled fermentation in production of urutan by LAB inoculum powder could develop the quality attributes to final product of fermented urutan

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