

## ABSTRACT

Primary school age children are undergoing rapid growth and physically active, thus requiring more energy. Based on Riskesdas in 2010, the prevalence of wasted children aged 6-12 years in the East Java (12,8%) is above the national level (12,2%). Besides wasting, nutritional anemia and iron deficiency is also a major health problem among school-age children. One of efforts to overcome this problem is through School Feeding Program especially in fortifying current biscuit intervention with nutritious dried Moringa leaves powder (DMLP).

The objectives of this research were to analyze the difference of acceptance level, the nutrient content (carbohydrate, protein, fat, iron,  $\beta$ -carotene), and the economic value of biscuits Morin, biscuits with the addition of different dried Moringa leaves powder as an alternative additional food for school children. This research was pure and quasi-experimental using randomized block design. A preliminary study was carried out to develop biscuit formulations and testing for nutritional value of the Morin biscuit was conducted in the Chemistry Laboratory - University of Muhammadiyah Malang. Further quasi-experimental research was carried out to test the acceptability of the panelists who are not trained among 54 elementary school children grades 5 in SDN Mulyorejo I/237 Surabaya through organoleptic tests which include testing liking for color, flavor, texture and taste of biscuit Morin formulas. The formulas were differed in the percentage addition of DMLP: F0 (no addition), F1 (5% DMPL), F2 (10% DMLP) and F3 (15% DMLP)

The results showed that there were significant differences ( $\alpha=0,05$ ) on the acceptability and nutritional value per serving of biscuits that were used as School Feeding Program from various formulations of biscuits; increased nutritional value ( $p=0,003$  for carbohydrate and  $p=0,000$  for other nutrients), but the lower the acceptability of biscuits ( $p=0,000$ ). Unit Cost biscuits per serving ranged from Rp 1.694, - to Rp 1.865, - and still met the unit cost of School Feeding Program which is Rp 2.250, - for the Indonesian region of West.

The conclusion of this research is that the addition of 10% dried *Moringa* leaves powder on the formulation of biscuits can be accepted as School Feeding Program and iron content in each portion is relatively high. Therefore, it is suggested to increase the utilization potential of leaves *Moringa oleifera* as additional ingredient for School Feeding Program especially in biscuits.

Keywords: School Feeding Program, biscuits, dried Moringa leaves powder, iron