

## 6. CONCLUSION AND SUGGESTION

### 6.1. Conclusion

- Glucosinolates found in Indian mustard (*Brassica juncea* var. Czern) and its fermented product (*sayur asin*) are sinigrin, glucobrassicin, 4-hydroxyglucobrassicin, 4-methoxyglucobrassicin, and neoglucobrassicin. The most dominant glucosinolate was sinigrin.
- The common *sayur asin* making did not give the best product of fermented Indian mustard based on its glucosinolates content.
- There is no significantly different on glucosinolates contents between two kinds of media. But, physical treatments (withering and rubbing) and storage along *sayur asin* making, played a role in the glucosinolates loss.
- NaCl could decrease glucosinolates because of the stress condition. But it did not affect the 4-hydroxyglucobrassicin.
- The degradation of glucosinolates in *sayur asin*, does not depend only on the content of native glucosinolates in raw Indian mustard, but also depends on physicochemical properties in an acidic environment and microbiological stability as well.
- Each step during fermentation process affect on physicochemical properties on *Brassica* sp. vegetable, esp *Brassica juncea* var. Czern.
- Salt concentration, fermentation time and temperature are the important factors affecting the quality of fermented vegetables.

### 6.2. Suggestion

- Microbiological aspect of *sayur asin*, especially the lactic acid bacteria activity that may affect to glucosinolates reduction,deserves further investigation.
- Further study is needed to discover the effect of myrosinase enzyme inactivation process towards fermentation process, glucosinolates content, and other physicochemical properties of fermented Indian mustard.

- Further study is needed to discover the antioxidant activity and total phenolic compounds in *sayur asin* and as well as the sensory properties of *sayur asin* made by common process compared with modified fermentation process.
- Study about glucosinolates on cooked *sayur asin* product (i.e: pickled *sayur asin*, *baikut sayur asin*, etc) could be measured as a part of glucosinolates measurements on fermented Indian mustard.
- Further study on the storage of fermented vegetable can be conducted along with the latest trend in market is vaccum packed product.

