CHAPTER 6

CONCLUSION

The present study has documented the changes in the polyphenolic components of finger millet varieties CO13 and CO9 following processing by germination and fermentation. The major findings are listed below.

The changes in phenolics were distinctly different in the brown and white varieties emphasizing the varietal differences and their response to processing. This information is fundamental in the development of functional foods with synergistic health benefits.

Processing methods like germination and fermentation of finger millet varieties with different seed coat color has a significant impact on the polyphenols content. It is well recognized that phenolic compounds conjugated by esterification or etherification vary depending on the millet variety. The brown variety scores advantages over the white variety with respect to polyphenols which contribute to the seed coat color in addition to nutraceutical benefits like antioxidant and anti-microbial activities. The changes in polyphenols during traditional processing methods in the preparation of indigenous foods will meet the needs of the development of novel dietary products. Varietal differences in the polyphenols, the microbes mediating the fermentation and the method of processing play a significant role in altering the polyphenol profile. Specific strains of lactic acid bacteria could be used to direct the fermentation to design desirable polyphenol
content along with nutritional and sensory attributes. The content of polyphenols and specifically catechin will promote the use of finger millet as a functional food and as an alternate to other cereals like polished rice and wheat. The isolated strains from the indigenous microflora of the finger millet may be used as starter-cultures to obtain polyphenols enriched food product in industrial scale.