

## **CHAPTER II**

### **OBJECTIVES**

**2.1 General objective:** To create a functional food product namely, a cereal bar containing selected dried fermented rice that has phenolic compounds, anthocyanins, antioxidant activity, and antimutagenicity.

#### **2.2 Specific objectives**

1. To determine the antioxidant activities [2,2'-diphenyl-1-picrylhydrazyl (DPPH) assay and ferric reducing antioxidant power (FRAP) assay], total phenolic content, anthocyanin content, and antimutagenicity using the somatic mutation and recombination test of dried fermented rice samples made of Sung Yod (red rice), Mon Poo (red rice), Hom Mali Daeng (red rice), Hom Nil (purple rice), Riceberry (purple rice), and black glutinous rice (black rice).
2. To select the best fermented pigmented rice mentioned in 1 for the formulation of a new functional food product namely, cereal bar
3. To determine the sensory acceptability and physical properties of cereal bars containing different percentage of selected dried fermented rice.
4. To determine the nutritive values, antioxidant activity, total phenolic content, anthocyanin content, and antimutagenicity of the cereal bar containing dried fermented rice that had the highest acceptability score.
5. To determine the 0, 45 or 90-day storage effect at ambient temperature on the sensory acceptability, physical properties, antioxidant activity, total phenolic content, anthocyanin content, and antimutagenicity of the cereal bar containing dried fermented rice.