Green coconut water is one of the largest growth beverage consumption in Brazil with around 350 million liters being consumed per year. The increasing demand for this product leads to a serious environmental problem. The husk and pulp correspond to about 85% of the fruit and has become a problem due to the large volume of waste generated. We have researched application of the pulp as ice cream ingredient. Previous study has demonstrated that green coconut proteins are very important in non-dairy ice cream-like product. This work aimed to fractionate protein of freeze dried green coconut pulp (FD), identify the most important fraction to foam formation and stability and determine its functional properties. According to solubility, proteins of FD were fractionated in albumin+globulin (AL+GL), prolamin (PR), glutelin-1 (GL1) and glutelin-2 (GL2). These fractions were extracted with NaCl solution, etanol solution, acetic acid solution and NaOH solution, respectively. Proteins (12.1%) were composed of 57% of AL+GL, 3.7% PR, 14% GL1 and 4.9% GL2. Foam capacity resulted in 175% for AL+GL fractions, 75% for PR, 145% for GL1 and 127% for GL2. The stability of AL+GL was 9 min.; other fractions presented stability lower than 2 min. The absence of AL+GL caused a reduction of 5.7% in emulsifier capacity when compared with FD. Ice cream was formulated with FD without AL+GL fractions, fruit pulp, sugar and water. The mix viscosity increased 61.6%, ice cream presented reduction of 46.8% overrun, increase of 60.2% hardness and reduction of 46.5% meltdown rate.