Amaranth Popper
Senior Design, Calvin College

The History of Amaranth
Amaranth, or more commonly Amaranth, is a plant genus that has been used as a food by humans for 7,000 years. Most experts believe that Amaranth originated in Central America where Amaranth Hyperchondriacus became a staple food and eventually the standard form of taxes for the Aztec Empire. After Hernan Cortez’s conquest, he ordered the Amaranth fields destroyed because of their cultural significance to the Aztec people; and the plant fell into obscurity, only being used in a few small areas.

Why Amaranth in Kenya?
Malnutrition is rampant in rural areas of Kenya. In addition to a number of other health risks, malnutrition weakens immune systems. A weakened immune system compounds the danger of AIDS, but a number of the nutrients in Amaranth can strengthen immune systems. In addition, Amaranth provides an excellent opportunity to provide a cheap and readily accessible source of protein to a people who need it. For these reasons, development organizations have tried to encourage Amaranth as a staple food in rural Kenya.

The Advantages of Amaranth
Unlike most types of commercial plants today, Amaranth is resistant to most forms of disease and pests. In addition, Amaranth can grow very large yields in adverse conditions that would be impossible for more common plants like grain or wheat.

Amaranth is harvested in two forms: the leaves and the seeds. The leaves are a hot herb with a taste and consistency similar to spinach. The seeds are extremely nutritious, containing large quantities of Thiamine, Riboflavin, Niacin, Vitamin C, Fiber, Calcium, and Phosphorus. In addition, Amaranth is a good source of both Calories and protein. In order to digest protein, the human body needs amino acids, most notably Lysine. Because amaranth is an excellent source of amino acids including Lysine, amaranth is not only a better protein source than most grains, but also than most meats.

Why Pop Amaranth?
Amaranth seeds are highly nutritious, but difficult to digest unprepared. They can be readily used as a livestock feed; but before they can be used for human consumption, they must be either popped or milled. Milling involves a process similar to that of wheat, but currently the only method of popping in rural areas is over an open flame. This method is not only time consuming for the popper, but also results in large amounts of unpopped or burned grains. For Amaranth to be more effectively promoted in rural locations, there needs to be an effective yet economically viable popping option.