

SEMINAR-II

QUINOA: A NUTRIENT-RICH, CLIMATE-SMART DUAL-PURPOSE NEW CROP FOR GRAINS AND GREENS PRODUCTION IN BANGLADESH

Safiullah Pathan*

Executive Summary

Quinoa (kee-noa, *Chenopodium quinoa* Willd.) is a nutrient-rich grain native to the Andean region of South America. Quinoa has an outstanding ability to withstand drought and salt and can grow in less fertile soil with minimal inputs. Today quinoa is considered a new crop that is perfect to grow in climate-changing environments. Furthermore, quinoa can relieve hunger and malnutrition in developing countries. Quinoa leafy greens seem to be relatively easy crop to grow in both organic and conventional farming systems. Quinoa greens are also rich in nutrients and phytochemicals beneficial to humans. The greens are also low in fat and serve as a good source of fiber and calories. Quinoa seeds are gluten-free, contain high amounts of protein, lower in carbohydrates, higher in omega-3 fatty acids and are an excellent source of amino acids, important minerals and vitamins. Like quinoa grains, quinoa leafy greens are rich in nutritional value. Quinoa leaves also retain health-promoting properties such as being antimicrobial, anticancer, antidiabetic, and anti-obesity. Quinoa is a drought-salinity and cold-tolerant crop that requires little water and fertilizer to grow. It can be grown year-round (in the field or greenhouse). Quinoa leafy greens appear to be an ideal vegetable crop that fits a climate-changing environment. Leafy greens can be prepared as salads, stir-fried, sautéed, stewed, or steamed. In addition, it also contains higher levels of potassium, manganese, copper, and moderate levels of calcium, phosphorus, sodium and zinc. Quinoa greens also contain lower amounts of heavy metals like arsenic, cadmium, cobalt, mercury and lead compared to spinach leaves. In Bangladesh, small farmers can grow quinoa in the field for grain and in the field/high tunnel for leafy vegetable production.

*Professor, Dept. of Agriculture and Environmental Science, Lincoln University of Missouri, Jefferson City, MO 65102, USA. The seminar was presented to SAU Administrative Building (3rd Floor), 11 December, 2022.