J Nutr Food Sci 2017, 7:3 (Suppl)
http://dx.doi.org/10.4172/2155-9600-C1-042

Innovative prospective among promising species of C3, C4 and CAM plants

Cyril E Broderick
Delaware State University, USA

Wheat, rice, and corn are predominant food crop species and excellent producers of carbohydrates as food grains and feed crops. Legumes dominate as sources of plant amino acids and proteins. Soybeans and corn are notable as good sources of oils, and complementary food sources globally include the oil palm, potato, and cassava. Less than ten crops dictate world food diets, and the question is: Can we do better in exploiting plant diversity in providing nutritional requirements for Earth's populace. Examination of the diversity of plant species as food sources in providing primary and secondary compounds for human nutrition and animal feedstuff is our objective. Through field, greenhouse and laboratory experiments, investigations continue in evaluating the wide diversity of plants, noting that environmental features that are most determining to productive capacities of crop species. Water and light availability and temperature are influential in making different environments arable. Moreover, the distinguishing features of C3, C4, and CAM plants enable scientists to evaluate potentials of these diverse species. Corn, a C4 plant, is now widely recognized for its efficiency in light and water use, tolerance to higher temperatures, and predominance as an efficient grain producer. Advantageously, C4 plants do not carry out photorespiration, and there are a few C4 species, especially the millets, which are nutritious and widely consumed in small populations. CAM species are fewer in number to consider, but the pineapple plant is one food crop that promotes the potential of this group. Many C3 species, including rice and wheat, nevertheless, produce food and nutritional compounds copiously in diverse environments. The productivity of vegetables, fruits, and spices, (typically C3 species) and their manufacture of alkaloids, terpenoids, and phenolics are nutritionally complementary, for neither C4 nor CAM plants match the diversity in productivity of C3 species.

cbroderick@desu.edu

Role of nitrogen and sulfur application on nutrients balance of corn (*Zea mays*) using DRIS methodology

Alwand Tahir Rasheed Dizayee and Muslim Rasul Arab Khoshnaw
Salahaddin University-Erbil, Iraq

An experiment was conducted at the farm of the College of Agriculture University of Salahaddin-Erbil at Grdarasha site, on a silty clay loam (36º 07' 14..36" N, 44 º 00' 48.23'" E, altitude=411 m), it is a part of wide plain, during the growing season of 18-7-2009 to 1-11-2009 conducted in the field ,to study the effect of different levels of N (0, 80, 160, 240, 320 and 400 Kg N ha^{-1}), S (0, 30, 60 and 90 Kg S ha^{-1}) and their combination on yield components and nutrient balance of corn by using DRIS methodology using the factorial experiment in CRBD with three replications. The results indicated that combination between nitrogen and sulfur levels affected on the grain yield, straw and total dry matter in the corn plant was significant .The highest means values (18.27, 9.0, 27.02 mg ha^{-1}) respectively for grain yield straw and total dry matter were recorded from (N_5S_3) treatments combination except the straw (9.0 mg ha-1) was recorded with (N_4S_3) treatment combination ,the lowest mean value are (16.83,10.05 mg ha^{-1}).respectively in treatment combination (N_0S_0) for straw and total dry matter except the grain yield (6.7 mg ha^{-1}) was recorded under N_0S_3. The combination between nitrogen and sulfur levels significantly affected on the concentration of (nitrogen, potassium and sulfur) in the corn plant, the highest means values (23.33, 3.17, 5.82 mg g^{-1}) was recorded from the treatment combination (N_4S_2, N_4S_3, N_0S_3), whereas the lowest means values are (14.73, 2.62, 2.55 mg g^{-1}) were recorded from in (N_0S_1, N_0S_0, N_5S_0) treatments combination. The lowest nutrient balance index were recorded from treatment combination (N_5S_3) was recorded (0.67, 2.32, -4.45, 5.11, 0.05, -3.7) al so the maximum yield was recorded in treatment combination (N_5S_3) is (18.28 mg ha^{-1}).

anna@lightminds.com