Effect Of Nitrogen Levels And Plant Spacing On Growth And

Grain sorghum (Cosor 3) was grown under three light regimes, i.e., in full sunlight, 25% shade, and 50% shade at three levels each of nitrogen and plant population density to evaluate its yield and other, important characteristicssuch as: leaf lenght, leaf width, leaf area index,100-grain weight, grains per panicle, panicle yield, grain-stover ratio, threshing percentage, total dry matter production, panicle lenght, plant height and number of days to blooming. In addition, leaf nitratereductase activity and grain tannin concentration were analyzed. Plantpopulation densities used were 150, 000, 200, 000 and 250,000 plt/ha; the nitrogen levels at 0, 75, and 150 Kg N/ha; and 0, 25, 50 per cent shading. The statistical design split-split plot was used with plant population density as the main plot, nitrogen level as the sub plot, and light intensity as the sub-sub plot. The experiment was conducted during the dry season (January-April, 1975) at the Central Experiment Station, University of the Philippines at Los Banos, Laguna. The yielding capacity of grain sorghum (Cosor 3) in terms of its total dry matter,grain yield, and grain tannin concentration was reduced at low light intensyti. The results have shown that: l. Grain sorghum (Cosor 3) yielded differently at different combinations of plants density, nitrogenlevels, and light intensity. 2. Increasing plant population density up to 250,000 plt/ha consistently resulted in reduction of such characters as: leaf length, leaf width, plant height, and number of grains perpanicle. In spite of the depressive effects of dense population on individual plants, grain yield is co compensated by the increase in number of panicles per unit area. Higher plant population density is advantageous only at high light intensity, while at lower light intensity lower plant population is preferred. 3. Fertilized plants matured 10 days earlier than the unfertilized. Plants treated with 150 Kg N/ha produced higher grain yield at higher light intensity. Under shaded condition, grain yields from 75 and 150 Kg N/ha were comparable. 4. Grain tannin concentration was lower at high nitrogen rates. At high light intensity, grain tannin concentration was also high. 5. Leaf nitrate reductase activity was maximum at 25% shade and ao lower nitrogen level. At higher nitrogen rates, maximum nitrate reductase activity was obtained from the unshaded plants.

The world-wide shortage of plant production menacing the survival of many people demands for more and better research, particularly on how to increase food and where it is most needed. Major problems of international concern for the scientific community are the availability in soil media of macro and micro nutrients and the efficiency of nutrient uptake by plant roots, the interactions between nutrients and other factors, the distribution of nutrients in different plant species, biochemical functions of nutrient elements, and their contribution to plant growth, yield and product quality. Feasibility and profit are also permanent concerns about plant nutrition in crop management, to which new require ments are now imposed by the need to decrease pollution hazards, a problem of prime importance to preserve the environment of the future. is A deeper insight into basic knowledge further required as well as into practical problems in the domains of agriculture, horticulture, and forestry. Such has been the concern of the International Association for the Optimization of Plant Nutrition (IAOPN) since 1964, promoting International Colloquia every four years as an opportunity for scientists concerned with plant nutrition to report new findings and to exchange ideas, experiences, and techniques. The Eighth International Colloquium for the Optimization of Plant Nutrition was hosted by Portugal and held in Lisbon from 31 August to 8 September 1992, with 280 delegates from 34 countries.

WHO Guidelines for Indoor Air QualitySelected PollutantsWorld Health Organization

Many of the pollutants discharged into the sea are directly or indirectly the result of human activities. Some of these substances are biodegradable, while others are not. This study is devoted to monitoring areas of the environment. Methods assessment is based on monitoring data and an evaluation of the impact of pollution.Surveillance provides a scientific basis for standards development and application. The methodology of marine pollution control is governed by algorithms and models. A monitoring strategy should be put in place, coupled with an environmental assessment concept, through targeted research activities in areas identified at local and regional levels. This concept will make it possible to diagnose the state of "health" of these zones and consequently to correct any anomalies. Monitoring of the marine and coastal environment is based on recent methods and validated after experiments in the field of marine pollution.

This book presents WHO guidelines for the protection of public health from risks due to a number of chemicals commonly present in indoor air. The substances considered in this review, i.e. benzene, carbon monoxide, formaldehyde, naphthalene, nitrogen dioxide, polycyclic aromatic hydrocarbons (especially benzo[a]pyrene), radon, trichloroethylene and tetrachloroethylene, have indoor sources, are known in respect of their hazardousness to health and are often found indoors in concentrations of health concern. The guidelines are targeted at public health professionals involved in preventing health risks of environmental exposures, as well as specialists and authorities involved in the design and use of buildings, indoor materials and products. They provide a scientific basis for legally enforceable standards.

Ecological stoichiometry concerns the way that the elemental composition of organisms shapes their ecology. It deals with the balance or imbalance of elemental ratios and how that affects organism growth, nutrient cycling, and the interactions with the biotic and abiotic worlds. The elemental composition of organisms is a set of constraints through which all the Earth's biogeochemical cycles must pass. All organisms consume nutrients and acquire compounds from the environment proportional to their needs. Organismal elemental needs are determined in turn by the energy required to live and grow, the physical and chemical constraints of their environment, and their requirements for relatively large polymeric biomolecules such as RNA, DNA, lipids, and proteins, as well as for structural needs including stems, bones, shells, etc. These materials together constitute most of the biomass of living organisms. Although there may be little variability in elemental ratios of many of these biomolecules, changing the proportions of different biomolecules can have important effects on organismal elemental composition. Consequently, the variation in elemental composition both within and across organisms can be tremendous, which has important implications for Earth's biogeochemical cycles. It has been over a decade since the publication of Sterner and Elser's book, Ecological Stoichiometry (2002). In the intervening years, hundreds of papers on stoichiometric topics ranging from evolution and regulation of nutrient content in organisms, to the role of stoichiometry in populations, communities, ecosystems and global biogeochemical dynamics have been published. Here, we present a collection of contributions from the broad scientific community to highlight recent insights in the field of Ecological Stoichiometry.

Long-awaited second edition of classic textbook, brought completely up to date, for courses on tropical soils, and reference for scientists and professionals.

Nitrogen in the Environment: Sources, Problems, and Management is the first volume to provide a holistic perspective and comprehensive treatment of nitrogen from field, to ecosystem, to treatment of urban and rural drinking water supplies, while also including a historical overview, human health impacts and policy considerations. It provides a worldwide perspective on nitrogen and agriculture. Nitrogen is one of the most critical elements required in agricultural systems for the production of crops for feed, food and fiber. The ever-increasing world population requires increasing use of nitrogen in agriculture to supply human needs for dietary protein. Worldwide demand for nitrogen will increase as a direct response to increasing population. Strategies and perspectives are considered to improve nitrogen-use efficiency. Issues of nitrogen in crop and human nutrition, and transport and transformations along the continuum from farm field to ground water, watersheds, streams, rivers, and coastal marine environments are discussed. Described are aerial transport of nitrogen from livestock and agricultural systems and the potential for deposition and impacts. The current status of nitrogen in the environment in selected terrestrial and coastal environments and crop and forest ecosystems and development of emerging technologies to minimize nitrogen impacts on the environment are addressed. The nitrogen cycle provides a framework for assessing broad scale or even global strategies to improve nitrogen use efficiency. Growing human populations are the driving force that requires increased nitrogen inputs. These increasing inputs into the food-production system directly result in increased livestock and human-excretory nitrogen contribution into the environment. The scope of this book is diverse, covering a range of topics and issues from furthering our understanding of nitrogen in the environment to policy considerations at both farm and national scales.