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Physical Sciences Section

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N-ALLYL AND N-ALKYL DERIVATIVES OF MONO-NOR-BASES OF CONESSINE SERIES

Salimuzzaman Siddiqui and Bina S. Siddiqui

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(Received December 14, 1980)

N-allyl and *N*-alkyl derivatives of mono-nor-bases of conessine series, isoconessimine and isonor-isoconessine, have been prepared and characterized through physical and chemical data.

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AN ESTIMATE OF TOTAL SOLAR RADIATIONS AT KARACHI

Firoz Ahmad, S.A. Husain, S.M.M.R. Naqvi and M. Wasim Akhtar

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(Received November 11, 1980; revised March 28, 1981)

Total solar radiations at Karachi is computed with a view to work out the feasibility of solar energy utilization. Sunshine hours variation and effect of humidity is also discussed. From the computed curve it is found that with the exception of monsoon months (June–August) solar energy can be utilized very effectively throughout the year.

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REACTION OF HYDRAZINE HYDRATE WITH SUBSTITUTED HYDANTOINS

S.R.F. Kagaruki, M.R. Khan and H. Wevers

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THE USE OF NUCLEOSIDE AND POLYNUCLEOTIDE ANALOGS IN ANTIVIRAL CHEMOTHERAPY

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Biological Sciences Section

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JUVENILE HORMONE ACTIVITY OF FOUR PHOSPHONIUM COMPOUNDS IN *Aedes Aegypti* (L). LARVAE

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(Received March 5, 1981)

Four organophosphorus compounds were tested for their biological activity on the 4th instar larvae of *Aedes aegypti* (L). Longer exposure to higher doses of these compounds (0.21 to 4 ppm) produced morphogenetic effects commonly observed after the treatment of insect growth regulators. The activity of these test compounds, however, cannot be equated with the standard juvenoids such as dimilin and methoprene and therefore making these compounds marginal in term of use as insect growth regulators.

Short Communication

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**SURVEY OF PHYTOPLANKTON AND SELECTION OF RESISTANT VARIETIES
AROUND SIND AREA**

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Technology Section

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EFFECT OF SODIUM HYDROXIDE AND AQUEOUS AMMONIA ON THE *IN VIVO* DIGESTIBILITY OF WHEAT STRAW

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(Received July 21, 1980)

Dry matter digestibility of straw increased to 73.04 % after treatment with sodium hydroxide (5 % w/w) and screw pressing. It was 55.9 % in case of ammoniated straw (5 % w/w). The digestibility increased to 77.72 % when 5.5 % sodium hydroxide treated straw was ammoniated. The bulk density of the straw increased from 71.2 mg/ml. to 362.0 mg/ml when it was screw pressed after sodium hydroxide treatment.

CALCULATION ON MATERIAL BALANCE OF SSP MANUFACTURE

Muhammad Ishaque, Ishtiaq Ahmed and Nazir Ahmed Naseem

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(Received February 24, 1980; revised January 1981)

Material balance has been calculated for SSP manufacture from Jordan phosphate rock based on the mineralogical composition of Jordan rock specific sample. It has been found that by using acid rock ratio of 37.66 to 62.34 Kgs, 105.31 Kgs cured product (SSP) with 6% moisture is obtained.

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UTILIZATION OF RICE HUSK ASH FOR THE PRODUCTION OF CEMENT — LIKE MATERIALS IN RURAL AREAS

R.A. Shah, A.H. Khan, M.A. Chaudhry and M.A. Qaiser

PCSIR Laboratories, Peshawar

(Received March 24, 1980; revised September 24, 1980)

The design of a simple village — level incinerator is described. The chemistry, differential thermal analysis and x-ray diffraction of Rice Husk Ash produced in this incinerator have been studied. The process for the production of cement — like material from Rice Husk Ash is described and its properties studied.

Short Communication

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**PHYSICO-CHEMICAL CHARACTERISTICS AND FATTY ACID COMPOSITION
OF GROUNDNUT OIL**

M.Y. Raie and Manzoor Ahmed

PCSIR Laboratories, Lahore

(Received September 18, 1980)