

It appears, therefore, that deficiency of available nitrogen in soils under cotton at the fruiting stage of the crop may have something to do with its partial failure.

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Occurrence of Celestite in the Phosphatic Nodules of Utatur

SEVERAL investigators^{1,2,3} have reported on the extensive deposits of phosphatic nodules in the Utatur area. Crushed specimens of phosphatic nodules revealed the presence of a white platy mineral which filled the cracks in the nodule and appeared to have concentrated near the core. Since it could be easily loosened and isolated and also since it comprised more than 3 per cent. (even 10 per cent. in exceptional cases) of the entire nodule, it was obtainable in sufficient quantity for study.

A careful chemical examination which involved the separation of calcium, strontium and barium by reliable methods showed that the mineral consisted approximately of 93 per cent. of strontium sulphate, 4 per cent. of the sulphates of calcium and barium and 3 per cent. of quartz.

We have also examined a lump of celestite occurring in the gypsum beds in the same area. This specimen was a massive aggregate of columnar crystals each of which was 10–12 mm. long.

In view of the fact that no significant deposits^{4,5,6,7} of strontium minerals in India have so far been known to exist, this finding of a large source of strontium compounds in the Utatur area appears to be of some importance to this country.

A detailed study of the occurrence of celestite

and of other minerals occurring in the Utatur area is now in progress.

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¹ Blanford *Mem. Geol. Surv. Ind.*, 1862, 4, 83.

² Sivan, *Year Book of the Mad. Agric. Dept.*, 1918.
—, *Proc. Ind. Sci. Cong.*, 1922, 29.

—, *Ibid.*, 1924, 44.

³ Rama Rao, *Quart. Jour. Geol. Min. Met. Soc. Ind.*, 1931, 4, 49.

⁴ Blanford, *Mem. Geol. Surv. Ind.*, 1880, 17, 196.

⁵ Coggin Brown, *India's Mineral Wealth*, 1936, 277.

⁶ Jones, *Rec. Geol. Surv. Ind.*, 1888, 21, 36.

⁷ Hughes-Buller, *Ibid.*, 1904, 31, 45.

A Note on the Effect of Indole-butyric and Indole-acetic Acids on Rooting of Green Wood Cuttings with Special Reference to Litchi and Mango

PRELIMINARY results obtained during the summer of 1939 definitely indicate the effectiveness of indole-butyric acid in stimulating root growth in cuttings of litchi and a hedge plant, namely, *Justicia gendarusa* Linn. The time allowed (60 days) was found too short for rooting in mango but the effect of the chemicals was evident in callus growth. The importance¹ of propagation by cutting, if really practicable, would be very great in litchi and mango. The present methods of marcotting of litchi, and inarching of mango using seedling stocks are not only tedious but also do not give satisfactory results.

In the present experiments, cuttings about 6 inches in length were taken from one- and two-year old shoots, during the last week in March 1939. All leaves were removed and the cuttings immersed to a depth of about 1 inch in various concentrations of a water solution (tap water) of indole-butyric and indole-acetic acids for 6, 12, 24 and 48-hour periods. After treatment the cuttings were planted to about two-third of their length in a sand bed. These were excavated after 60 days. The *justicia* sp.