

and gets dry. Of all the plant saps examined coconut tree juice has been found to be the richest source of ascorbic acid. The quantity of juice yielded by date palm and palmyra palm trees daily is also quite considerable, so that the ascorbic acid excreted is very high. It was noted that the ascorbic acid content did not suffer any change even after spontaneous fermentation for 24 hours.

Further details and the transference of ascorbic acid from the water into the kernel according to age of the fruit etc. will appear in the *Transactions of the Bose Research Institute*.

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The Cultivation of *Artemisia*.

FOR some time past attention has been directed to the cultivation of *Artemisia brevifolia* from seeds obtained from the santonine yielding varieties of the Kurram Valley (N.W.F.P.) and the Kashmir, with a view to raising the santonine content of the wild species. It has been reported, elsewhere,* that the Kurram *Artemisia* grows well in Dehra Dun, as a garden plant, but the plants divide themselves in two sub-forms designated as the *x*-form and the *y*-form; the only distinction between the two being that one produced the flower heads early in June and the other did not show any flower heads till late in the year. It was consequently suggested that the one flowering late was the original form and the earlier flowering variety was the acclimatised form. Similar growth has been noted in the case of the Kashmir *Artemisias*. During the first year some of the plants started flowering early (May-June) and the others did not flower till November suggesting again the original and the acclimatised form. Both the Kashmir and the Kurram Valley *Artemisias* have now well established themselves and the later observations have revealed the fact that instead of the two forms stated above there is only one, but that it produces flower heads twice a year and consequently has two periods of maximum santonine content, namely, June and December. The hope that the santonine content would rise on cultivation has, however, not yet been realised. The above observations are rather interesting from the point of view of cultivation of the drug

and are therefore reported. The table given below gives the santonine content of the samples collected from the minor forest products gardens of the Forest Research Institute.

Time of collection weeks	Santonine percentage	Remarks
4, August 1933	0.60	Young leaves only
4, October 1933	0.79	Buds only
1, December 1933	0.91	Leaves and buds
1, January 1934	0.78	" "
1, February 1934	0.12	" "
1, March 1934	0.66	Fresh leaves
1, April 1934	0.80	Luxuriant growth but no buds
1, May 1934	0.84	" "
1, June 1934	0.85	Buds making appearance
3, June 1934	0.98	Buds
1, July 1934	0.52	Early rains dropped the buds
1, August 1934	0.22	" "
4, August 1934	0.62	Fresh young leaves

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* Krishna and Varma, *Quarterly Journal of Pharmacy and Pharmacology*, 1933, 6, 23.

Czapek's Synthetic Medium.

CZAPEK'S formula for synthetic medium has been in use for over thirty years for culturing fungi. It consists of nitrate, phosphate, sulphate and chloride in addition to the organic principle, which is sucrose. It has, from time to time, been modified to suit the requirements of individual workers. In 1910 Dox modified this formula to present in a nearly neutral solution unaffected by sterilisation the elements necessary for the fungous growth. The original formula contained acid potassium phosphate (KH_2PO_4), while in this modified one Dipotassium hydrogen phosphate (K_2HPO_4) was used to obtain a neutral solution. Previous to this Dox² had used the original formula in a modified form with different proportions of the constituent salts. Currie³ in 1917 used acid potassium phosphate for *Aspergillus niger*.

During the preparation of Czapek's solution as modified by Dox it was frequently noticed that the addition of ferrous sulphate solution gave traces of milkiness, while the