ABSTRACTS FROM THE TRANSACTIONS

VARIOUS INVESTIGATIONS OF THE BEATEN STUFF. PART 2.¹⁾
(STUDIES ON THE BEATING OF THE PULP. IV.)

By Michimaro Nakano.

(Received Oct. 5, 1929.)

Summary.

1. The swelling phenomena of sheets of cellulith and vulcanised fibre in the water have been observed for about 100 days by weighing the water taken up by them. But the syneresis²⁾ has not been observed to occur in such a long time.

2. It has been shown that the true beating degree W_m of the stuff, i.e., the wetness after boiling, depends on the mean dimension of beaten fibres and the mean modulus of elasticity of them, and that W_a , the wetness to be lost by boiling, depends on the mean dimension of beaten fibres and the quantities of water of imbibition.

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STUDIES ON THE STRUCTURE OF VEGETABLE FIBRES. IV.³⁾
GENERAL EXISTENCE OF SPIRAL LAMELLAE IN VEGETABLE FIBRES.

By Michimaro Nakano.

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(See photomicrographs in Japanese original.)

1. The photomicrographs of the bead-like swelling and of the spiral structure of the outer cuticles of linen and jute fibres have been shown (Fig. 1~4). Thus the author has proved that about twenty fibres out of various sorts of fibres, viz., seed hairs, wood fibres, dicotyledonous bast fibres, monocotyledonous fibres, and fruits fibres, have the outer cuticle of a spiral structure. From this we can induce that all vegetable fibres have the outer cuticle built up spirally. That the fibre wall is generally not wholly of the spiral structure can easily be proved by the fact that the fibres can instantaneously be splitted lengthwise by proper mechanical means, i.e., by pressing a sheet or threads of any fibre against a

1). Part 1.: This Jour., 1929, 5, English Abst., 28.

2). Cf. This Jour., 1928, 4, English Abst., 38.

3). III.: This Jour., 1929, 5, English Abst., 28.