

## SMALL SCALE EXPERIMENTAL MACHINERY FOR THE ST. COOMBS FACTORY.

ROLAND V. NORRIS.

An intimation has now been received from the Empire Marketing Board that a grant of £1,000 to the Tea Research Institute has been sanctioned for the purpose of installing small scale experimental machinery.

Such machinery is required in order that various modifications in manufacture may be tested out under definitely controlled conditions without the necessity for employing large quantities of leaf or interfering unduly with the commercial side of the factory. Such plant will also enable manufacture to be carried out with the small quantities of leaf available from the experimental plots and thus make it possible to investigate the effect of different cultural and manurial treatments, etc., etc.

Arrangements have now been completed for the installation of such machinery which, it is hoped, will be available before the end of the present year, and it may, therefore, be of interest to give a short description of the plant.

### WITHERING TATS.

These will consist of small movable banks of tats 7 ft. 6 ins. high by 5 ft. wide, capable of taking about 42 lb. of leaf. Eight such banks will be constructed, these being accommodated in one of the factory lofts now vacant. Each bank, being on wheels and easily movable, can be placed in any position of the withering loft, while a reversible withering effect can be attained by simply reversing the tats themselves. Arrangements are also being made for suspending these banks, if required, with a balance attachment so that the loss of weight of the leaf during withering can be directly followed.

### ROLLERS.

These have been specially designed by Messrs. Marshall Sons & Co., and are double action machines with a 16-in. box. Each roller will therefore be capable of dealing with about 30 lb. leaf. Even smaller quantities of leaf will have to be treated in the later rolls, and the machines will be adapted for this purpose by the use of a removable liner in the leaf box and an adjustment of the pressure cap. Four such rollers will eventually be in operation in order that four different samples of leaf may simultaneously be treated. At the moment, however, only two rollers have been ordered so that these may be experimentally tested before the remaining two are constructed.

**ROLL BREAKER.**

The frame of an ordinary roll-breaker (2 ft. x 7 ft.) will be utilised, this being fitted with four separate detachable sieves, each 20 ins. x 20 ins., so that four separate samples of leaf can be treated simultaneously under the same conditions. Each sieve will have its own separate catchment box.

**DRYER.**

In order to avoid the use of a separate heating stove, the experimental dryer will be connected up to one of the existing T.T. dryers in the factory. The complete dryer will consist of four separate cubicles each 18 in. wide and connected up to hot and cold air manifolds, the air supply from each manifold being provided with control valves. There will thus be suitable provision for temperature control and air supply while the direction of circulation of hot air is also capable of change.

The above plant will thus provide facilities for the simultaneous treatment of four samples of leaf and enable small scale manufacture to be carried out under widely varying but strictly controlled conditions. It is admitted that the results obtained cannot be entirely comparable with those obtained with full sized plant, but it should be possible to collect data in this way of the very highest value which will be checked later by full scale experiments.