

Almost the whole of the zinc chloride used in the process is recovered and is used over and over again. Attempts are also being made to recover the hydrochloric acid in a suitable form to reduce the cost of manufacture still further.

Although zinc chloride has been used before for making several types of activated carbons in other countries, the processes have been kept absolutely secret and the details of the same are not available to the public. The authors have here worked out a method in detail for making a highly activated carbon from bagasse and utilising zinc chloride so as to be able to meet the demands of Indian consumers.

Further experiments are also in progress regarding the utilisation of many other raw materials as well as activating agents for making activated carbons still better and cheaper utilising the method described in this paper.

Preliminary calculations have shown that this carbon is cheaper than the imported ones.

Further details of the method and of the equipment necessary for a large-scale plant will be published elsewhere. An application for securing the patent rights for the above process and plant has already been submitted.

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#### Activated Carbon from Paddy Husk.

WITHIN the last few years quite a few articles have appeared in Indian Journals, describing methods for the preparation of activated carbon. The need for a cheap production of a highly active carbon for various industrial and agricultural purposes requires no emphasis and accordingly work was undertaken by the authors early during this year. As a result of a series of prolonged trials, the following method was arrived at and found to be the

most satisfactory. Government are being approached for patent rights which it is hoped will be granted early.

Paddy husk is treated with a solution of zinc chloride and allowed to stand overnight when it swells and becomes brown in colour. The mass is then digested under pressure when the husk becomes charred and carbonises. The wet mass is then evaporated almost to dryness and filled into activating tubes and heated. After all the steam and other gases have stopped issuing, the tube is made air-tight and raised to optimum temperature where it is maintained for a few hours. The mass is then allowed to cool out of contact with air, broken, and the zinc chloride extracted from it by boiling with dilute solution of hydrochloric acid and filtering (zinc chloride can be easily recovered from the filtrate). The mass is then washed free from chloride, dried, ground to required fineness and dried again.

The cost of production of this carbon is comparatively low and large-scale production is already under way. From an examination of the carbon by means of standard methods such as the determination of the molasses and permanganate numbers, etc., it appears to belong to the carboraffin group. It may be added that the carbon has been used with much success for large-scale production of cream jaggery.

It is hoped in the very near future to extend the use of this carbon to other industrial purposes such as refining of oils, etc., on which experiments are progressing. It is to be stated that cheap raw materials like casuarina needles, etc., are being exploited for the preparation of active carbon. A detailed account of this investigation will appear in due course.

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