

but failed when grown as a purely rainfed crop. The crop seems to be unsuited both as a rainfed and irrigated crop in the Ceded districts. It is only a partial success in Guntur. The crop seems to be free from insect damages in Anakapalle, Maruteru and Samalkot but is subject to severe attack from insects, particularly of *surul* in Coimbatore and Tanjore districts and to mild attack in the Ceded districts.

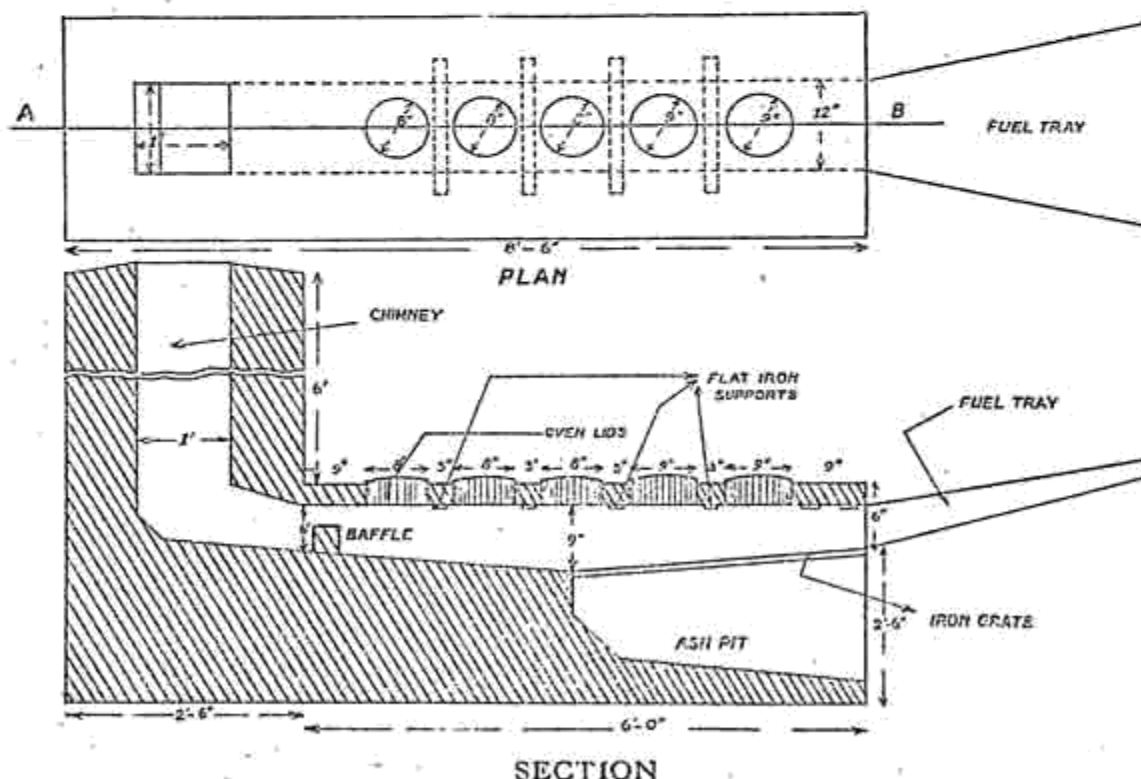
P. S. It may be mentioned that of late the enthusiasm of the people for soy bean has cooled down, in view of the opinion expressed by Dr. Aykroyd, the Director of the Nutrition Research Institute, Coonoor, that he is unable to say that soy bean is in any way superior, as a proteid food, to the ordinary pulses grown largely in India and consumed by the people. □

A Hearth for the use of Groundnut Husk as Fuel.

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Madras grows 3.5 million acres of groundnuts. Seventeen, out of 24 districts in the province grow over 50,000 acres. Hence groundnut husk is available in large quantities and at cheap rates in several localities. The use of groundnut husk as fuel for the household is restricted because of its poor burning qualities. But with the aid of a suitable furnace, this defect is overcome and it becomes a very convenient fuel for cooking food in the kitchen. A hearth suitable for the South Indian household has been designed on the principle of the Sindhwhahi furnace that is in use for boiling cane juice and making jaggery. [Vide illustration].



The hearth has a built-in platform 8 feet 4 inches long, 2 feet wide and $2\frac{1}{2}$ feet high. There is a twelve inch wide central flue running along the length of the hearth and is connected to a chimney 7 feet high and 12 inches square in section internally. A baffle 8" x 6" is put in near the end of the flue. The baffle could be increased or decreased in size, to reduce or increase the draught as desired. The flue is covered on the top with an iron plate provided with 5 rings for taking in 5 vessels. The first two rings are nine inches and the others eight inches in diameter. The iron plate is plastered over with a three inch layer of mud. A grating one foot wide and two feet long is fixed at an incline at the flue entrance. The grating receives the husk from the feeding tray placed just over it. The tray is of galvanised iron twelve inches wide near the grating, two feet three inches at the other end and three feet long. The sides of the tray are raised and hold a fair quantity of groundnut husk. An ash pit below the grating receives the burnt ash.

A sample hearth built at Pallur, Arkonam taluk, is in use and is working very satisfactorily. The family consists of 8 members. On an average, 56 lb of wood fuel were being used by the family for cooking food previously. The new hearth now cooks food for the family—2 Madras measures of rice and proportionate quantities of *sambar*, *rasam*, dhal and a curry—in about 35 minutes using 20 lb. of groundnut husk, valued at 6 pies. A bag of husk measures 50 to 60 Madras measures ($3\frac{1}{2}$ c. ft. to 4 c. ft.) and weighs 60 to 72 lb. A bag costs one and a half annas and cooks 3 to 4 meals for the family. By the use of groundnut husk as fuel the family is now saving six annas a day—nearly 85 per cent. in the cost of fuel.

Climate and Crop Production in the Guntur Black Soils.*

A Preliminary Study.

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Introductory. The black-soil of the Guntur District is one of the most interesting tracts in this presidency and has recently come into great prominence on account of the extensive production of cigarette tobacco. This tract has long been known to be an important centre for chillies groundnut (bunch variety), cotton and cigar-tobacco. Consequent on the introduction of the Virginia tobacco and its spread, the area under the food, fodder and chilli crops has been reduced. The approximate acreage of the different crops in the two districts of Guntur and Kistna are as follows:—groundnut 6,25,000, cotton 1,10,000, tobacco (virginia) 85,000, chillies 56,000. It is of a great agricultural interest that all these crops are grown under dry conditions. No other tract in this presidency or even in India, grows so many money crops with such success as can be seen from the following statement:—

* Paper read at the Agricultural Section of the Indian Science Congress held in Madras, January 1940.