

Method of Laying

A layer about 1 in. thick and slightly wider than the length of the mandrels being used is put down across the back of the floor. The mandrels are laid on this bed with their ends about 2 in. from the back wall. Mr. Julian spaced his bottles 3 in. apart, but in Mr. Jackson's floors the mandrels were only 1½ in. apart, which not only gives a higher proportion of air space in the floor but uses less breeze and cement. If these floors stand up to wear as they promise to, they should give very satisfactory results, but it has not yet been possible to obtain temperatures for comparison with those recorded by Mr. Julian.

The bottles are arranged equally spaced and parallel, and then the mix is carefully filled in over them to a depth of 1 in., taking care that the bottles do not move out of place and that the mix is well worked down between them with the trowel or float. The whole is well tamped down and screeded to a rough surface with an ordinary timber screed. Having completed the first section, another thin bedding layer of mix is put down and the bottles carefully drawn out from the completed section by grasping the neck with one hand while the other is pressed gently on the edge of the concrete immediately above. If the mix is dry enough, this will prevent any movement.

With all bottles withdrawn so that only about 1 in. of the bottom remains in the cavity, the next section is completed by covering the bottles in the same way as before. The process is repeated until the front of the floor is reached, when the bottles are completely withdrawn before the front boxing board is put up and the front of the sleeping floor filled with solid concrete, sealing off the ends of the air cavities. Using bottles an 8 ft. x 8 ft. coke-breeze cavity floor can be put down in two hours by two workers.

After four or five days the floor is hard enough to walk on, but up till that stage care is necessary to ensure that nothing walks on the floor or the cavities may be broken down.

The floor is finished with a ½ in. layer of a plaster made by mixing 3 measures of finely-sieved coke-breeze with 1 part of cement. As the underlying floor is very absorbent, a very wet mix is necessary for plastering or the loss of water to the lower layer will make it impossible to work the plaster to a good finish. If necessary a final wash of pure cement can be given to seal the surface definitely. In putting on the final plaster the corners at the bottoms of the walls can be rounded out to facilitate cleaning.



After having the mix worked between them the mandrels are covered again to complete the second section.

... PIG HOUSE FLOORS



The final section completed, the mandrels are completely withdrawn and the ends of the cavities sealed with another layer of the mix.

It is as well to lay boards on which to walk over the floor while the plastering is being done to obviate the risk of breaking down any of the cavities, though that risk should not be great after 4 days.

Ten Degree Advantage

The finished floor is as hard and impervious as ordinary concrete and promises to wear well, and it is considerably warmer in the winter than even a good floor insulated with field tiles. That was shown by the following temperatures recorded at Mr. Julian's farm during July, 1946, by thermometers plugged into the cavities in the floors:—

	10 a.m. (degrees F.)	1 p.m. (degrees F.)	4.30 p.m. (degrees F.)
Temperature of air in houses	57	59	55
Field tile floor temperature	74	68	63
Coke-breeze floor temperature	84	76	73

Though the coke-breeze floor appears to have lost more heat between 10 a.m. and 1 p.m., and therefore a greater total drop might have been expected, that did not happen in this set of recordings, both floors having lost the same heat during the 6½ hours.

The coke-breeze, on these figures, shows a clear advantage of 10 degrees F. over the field tile floor, which, it is important to remember, would feel relatively warm under the temperatures recorded. This new type of floor seems to offer distinct possibilities for such uses as pig sleeping quarters and calf houses, and further careful experiments are planned at the Animal Research Station, Ruakura, to determine more accurately its value compared with other useful types of floor.

Cases have been reported of pigs "rooting" into a floor where coke-breeze filling has been used, the coke apparently attracting the pigs. Farmers experimenting with this type of floor are advised to make sure that the plaster seal is sound and has no weak spots where the pigs can start to root.

Winter is the expensive feeding time. If pigs can be housed on warm floors such as these, the food-sparing effect will be considerable and may have a very important bearing on the economy of wintering pigs on farms where soil conditions preclude wintering out on crops.

Photographs by "Farmer Weekly."