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INORGANIC NEST BOTTOMS IN RABBIT BREEDING UNITS

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SUMMARY
Wild does tend to build their nests on top of inorganic absorbing soils. Gypsum (Ca 504 2H2O) has been tested as a readily available, inorganic absorbing material to build nest bottoms in rabbit farms.

Gypsum plates showed advantages over flattened straw sandwich for the economically important number or kits born alive and number weaned.

However, there were no statistical differences between tratments. Further research is needed.

OBJECTIVE
To evaluate the influence of Gypsum plates, as special nest bottoms, on the mortality of kits in rabbit farms.

The idea of using inorganic bottoms for the nest of kits follows the natural instinct of the wild doe to build her nest on soft, absorbing soil.

MATERIALS
Gypsum plates are rectangular, flat blocks of common plaster gypsum (Ca 504 2H2O), measuring 210 mm by 340 mm by 20 mm.

They are adjusted to the bottom of the cage nest.

In spite of being made of dihydrated calcium sulfate, such casted blocks are still able to physically absorb significat quantities of water in extreme conditions, 1000 g. of the product will absorb up to 700 g. of water.

A water suspension of gypsum shows a pH close to neutral (7.6).

METHODS
All trials were performed in the same location: a small, conventional rabbit house with dynamic ventilation situated in a hilly area near to Barcelona (Spain). The experimental period was from October to December, 1988.

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Two hundred and twelve litters from white New Zeland does were used for one of two treatments. All does received the same feed (Conejina EF supplied by Gallina Blanca Purina, Barcelona) and were kept under the same reproductive conditions (breeding, weaning, etc).

The two treatments were as follows:

Treatment Gypsum - Gypsum plates were used to cover the bottom of the nests.

Treatment straw - A 20 mm thick layer or flattened straw (sandwich) covered the bottom of the nests. This was the control treatment.

For both treatments, the nests were filled with similar cuantities of barley straw, as nesting material.

Cages for the two treatments were placed on four alternate parallel rows.

RESULTS

The following table shows a comparison between treatments for "Total kits born"; "Number of kits born dead" and "Mortality between birth and weaning".

TABLE 1

NESTS PARAMETERS	TYPE OF NEST BOTTOM	
	GYPSUM	STRAW
TOTAL BORN		
Nº of litters recorded	108	104
Mean per litter	8.444	8.327
Variance	4.006	5.212
Nº BORN DEAD		
Nº of litters recorded	108	104
Mean per litter	0.269	0.394
Variance	0.647	1.270
MORTALITY FROM BIRTH TO WEANING		
Nº of litters recorded	82	83
Mean per litter	1.451	1.614
Variance	2.251	2.923

The mean number of kits born dead per litter on Gypsum was 0.269, compared to 0.394 on Straw, i.e., 0.125 extra kits per litter for the Gypsum treatment.

The increased mortality for the Straw treatment over the Gypsum treatment was:

$$\frac{0.125}{0.269} \times 100 = 46.5\%$$

The increase in litter size of 0.125 due to treatment is equivalent to a 1.5% increase.

$$\frac{0.125}{8.444} \times 100 = 1.5\%$$

For the period of birth to weaning there were 0.163 extra live kits observed for the Gypsum treatment. This is equivalent to an 11.2% higher mortality for the Straw treatment:

$$\frac{0.163}{1.451} \times 100 = 11.2\%$$

Percentage of gained kits compared to total born was:

$$\frac{0.163}{8.444} \times 100 = 1.9\%$$

% EXTRA KITS BY USING GYPSUM PLATES		
At Birth	From birth to weaning	Total
1.5	1.9	3.4

DISCUSSION

The advantages of using Gypsum plates in the nests look interesting from the point of view of reducing mortality of kits, which will have a direct impact on profitability.

However, due to a large variation in the results for "Born Dead" and "Mortality from birth to weaning" between litters there was no significant difference between the two treatments.

In spite of the above, an increase of 3.4% in live rabbits at weaning and the economical importance of this result, points to the need for further research, under well controlled conditions, and possibly involving other inorganic absorbing materials, to provide optimal confort inside the nest.