

## THE EFFECT OF FOLIC ACID SUPPLEMENTATION OF SOW DIETS ON BIRTH WEIGHT AND HAEMATOCRIT OF PIGLETS

N.J. GANNON and J.M. LEIBHOLZ

Folic acid is an essential nutrient for man and other mammals. Folic acid deficiency usually results in megaloblastic anaemia (Davis and Nicol 1988).

In commercial pig production, the folic acid content of the basal diet is usually considered to be sufficient to meet the folic acid requirement. However, the most recent reports from the Agricultural Research Council (1981) gives only an estimation of the folic acid requirement of pigs of 0.6 mg/kg of diet as no requirements have been established.

In the present experiment a commercial diet for sows during gestation was supplemented with folic acid to determine the effects on their progeny.

Thirty-one sows were divided into two groups and given a basal diet of wheat offal, oats, barley and cottonseed meal with a vitamin and mineral supplement. The calculated folic acid content of the diet was 0.5 mg/kg. From six weeks prior to mating and throughout gestation 18 sows were given the basal diet and 13 sows were given the same diet supplemented with 1.0 mg folic acid/kg.

After farrowing, the size and weight of each litter was recorded at birth and haematocrits were determined within one week of birth. The results are shown in the Table.

|                       | Dietary folic acid supplement |           | SEM  |
|-----------------------|-------------------------------|-----------|------|
|                       | 0                             | 1.0 mg/kg |      |
| Number alive at birth | 11.1                          | 11.3      | 0.53 |
| Birth weight (kg)     | 1.5                           | 1.5       | 0.05 |
| Haematocrit (%)       | 33.5                          | 39.0      | 1.52 |

The folic acid supplement had no significant effect on litter size or birth weight of piglets. However, there was a significant increase in the haematocrit values of piglets with supplementation. Matte et al. (1986) found no change in the haematocrit values of the progeny of sows injected with folic acid during gestation. In their experiment, folic acid supplementation resulted in a significant increase in litter size.

Further work is needed to establish the folic acid requirement of pigs and its availability in feedstuffs.

AGRICULTURAL RESEARCH COUNCIL (1981). Nutrient Requirements of Pigs. Commonwealth Agricultural Bureaux.

DAVIS, R.E. and NICOL, D.J. (1988). *Int. J. Biochem.* 20: 133.

MATTE, J.J., GIRARD, C.L. and BRISSON, G.J. (1986). *Can. J. Anim. Sci.* 66: 523.

Dept of Animal Husbandry, University of Sydney, Camden, New South Wales 2570