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Methods to Prevent Baby Pig Anemia

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Summary

Three trials were conducted involving 231 head of pigs to determine the efficiency of various methods of providing supplemental iron to baby pigs. All treatment groups were effective in maintaining normal hematocrit values with no symptoms of baby pig anemia. Weight gains were similar in all trials.

Procedure

Trial 1: Five litters of pigs were assigned randomly to each of these treatments:

Treatment A - Injectable iron dextran (150 mg), administered intramuscularly in ham when pigs were 4 days old.

Treatment B - Injectable iron dextran (100 mg), administered intramuscularly in ham 4th day after birth. In addition, a water-soluble iron (ferric ammonium citrate) was offered pigs free choice from day 10 to day 28.

Treatment C - Injectable iron dextran (100 mg), administered intramuscularly in ham on day 4. In addition, an iron mineral block was offered free choice from days 10-28. All pigs were weighed at 4 days, 14 days, and 28 days of age. Hematocrits were determined at those ages using blood from an ear vein.

Trial 2: Five litters of pigs assigned to these treatments: (Pigs were weighed and hematocrit values determined at 4, 14, and 28 days)

Treatment D - Odd-numbered pigs in each litter administered iron dextran (150 mg) intramuscularly on day 4. Water soluble iron was offered days 1-20.

Treatment E - Even numbered pigs had access to water soluble iron (ferric amonium citrate) from the first to the 20th day.

Trial 3: Five litters of pigs were assigned to these treatments: (Pigs were weighed and hematocrit values determined at 4, 14, and 28 days)

Treatment F - Odd-numbered pigs in each litter administered iron dextran (150 mg), intramuscularly on day 4. An iron mineral block was offered days 1-20.

Treatment G - Even-numbered pigs in each litter offered an iron mineral block days 1-20.

Results and Discussion

In all trials pigs were reared in confinement on concrete slatted floor. Creep feed was offered each litter from day 14 to weaning, at 30-35 days of age.

Results of trial 1 are summarized in table 11. No significant difference in weight at 14 days or 28 days was found. Hematocrit values were similar with no symptoms of baby pig anemia.

Trial 2 data are presented in table 12. Weight gains were greater for the odd-numbered pigs (injectable iron plus access to iron block). Hematocrit values were significantly higher for odd-numbered than for even-numbered pigs in each litter. The even-numbered ones had access only to the iron block.

Data from trial 3 are presented in table 13. Weight gains were similar, although odd-numbered pigs (injectable iron plus access to water soluble iron) were slightly heavier. Hematocrit values were significantly higher for pigs receiving injectable iron plus water soluble iron than for pigs with access only to water soluble iron.

Table 11. Efficacy of Supplementing Iron Injections to Prevent Pig Anemia

<u>Item</u>	<u>Treatment</u>		
	<u>A</u>	<u>B</u>	<u>C</u>
	<u>Inj.-150mg.</u>	<u>Inj.-100mg. + iron block</u>	<u>Inj.-100mg. + water soluble</u>
No. pigs	45	40	47
No. litters	5	5	5
Weight, lbs. (Avg. per pig)			
4 days	4.0	4.6	4.1
14 days	7.5	8.1	7.9
28 days	13.9	14.8	14.1
Hematocrit, % (Avg. per pig)			
4 days	29.6	29.4	29.1
14 days	36.9	35.4	37.4
28 days	36.4	37.4	39.9

Table 12. Efficacy of an Iron Mineral Block to Prevent Pig Anemia

<u>Item</u>	<u>Treatment</u>	
	<u>D</u>	<u>E</u>
	<u>Inj.-150mg. + iron block</u>	<u>Iron block</u>
No. pigs	24	27
No. litters	5	
Weight, lbs.		
4 days	3.4	3.4
14 days	6.8	6.7
28 days	12.7	12.0
Hematocrit, %		
4 days	28.4	27.8
14 days	38.5	26.4
28 days	40.1	32.1

Table 13. Efficacy of Water Soluble Iron for Pig Anemia

<u>Item</u>	<u>Treatment</u>	
	<u>F</u> <u>Inj.-150mg. +</u> <u>water soluble</u>	<u>G</u> <u>Water</u> <u>soluble iron</u>
No. pigs	24	24
No. litters		5
Weight, lbs.		
4 days	4.2	4.0
14 days	8.7	8.5
28 days	16.3	15.6
Hematocrit, %		
4 days	28.5	28.0
14 days	37.4	30.3
28 days	37.6	30.8