

PREVENTION OF POST-WEANING DIARRHOEA AND OEDEMA DISEASE IN PIGLETS BY
 INTRA-PERITONEAL INJECTION OF AN ADJUVANT WITHOUT ANTIGENS
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In the Netherlands Post-Weaning Diarrhoea (P.W.D.) and Oedema Disease (O.D.) in piglets cause heavy losses in pig husbandry.

So far little progress has been made in the prevention of these diseases.

A K88-LT vaccine (on an W/O emulsion basis) was reported to reduce losses caused by P.W.D. and O.D.* Even O.D. due to *E.coli* O141K85ab (Ent⁻) was prevented by this vaccine although the principle involved in the disease was not incorporated in the vaccine.

In consequence of this observation we concluded that in the vaccine, apart from antigens, there had to be another substance inducing protection in the host. Therefore we decided to use an antigen-free water-in-oil emulsion, administering it intra-peritoneally for the prevention of P.W.D. and O.D. This adjuvant * without any antigens was injected in all piglets one to seven days before weaning.

In the beginning 3 farms were involved in our experiments.

Before the introduction of our method mortality varied from 6 to 20% on the different farms in spite of the use of a wide range of antibacterial drugs.

A very fast decrease of morbidity and especially mortality was noticed in the first 6 weeks after the introduction of the preventive treatment (see Table); in this stage antibacterial drugs were still used. The beneficial effect of our treatment was maintained during the first year even when the use of antibacterial drugs was stopped. After this year we ended our preventive treatment. Until now no problems due to P.W.D. or O.D. occurred on two farms, while still no antibacterial drugs are used. One farm had a relapse of the disease six weeks after the preventive injections were stopped. After resumption of the i.p. injection with the adjuvant the disease disappeared from within two weeks.

Results of the treatment in percentages of piglets which died after weaning before and after i.p. injection of an adjuvant without antigens.

Farm	Before	0-6 weeks (1)	6-12 weeks (1,2)	12-24 weeks
1	11	1	3	1
2	15	1	2	1
3	10	11	1	0

- 1) During this period only 50% of the piglets were injected with the adjuvant.
- 2) During this period antibiotic-treatment was withdrawn for the rest of the experiment.

During the experiments described above, we extended the treatment to 10 other farms. Uptill now we have injected more than 50,000 piglets.* The results are identical to these of the first three farms.

We conclude that i.p. administration of this water-in-oil emulsion has a preventive effect on P.W.D. and O.D.

Selected references:

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