Introduction: Fighting the AR in young piglets concentrations on the elimination of M. bronchiseptica (MB) and P. multocida (PM). Basically young pigs have to be treated with six weeks. This is caused by normal dietary intakes and oral addition by food and or a nose-spray. Besides vaccination of sows and/or piglets is applied with smooth-tongue (ST) BB vaccine. The large part of the housing-circumstances ventilation and management is indicated as a primary condition for obtaining a clinical improvement during a long period. Without the often expensive housing adaptations (all in all out systems), the use of medicine and inactivated vaccines frequently will not have satisfactory clinical results in Dutch pig-farming. The preventive effect of a BB-vaccination directed against BB can be considered satisfactory, the protection against PM is often insufficient, especially in AR-problem herds.

At the latter a change of the nasal flora of piglets was observed after vaccination with inactivated BB vaccine. The PM disappeared almost completely but instead there was a replacement by PM (AR-exacerbation) in the population. With the increase of the AR-exacerbation PM in these herds the clinical AR also increased. This bacteriological phenomenon was the base of the following A Live AR path. BB vaccine may prevent the colonization of the path. BB and PM bacteria in such a way that no clinical AR will appear from piglet population. By means of such a control of the colonization of the piglets nose the possibility would be created to prevent the financial burden of the breeding and rearing. The main question is whether to improve housing or reduce medication costs.

Experimental results: From a herd without clinical AR a AR non path. BB strain was tested through the primary AR-BB piglet test and the quails/pig skin test. From the bacteriological examination of these BB piglets was found that 1 and 4 weeks after the nasal infection (vaccination) 100% resp. 90% were BB positive (AR non path.), of the contact control pigs 12% were BB positive. (AR non path.). Colonization and spread seems to be possible with this strain in piglets of 1 weeks old.

In a following experiment secondary BB piglets were vaccinated intranasally with the AR non path. BB culture during the first week of age. These piglets were challenged at the age of 3 weeks with a AR path. AR strain of AR non path. BB strain. After four weeks the challenge results were compared with unvaccinated, vaccinated 3 weeks with non-vaccinated and challenged piglets (Fig. 1). The results of the average ventral conjunctival swab were used for comparing the protection percentage.

Conclusions: 1. There seems to be a difference in colonization of BB and conventional piglets with the AR non path. BB strain.
2. The colonization of the AR path. BB could be reduced with 70% - 80%.
3. In the field trials we did not find such marked colonization of the AR non path. BB which is possible to block the colonization of PM sufficiently?
4. In the field trials PM colonization already starts before the third week, possibly influence strongly the clinical results.
5. A complete elimination of PM and PM seems not to be necessary to control clinical AR by minimising this colonization seems to be necessary.
6. The intranasal vaccination with an AR non path. BB live-vaccine can be helpful to minimise the colonization of the pathogens.
7. Research to improve colonization at a young age by probably other BB vaccine strains or research to find a better vaccination schedule have to be developed.
8. From the piglets infected with PM-AR path. 70% had a PMAR-titer ≥ 160, from the piglets infected with BB-AR non path. 47% had a PMAR-titer ≥ 160.
9. From the piglets which were bacteriological PM negative 28% had a PMAR-titer ≥ 160. There seems to be a relation between a PMAR-infection and the colonization of PM especially the PM-AR path.


1) Protection percentage between vaccinated and control group.