The Swedish *Salmonella* Control Program with Special Reference to Pig Meat Production

H. Wahlstrom[1], P. Haggblom[2] and H. Lindqvist[3]
Division of Epizootiology[1] and Laboratory of Feed Hygiene[2], National Veterinary Institute.
P.O. Box 7073, S-75007 Uppsala Sweden., E-mail Helene.Wahlstrom@sva.se
Swedish Board of Agriculture[3], Div. for Animal Health and Welfare, S-55182, Jonkoping,
Sweden.

In 1953-1954 a severe *Salmonella* epidemic, involving almost 9000 people, occurred in Sweden (1). This event clearly demonstrated the need for a *Salmonella* control program. In 1961 the first governmental regulation concerning *Salmonella* control was implemented. A comprehensive description of the control program was presented at the International Course on *Salmonella* Control in Animal Production and Products (2). After joining the EEC some parts of the program were revised (3).

The *Salmonella* control is regulated by parliamentary law and covers animals, feed, food, human health and import restrictions. It regulates the power of the authorities, the routines in case of *Salmonella* infections in domestic animals, the obligations of the animal owner and the financial support to animal owners in cases of *Salmonella* infections in domestic animals. It also regulates domestic feed production and gives rules and recommendations regarding production, hygiene and monitoring of *Salmonella*. The import of certain animals and animal products is also regulated.

All isolations of *Salmonella* are notifiable. All isolates of *Salmonella* are characterized by serotyping the strains.

The *Salmonella* control program in swine has the following cornerstones:
1. Control of imported feed raw materials and domestically produced feed (6).
2. Testing for *Salmonella* of all sanitary slaughtered animals as well as any suspect animal at normal slaughter (3).
3. Surveillance at all slaughterhouses, including testing of individual animals (intestinal lymph nodes) as well as hygiene control (swab samples) (3).
4. Surveillance of breeding herds at farm level (fecal samples) (3).
5. General surveillance by clinical checks made by practicing and animal health veterinarians.
6. If *Salmonella* is found, infected herds are put under restrictions until the herd is considered free from infection. Farmers will be partly economically compensated for costs due to the restrictions.

The reported number of infected pig herds has continuously decreased. In the 1970's approximately 35-40 infected pig herds were reported annually. After 1979, on average, 3-4 infected pig herds have been reported annually (4,5). Since 1986 most outbreaks have occurred in fattening herds and have been caused by *Salmonella derby*. In a few herds infections persisted but measures taken seem to have eliminated the infection.

Surveillance during 1994-1995 showed a very low level of *Salmonella* infected/contaminated pigs. Only 15 (0.2%) out of 8888 examined slaughtered pigs were infected with *Salmonella*, 3 (0.03%) out of 8876 examined carcasses were contaminated with *Salmonella* and no *Salmonella* was found in fecal samples from approximately 8500 pigs originating mainly from elite breeding herds.

1. Lundbeck, H., U., Plazikowskij and L Silverstolpe. The Swedish *Salmonella* outbreak of 1953. J. Appl. Bact. 1955, 18:535-548.
2. Proc. Int. Course on *Salmonella* Control in Animal Production and Products. National Veterinary Institute, Uppsala, Sweden, 21-27 August, 1993
3. Swedish *Salmonella* Control Programmes for Live Animals, Eggs and Meat, Commision decision of 23

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4. Wierup, M.   Control of *Salmonella* in animal production and products in Sweden.   Proc. Int. Course on *Salmonella* Control in Animal Production and Products.   National Veterinary Institute, Uppsala, Sweden, 21-27 August, 1993

5. The Swedish Board of Agriculture, Records of outbreaks of *Salmonella*

6. Haggblom, P., Monitoring and control of *Salmonella* in animal feed. Proc. Int. Course on *Salmonella* Control in Animal Production and Products.   National Veterinary Institute, Uppsala, Sweden, 21-27 August, 1993