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## **Pigs suitable for organic production**

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Which traits characterize a good sow in different environments (conventional vs. organic)? Do we need special breeding programmes for organic pig production? If so, which selection traits should be included?

*Sow reproduction and behaviour studied in field and at research station.* In a field study, based on 100 sows in 3 organic and 100 sows in 4 conventional piglet producing herds, sows are studied during their first 3 parities. The farmers record piglet weight, piglet mortality, sow body condition and sow behaviour. At SLU's research station Funbo-Lövsta, 40 sows are followed more intensively during their 4 first parities in indoor and outdoor environment. At Funbo-Lövsta piglet weight, piglet mortality, sow body condition, oestrus, udder health, farrowing behaviour and nursing behaviour are recorded.

*Organic breeding values for growing-fattening performance.* To find out if we need special breeding programmes for organic pig production we analyze slaughter plant records for genotype by environment interactions. The breeding values of 30 AI boars (based on data from conventional herds) will be compared with breeding values based on data from organic herds. Weight and leanness registrations from 3000 organically raised offspring of the 30 AI boars are collected.

*Oestrus before weaning.* Oestrus before weaning is a well known phenomenon in organic pig production. It is thought to be caused by later weaning, 7 weeks instead of 5 weeks after farrowing, and loose housing where the sow can escape from her piglets. Oestrus before weaning often results in a delayed oestrus after weaning which makes synchronized farrowing in groups difficult. At Funbo-Lövsta, 23% of the sows ovulated before weaning during the first lactation and 43% of the sows ovulated before weaning during the second lactation. A higher proportion of the sows ovulated before weaning during the spring than during the fall. Sows that ovulated before weaning had a longer interval from weaning to next oestrus.

*Piglet mortality reasons differ between environments.* Preliminary results from Funbo-Lövsta show that sows farrowing outdoors get less stillborn piglets than sows farrowing indoors. One explanation for this might be that stillborn piglets easily disappear outdoors. This will be investigated further when we analyse video tapes from the farrowing. The preliminary results also show that a higher frequency of the piglets are crushed to death outdoors than indoors.

*The environment influences sow behaviour.* Preliminary results from the field study show that sows in organic production are judged by the farmers to be less aggressive and more careful towards the piglets, better to nurse and have better maternal behaviour. These sows are also judged to be more aggressive and fearful towards the farmers, as compared to sows in conventional herds.