

Nandrolone ester turns barrows into boars

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Introduction

In male pigs 19-nortestosterone is a naturally occurring compound. In boars high levels can be measured in urine but in barrows and gilts only low levels occur. In practice however sometimes very high levels of 19-nortestosterone are found in urine of barrows. To evaluate the effect of 19-nortestosterone treatment of barrows on levels in hair and urine and on growth performance, we conducted an animal experiment.

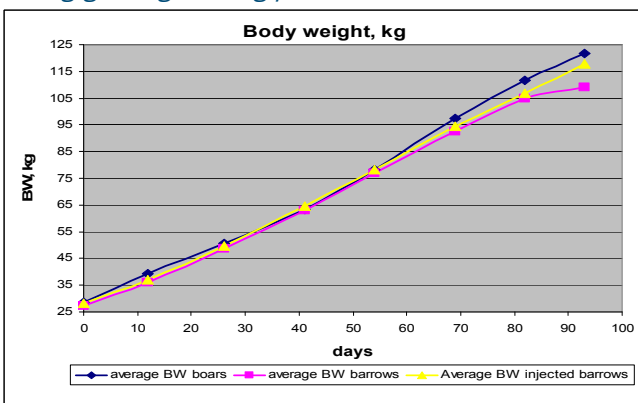
Experimental

At Schothorst Feed Research 5 boars and 6 barrows were not treated and 6 barrows were treated 3 times, once a month with 19-nortestosterone (ester) (nandrolonephenylpropionate 50 mg/ml, 1 mg/kg BW). The animals were slaughtered one month after the last injection.

Results

Boars and treated barrows showed 13 % and 9 % better growth than non-treated barrows, leading to mean final body weights of 121.6, 117.8 and 109.0 kg respectively (fig 1).

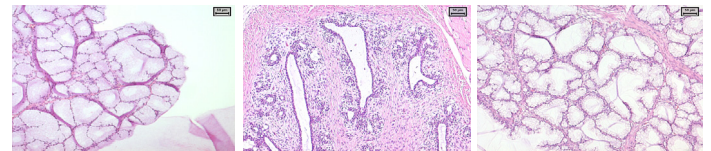
Fig. 1. Body weight of boars, barrows and injected barrows during growing-finishing period.



Since 19-nortestosterone is natural in male pigs this type of illegal growth promotion is at present not covered in hormone urine monitoring programs.

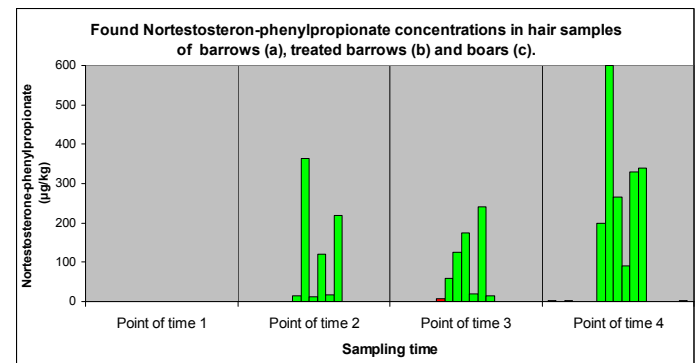
Moreover the bulbourethral glands of the treated barrows were 2-3 times heavier than the non-treated barrows. The histology of the prostate and bulbourethral gland of the treated barrows was comparable to the boars, whereas the control barrows showed atrophic glands (fig. 2).

Fig. 2. Bulbourethral gland histology of boars (left), barrows (middle) and treated barrows (right) HE.



Levels of 19-nortestosterone in urine from treated barrows were not higher than non-treated barrows and much lower than boars. Levels of 19-nortestosterone (ester) in hair of treated barrows however were much higher than both untreated barrows and boars (fig. 3).

Fig. 3. Levels of nortestosterone phenylpropionate in barrows (red), treated barrows (green) and boars (red).



Conclusions

Nandrolone ester leads to growth promotion in barrows. Levels of 19-nortestosterone (ester) in hair are very high in treated animals, much higher than both untreated barrows and boars. Hair analyses can be used to distinguish treated animals from untreated animals. Treatment leads to increased size of the bulbourethral gland and marked histological changes in the treated barrows making them resemble boars.

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