

## 孕酮分泌遗传规律的频域分析

连正兴, 李武, 杨运清, 赵刚, 盛志廉, 何勇, 高明, 王亚波

1 东北农业大学动物科学系;哈尔滨 150030 2 兰西县种猪场 兰西县;黑龙江 151500

收稿日期 修回日期 网络版发布日期 接受日期

**摘要** 选用3~7产成年母猪28头,代表9个家系,分别在配种后第6天上午9:00~11:00间,进行尾部连续采血,间隔10min收集血样1次,共采12点。对外周血中孕酮进行放免测定,并进行傅里叶转换,分辨出幅值。实验中,不同采样点间激素含量变动范围较大,很难得出较为合理的结论。经傅氏转换后,对各频率内幅值进行遗传参数估计:5级谐波为高遗传力(0.932),基波、2级、3级谐波为中等遗传力,其他各级谐波为低遗传力。肯定了母猪黄体细胞分泌孕酮能力的特有优势。高遗传力与低遗传力成分的共同存在,说明了孕酮的分泌受着遗传及环境的共同影响。基波、1级及5级谐波与产仔数和产活仔数的相关为负遗传关,而其他谐波却为正遗传相关,这意味着母猪目前的产仔性能尚未达到最佳状态,还有巨大潜力。各谐波与发情持续期均为负遗传相关,肯定了孕酮对发情症状的抑制作用。但以3级和5级谐波相关强度最大,选择反应最强。由于3级谐波与产仔数及产活仔数为正遗传相关,故应加大对5级谐波的选择强度。母猪血液中孕酮的分泌,在各谐波间尚存在着一定的不平衡,其繁殖潜力有待于进一步挖掘。如采取适当的方法,必然会产生较大的选择反应,进而提高母猪的繁殖性能。

**关键词** [母猪](#) [傅里叶转换](#) [孕酮](#) [遗传参数估计](#)

分类号

## The Genetic Analysis of Amplitude of Amplitude of Progesterone Secretion in Serial Blood Collection from Tail in Min Sows

LIAN Zheng-xing, LI Wu, YANG Yun-qing, ZHAO Gang, SHENG Zhi-lian, HE Yong, GAO Ming, WANG Ya-bo

1;Northase Agricultural University Harbin 150030 2;Lan Xi form Lan Xi county HeiLongJiang 151500

### Abstract

28 adult Min sows (3~7 parities), represented 9 sire families were selected to conduct the continual blood collection from the tail for two hours at the interval of ten minutes between 9:00 ~ 11:00 in the morning on the sixth day after the last mating. The content of progesterone was assayed by radio-immunological assay. The amplitudes of the secretion of progesterone were generated by the procedure of HORM fft. exe compiled by the author. It is difficult to get a reasonable conclusion from the content analysis, because the content varied widely between different points of blood collection in single sow. After Fourier conversion, the heritability of amplitude for the fifth partial wave was high ( $h^2 = 0.932$ ); middle for the basal, 2nd and 3rd partial waves; lower for others. This supported the idea that prolific sows had more active secretion of progesterone in luteal cells. The coexist of low and high heritability components in amplitude of progesterone secretion showed that the activities of progesterone secretion were influenced by both the genetics and environments. The genetic correlation of basal, 1st, 5th partial waves were negative, the others were positive, with the litter size and litter size alive. It showed that the reproductive performance of Min pigs were not expressed perfectly, as the balance of secretion of progesterone did not reach the best. The genetic correlation of all partial waves with duration of estrus was negative which supported that the progesterone suppresses the estrus. The genetic correlation of 3rd, 5th partial waves were stronger than others, but selection for 5th partial wave would make high responses than the 3rd wave, because the genetic correlation of 3rd partial wave with litter size and litter size alive was positive. therefore, the more appropriate method of selection for progesterone was adopted, the better results would be achieved in the improvement of indirect selection response for litter size.

**Key words** [Min sow](#) [Fourier conversion](#) [Progesterone](#) [Genetic parameter estimate](#)

DOI:

### 扩展功能

#### 本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(659KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

#### 服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

#### 相关信息

- ▶ [本刊中 包含“母猪”的 相关文章](#)
- ▶ 本文作者相关文章

- [连正兴](#)
- [李武](#)
- [杨运清](#)
- [赵刚](#)
- [盛志廉](#)
- [何勇](#)
- [高明](#)
- [王亚波](#)

