EINSATZ DER MILCH-PROGESTERON-BESTIMMUNG IM RAHMEN VON EMBRYO-TRANSFER-PROGRAMMEN

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Als Beitrag zur Problematik der Superovulation wurden Milchprogesteron (MP)-Profile von insgesamt 172 Kühen erstellt, bei denen durch Behandlung mit PMSG und darauf folgende Injektion von Prostaglandin eine Superovulation induziert worden war. Das Analysenintervall betrug bis zum 12. Tag nach der PMSG-Behandlung (Spülung) einen Tag, anschließend für weitere 5 Wochen 3 Tage. Obgleich eine endgültige statistische Bearbeitung noch aussteht (sowohl die Anzahl der Gelbkörper als auch die MP-Werte erwiesen sich als nicht normal verteilt), können bereits zwei wesentliche Feststellungen getroffen werden :

1) Hohe Progesteronwerte zum Zeitpunkt oder 1-2 Tage nach der PMS-Behandlung lassen eine gute Reaktion erwarten (Korrelation zwischen MP-Wert und Anzahl Gelbkörper : 0.31-0.49).
2) Eine MP-Bestimmung 2-3 Tage vor der Spülung kann als Entscheidungshilfe dafür dienen, ob eine Eigewinnung sinnvoll ist (Korrelation zwischen dem MP-Wert 10 Tage post Stimulation und der Anzahl der Gelbkörper : 0.43-0.53).

Somit erscheint die Milchprogesteron-Bestimmung zur Beurteilung der endokrinen Voraussetzungen für die Superovulation und deren Erfolgschancen geeignet.

RELATIONSHIP BETWEEN COW FERTILITY AND MILK PROGESTERONE

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For 120 cows the progesterone concentration in milk fat was determined three times a week from the first day post partum up to the third month of gestation. The influence of herd, season and lactation on some parameters of fertility as well as the relationship between milk yield or milk composition and these parameters have been investigated. Concerning the average duration of p.p. acyclia the differences between herds, seasons and lactations were significant. A high percentage of ovulations, indicated by progesterone curves, showed no symptomes of heat. The incidence of silent heat was unrelated to the fixed effects as well as to milk yield and milk composition, while the average daily concentration of progesterone in milk fat during a cycle showed significant differences between herd, seasons and lactations. Regressions on milk composition were low.

THE EFFECT OF PROGESTERONE TREATMENT ON THE FERTILITY OF DAIRY COWS

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A total of 384 autumn calving *Friesian* cows were paired according to parity and milk yield and allocated at random to treated or control group. Cows in each group were allocated to one of six sub-groups according to date of previous calving. Milk samples were taken for progesterone assay from 16 of the 32 cows in each treated sub-group ten days before, and one day prior to treatment and twelve days after insemination. In the treated group ovulation was controlled by the administration of progesterone /œstradiol benzoate. Control cows were inseminated at the first observed œstrus after 25, 30, 35, 40, 45 and 50 days for cows in sub-groups 1 to 6 respectively. Treated cows were inseminated on the 10th and 11th day after the start

of insemination of the controls. All returns to service were reinseminated at observed œstrus. Ovarian activity was initiated in 26 (70 p. 100) of 37 non-cyclical cows of which 12 (32 p. 100), conceived to the synchronised ovulation. Mean pregnancy rates were 44.8 and 47.4 p. 100 for treated and controls respectively. Mean calving to conception intervals were 70.9 days (treated) and 78.6 days (control).

III. — Effets de loci individuels sur des performances zootechniques : les conséquences pour les stratégies d'élevage

FRÉQUENCES DE GÈNES IMPORTANTS DANS LES POPULATIONS PORCINES

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Après une brève discussion des problèmes méthodologiques que soulève l'estimation des fréquences géniques, quelques résultats de la littérature concernant les populations porcines sont passés en revue. Parmi les gènes à effet visible, l'accent est mis sur le locus *Hal* de sensibilité à l'halothane. Parmi les polymorphismes biochimiques, sont considérés 3 enzymes du globule rouge, 2 protéines du sérum, 2 systèmes de groupe sanguin et le complexe d'histocompatibilité SLA. Les fréquences géniques, qui constituent une information utile en sélection dans le cas des gènes « majeurs » ou « marqueurs », servent également dans le contrôle des filiations et permettent d'estimer les distances génétiques entre races, ainsi que le degré d'hétérozygotie des populations.

THE EFFECT OF A SINGLE LOCUS (*HALOTHANE*) ON VARIANCES OF AND CORRELATIONS AMONG QUANTITATIVE PRODUCTION TRAITS

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The expression of quantitative production traits can be seen as the som uf genotypica and environmental effects. Genetic effects are the sum of effects of single genes and interactions among those genes. If genes on one locus affect various quantitative traits (pleiotropic) correlation arises. The *Hal*-locus seems to be a pleiotropic locus affecting several quantitative production traits. The effect of this locus on variances of production traits in *Dutch Landrace* pigs and correlations among those traits has been described in the present paper. It was concluded that the *Hal*-locus is a " major-locus " for meat quality, backfat thickness and ham per cent, accounting for about 60, 20 and 25 p. 100 of the respective additive genetic variances. Further that differences in variances and correlations between different genotypic groups could be explained satisfactory by the pleiotropic effect of the *Hal*-locus.

EFFECTS OF MAJOR GENES ON ANIMAL BREEDING STRATEGIES

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A segregating major gene can have important effects on genetic parameters and on selection responses, and may lead to anomalies in the estimates among breeds and also within breeds over time. However, proving the existence of a major gene may be difficult unless its effects are quite large. Fortunately selection will make use of such a gene even if its effects are not