with respect to hierarchical position of the goats. It is concluded that goats high rank exhibit strong interactions with the male sex, which allows them a greater mating success in relation to goats medium and lower position.

P-085
Investigation on some wood materials and their use as environmental enrichment in post-weaning and fattening pigs

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The objective of this research is to identify a system of environmental enrichment to accomplish the Directive 2008/120/EC which requires the pigs must have permanent access to a sufficient quantity of material to enable proper investigation and manipulation activities. The study has taken into account both the improvement of animal welfare and the economic impact for farmers. The features of the manipulable usable materials and their possible applications in farming have been examined in details. Wood has been considered the best material to develop systems of environmental enrichment in relation to the most common type of flooring of the fattening farms in northern Italy (slatted flooring) with sustainable costs. The wood essences and kind of saw timber have been selected among the available resources in the area involved in the research. They are cost-effective and can be inserted into the farm without compromis- ing the health of the animals, neither by contact nor by inges- tion. The selection process has led to focus on core of weener poplar logs and wood sawdust pressed briquettes. The next step has been to design systems consisting of a fixed structural component to be installed inside the pen for the pigs to which identified manipulable materials can be added and replaced quite effortlessly. Field trials carried out involving 72 post-weaning piglets in 3 pens and 349 growing pigs in 4 pens showed that: a) wood sawdust pressed briquettes are not suitable in the post-weaning phase both for environmental reasons (excessive moisture in the pen) and for an overconsumption of the material (1 briquette crumbled in less than 2 days). b) The system with leg placed horizontally (in such a way that the animal can rotate it) and the system with fixed vertical leg result the most attractive among the several devices tested in post-weaning phase. c) The wall grid containing logs of poplar timber to raise with the snout, to spin and to bite seems to be the most desirable device during the growing-fattening phase. d) In general, a decreasing interest has been evidenced over time for all systems, from a maximum involvement of the animals recorded during the first days (for some devices up to 15 heads at the same time), to a minimum after a few weeks, in some cases no Interaction during all day.

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P-086
Management and stereotypes of thoroughbreds in Central- Northern Italy

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The study deals with horse management and incidence of behav- ioural anomalies, considering 504 thoroughbreds for flat and national hunter races, housed in 30 barns located in 3 race- course and training facilities: Merano, Pisa, Livorno. The horses were examined by one of the authors, veterinary surgeon employed in the racecourses. Two kinds of questionnaire were used to collect further information asking owners and personnel. Form 1 considered housing (type of box, bedding); feeding (number of meals, concentrates and hay); training (sessions fre- quency and intensity, use of horse-walker, paddock). Form 2 provided clinical and management information about each horse evidencing behavioural problems. Twenty-eight horses (5.5%) showed stereotypic behaviours: 17 crib biting (3.4%), 8 weaving (1.6%), 3 box circling (0.6%). These percentages are lower than findings in other studies. In 8 cases the stereotype appeared during a period of inactivity after an incident. The results showed trends in accordance with other studies: higher incidence of behavioural anomalies was evidenced when horses were individu- ally housed in box with internal window compared to horses in box with external window; feeding 3 meals/day caused more anticipation anxiety, expressed especially by weaving, than 2 meals/day. All stereotypic horses were fed 6-8 kg of concentrate, with a low hay/concentrate rate (1:1-1.5:1): this was confirmed a risk factor especially for crib biting. The use of horse-walker and individual paddocks of small dimensions seems to cause more frustration, expressed equally by crib biting or weaving, than dis- traction. Training sessions on short distances at fast canter cause an increase, even if not significant, of the incidence of behavioural anomalies than sessions on long distances at slow canter, performed in national hunter racing (4.1% vs 3.1%, P=0.345). Nevertheless in two cases weaving appears after daily heavy work on short distances. In one case box circling dis- appeared after changing training from short to long distances. These management aspects are considered of concern for poor welfare by scientists, but often these notions aren’t applied into practice in the farms. Moreover, the complexity and interconnec- tion of factors affecting horse welfare suggest that evaluation is
with respect to hierarchical position of the goats. It is concluded that goats high rank exhibit strong interactions with the male sex, which allows them a greater mating success in relation to goats medium and lower position.

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