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INFLUENCE OF HOUSING ON BEHAVIOR IN WEANLING HORSES

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Opinions abound regarding the contentedness of horses in various housing situations. However, supporting evidence is scarce. Housing effects on behavior have been examined in hamsters (Arnold and Estep, 1990), pigs (Blackshaw and McVeigh, 1984; Ekesba, 1981; Hemsworth and Beilharz, 1979; Zanella et al., 1991), calves (Brown and Leaver, 1978; Dantzer et al., 1983; Friend et al., 1985), hens (Dawkins, 1976), rats (Steplewski et al., 1987) and dogs (Hubrecht et al., 1992). Two hypotheses will be examined. The first is that pastured weanlings will show effects of better welfare than will stalled weanlings. This will be evaluated by analyzing the percentage of time each individual spends performing stereotypies, such as cribbing or stall walking; evaluating their response times and number of mistakes in a maze test, both baseline and at the end of the experiment; looking at biological indicators of stress via saliva samples (catecholamines and glucocorticoids); comparing growth rates; evaluating cell-mediated immune function in response to a weak antigen; analyzing differences in group interactions; and evaluating differences in daily ethograms. The maze test and evaluation of group interactions will be tested at day zero of the project and day ninety of the project. Salivary samples will be taken hourly for one twenty-four hour period each month. Percentage of time spent engaged in stereotypies and daily ethogram will be evaluated via video collection for a twenty-four hour time period once each week. Height, weight and cannon circumference will be measured monthly to chart growth rates. Immune function will be compared from day zero to day ninety. The second hypothesis is that pastured weanlings will be easier to handle than stalled weanlings. The weanlings in each group will receive the same number of minutes handling each day. Their response will be scored by blind evaluators who will score them once each month during routine grooming, farrier work, clipping, leading and standing with a handler. Eighteen Arabian weanlings (four to five months of age) at Michigan State University's Horse Teaching and Research Center will be age matched and randomly assigned to two treatment groups beginning in August, 1998. Eighteen Quarter Horse weanlings (four to five months of age) at Michigan State University Merillat Farm will also be age matched and randomly assigned to two treatment groups beginning in May, 1998. Weanlings will be on the study for three months and will be fed concentrate twice daily and fed ad libitum roughage. The diet will meet or exceed NRC recommendations (1989). Stalled weanlings will be handled minimally each day for the purpose of moving to a different stall during stall cleaning. Pastured weanlings will also be handled minimally each day for the purpose of placing them in outside, individual feeding areas while they eat their concentrate.

