Electronic horseshoe

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animal more carefully and collect more definitive data."

Use of the horseshoe is an outgrowth of research involving a stationary force plate.

With the plate, an animal walks across it and measurements can be made. In the shoe, the force plates have been built into it, providing a mobile means of making measurements

during free activity by the anımal.

Research with the new horseshoe and the force plate are part of far-ranging studies being conducted at New Bolton Center under the auspices of the Pennsylvania Horse Racing Commission.

Studies of the effects of drugs on horses are being conducted in conjunction with West Chester State College. Detection of the drugs is centered at West Chester; while the effects of

the drugs are examined at New Bolton.

"We analyze the concentration of drugs in the blood and determine how long they remain in the plasma," Dr. Soma explained.

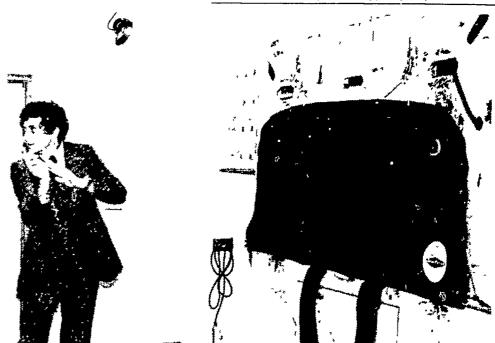
"Work is done in finding the metabolic byproducts of various drugs.

"Since a drug often is broken down rather rapidly, identification must be made through these byproducts.

"Many of the substances being studied are human drugs, but horses handle them much differently."



Recovery pool is part of the equine exercise areas. The pool and treadmill are used both to check stress in animals and for recovery therapy.



Surgical facilities for large animals include the operating table, which is positioned upright to facilitate securing the animal and then tilted horizontally for the operation.

Another phase of research involves pulmonary hemorrhaging, a condition that 1s peculiar to horses.

Often as the result of hard running, particularly in thoroughbreds, a slight amount of bleeding can result in the lungs and windpipe.

"In this phase of our research, we'll be making on-track studies," Dr. Soma said.

"We want to see how many horses sustain such bleeding

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and whether it might be a hereditary condition."

Still another area of investigation involves a new and complete look at the horse as an athlete being conditioned during training. These studies, termed exercise physiology, are the specialty of Dr. G. Frederick Fregin, of the New Bolton staff.

"We closely studied five horses over a 10-week training period," Dr. Fregin explained.

"These were the first such

studies actually conducted on horses during sustained exercise periods.'

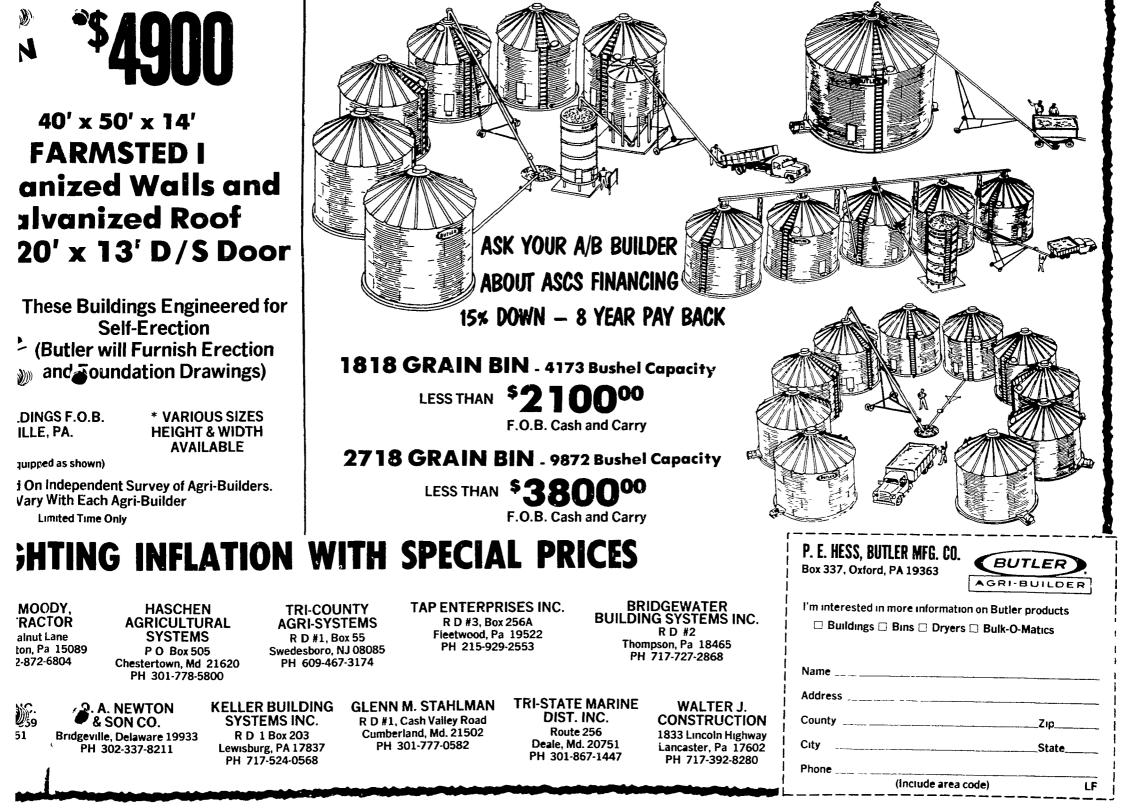
Areas of investigation and measurement during the exercise studies included changes in heart rate, effects on blood pressure, production of lactic acid and specific amounts of oxygen consumption by the animals. Heretofore, equine training has been largely a matter of intuition, it was explained, and the exercise studies are supplying (Turn to Page A22)

ING INFLATION PRICES



40' x 50' x 14' **FARMSTED** anized Walls and

Self-Erection



Lancaster Farming, Saturday, May 17, 1980-A21