SWAMP BUFFALO IN LIVESTOCK RESEARCH INSTITUTE

C. H. HSIEH

ANIMAL INDUSTRY DIVISION,
LIVESTOCK RESEARCH INSTITUTE,
COUNCIL OF AGRICULTURE,
TAINAN, TAIWAN, R.O.C.

DEC. 17, 2009

BRIEF INTRODUCTION

- Small population (One bull and 9 cows in 2002, and 39 heads in 2009).
- To breed conservation.
- To prevent wild fire.
- To provide animal to the related experiment.
- Continuously grazing
- Natural mating
- Drying season: supplement with hay

14.875 ha

Dominant vegetation

Cattle yard

Embryo Transfer of Swamp Buffalo in Station

- The sharply decreasing herd size of swamp buffalo in Taiwan, preservations and recovery of swamp buffalo is of high necessity and emergency.
- Both Livetsock Research Station and its branch station (Hualien Animal Propagation Station) conducted embryo transfer of swamp buffalo project from 2005 to 2007.

Six to seven days after first mating, embryos were flushed from the uterus using modified Dulbecco's phosphate buffered saline, supplemented with 1% fetal bovine serum.

Table 1. Ovarian responses and embryo production in swamp buffalo cows after super-ovulation with PMSG or FSH

Group	PMSG 3,000 IU	PMSG 2,500 IU	FSH 40 AU
Number of cows	2	4	4
Number of cows with 2 or more CL	2	2	1
Corpora lutea	8.0 ± 2.8	2.5 ± 2.9	4.5 ± 8.3
Embryo recovered	0	0	2
Embryo transferable	0	0	0

Briefly Result

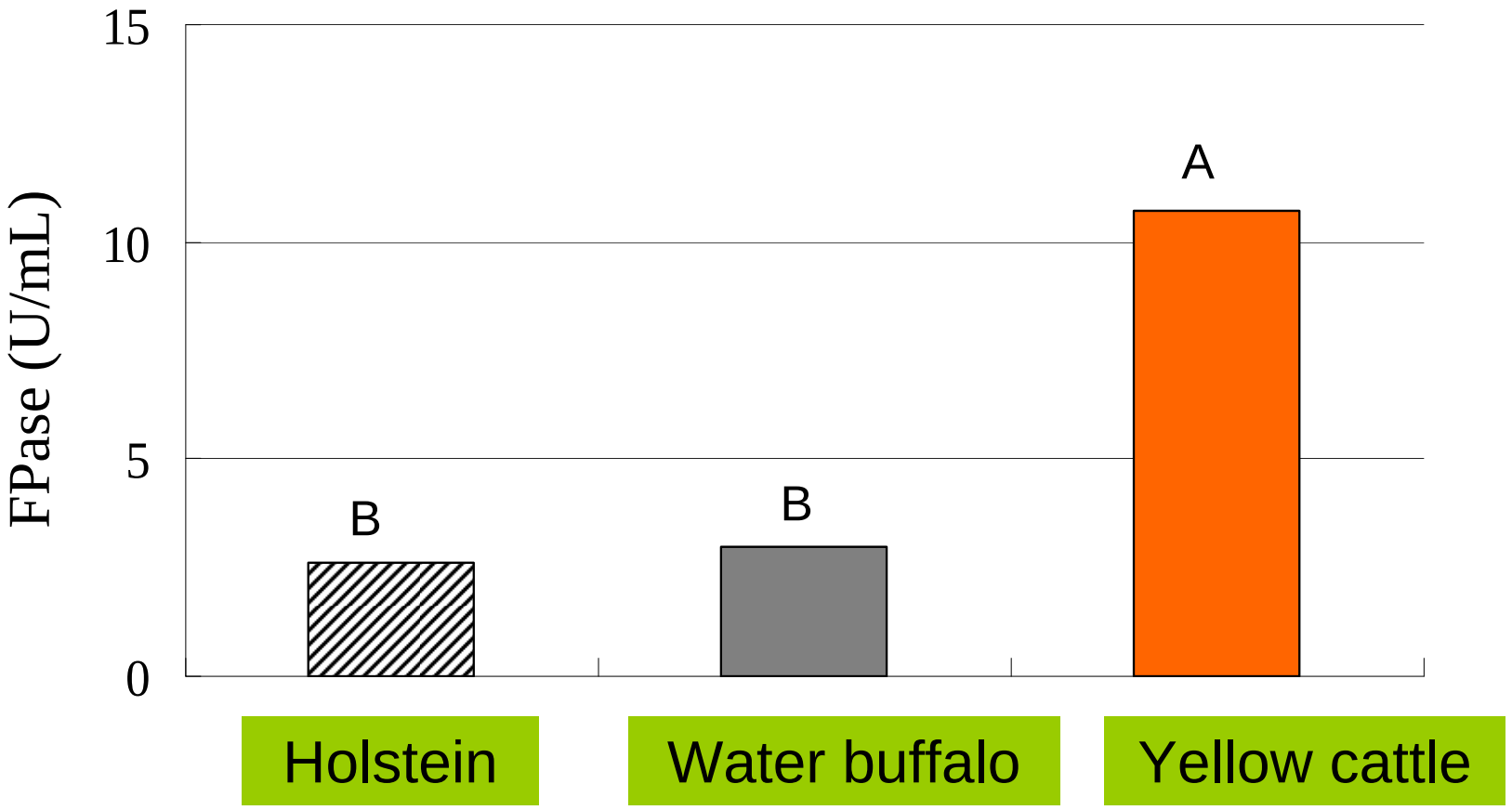
- Results indicated that cows treated with PMSG 3,000 IU could get eight lutea, numerically more than four from FSH treatment but difference was not significant yet (P > .05). This result was contrary to that of Misra et al. (1994). They reported that cows treated with 600 mg of FSH had stronger corpora lutea response and more embryos than cows treated with 3,000 IU of PMSG.
- PMSG had been found to cause various problems in super-ovulation such as it would increase the numbers of un-ovulated follicles (Schallenberger et al., 1990). Transferable embryo from swamp buffalo was not easy to harvest. The average number of transferable embryo per donor is less than one (Aboul-Ela, 2000).

Comparisons of the rumen cellulolytic capability of Holstein, Taiwan water buffalo and Taiwan yellow cattle



- ✓ Raised individually
- ✓ 80% Pangolagrass + 20% grain
- ✓ Adaptation > 1 month

Cellulolytic activity of rumen microbes incubated with filter paper



Conclusion

- Numbers of the rumen microbe from three breeds were similar
- Taiwan Yellow cattle and Holstein will be the microbe origin for future screening in terms of high-fiber feed pretreatment.

Nutrition Division and Animal Industry Division, LRI. COA

2008 - 2010

Hay supplement during dry season


Thank you for your attention!