



Transition Cow Nutrition and Post-partum Health

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Periparturient immunosuppression

- ⌘ High incidence of mastitis. 25% of coliform mastitis cases occur in first 2 wks of lactation.
- ⌘ Clinical manifestation of chronic disease; Johne's, Salmonellosis.
- ⌘ **RETAINED PLACENTA, METRITIS, ENDOMETRITIS DUE TO POOR IMMUNE FUNCTION!!**

Guidry, et al. 1976. *Am J Vet Res.* 37:1195; Newbould. 1976. *Can J Comp Med.* 40:111; Wells, et al. 1977. *Clin Exp Immunol.* 29:159; Hill. 1981. *Res Vet Sci.* 31:107; Manak. 1982. *J Reprod Immunol.* 4:263; Kashiwazaki, et al. 1985. *Jpn J Vet Sci.* 47:337; Ishikawa. 1987. *Jpn J Vet Sci.* 49:469.

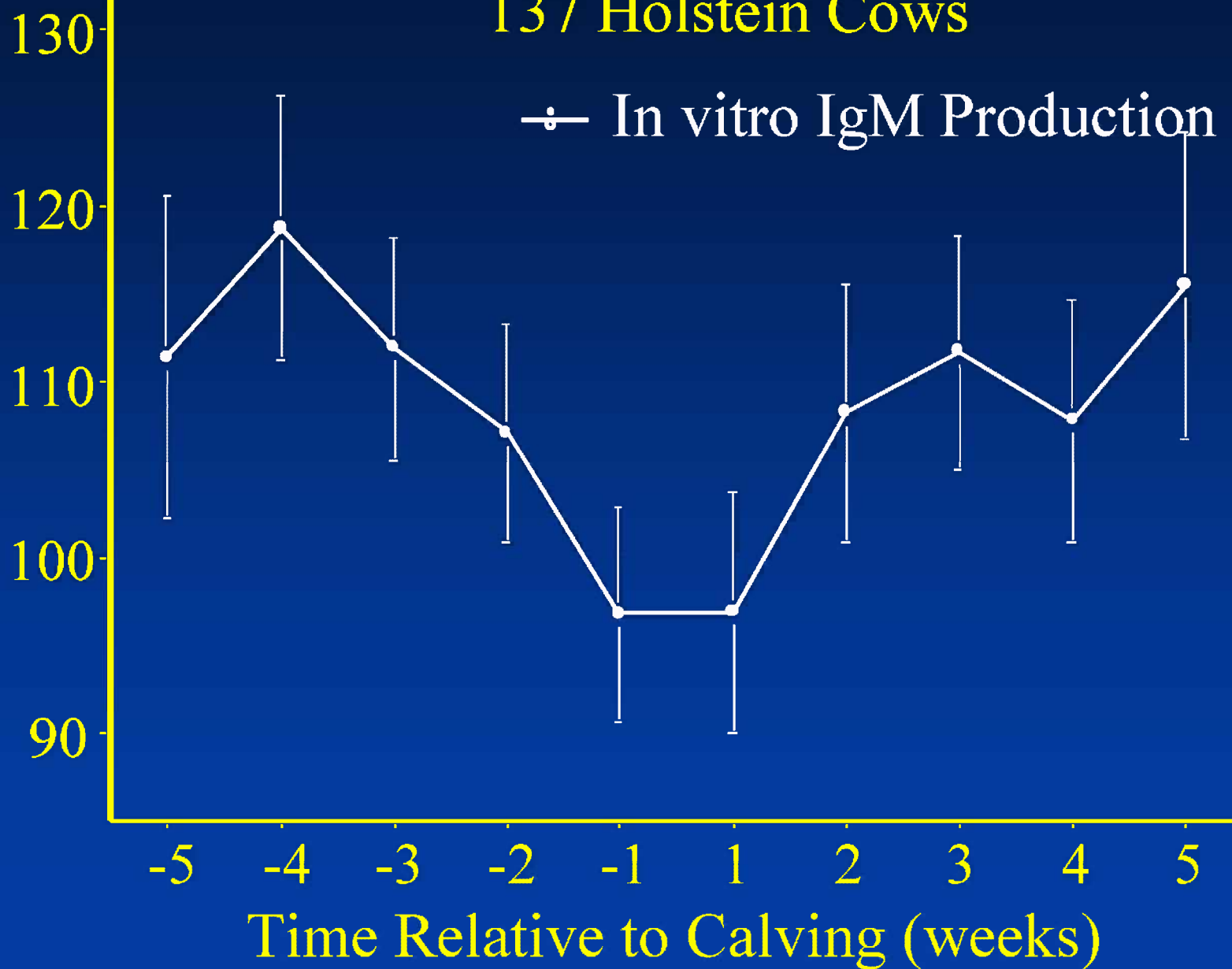
Immune suppression at calving

- Ability of neutrophils to move toward and kill invading bacteria ↓ about 40%.
- Ability of lymphocytes to produce antibody ↓ about 30%

137 Holstein Cows

Percent of Lab Standards

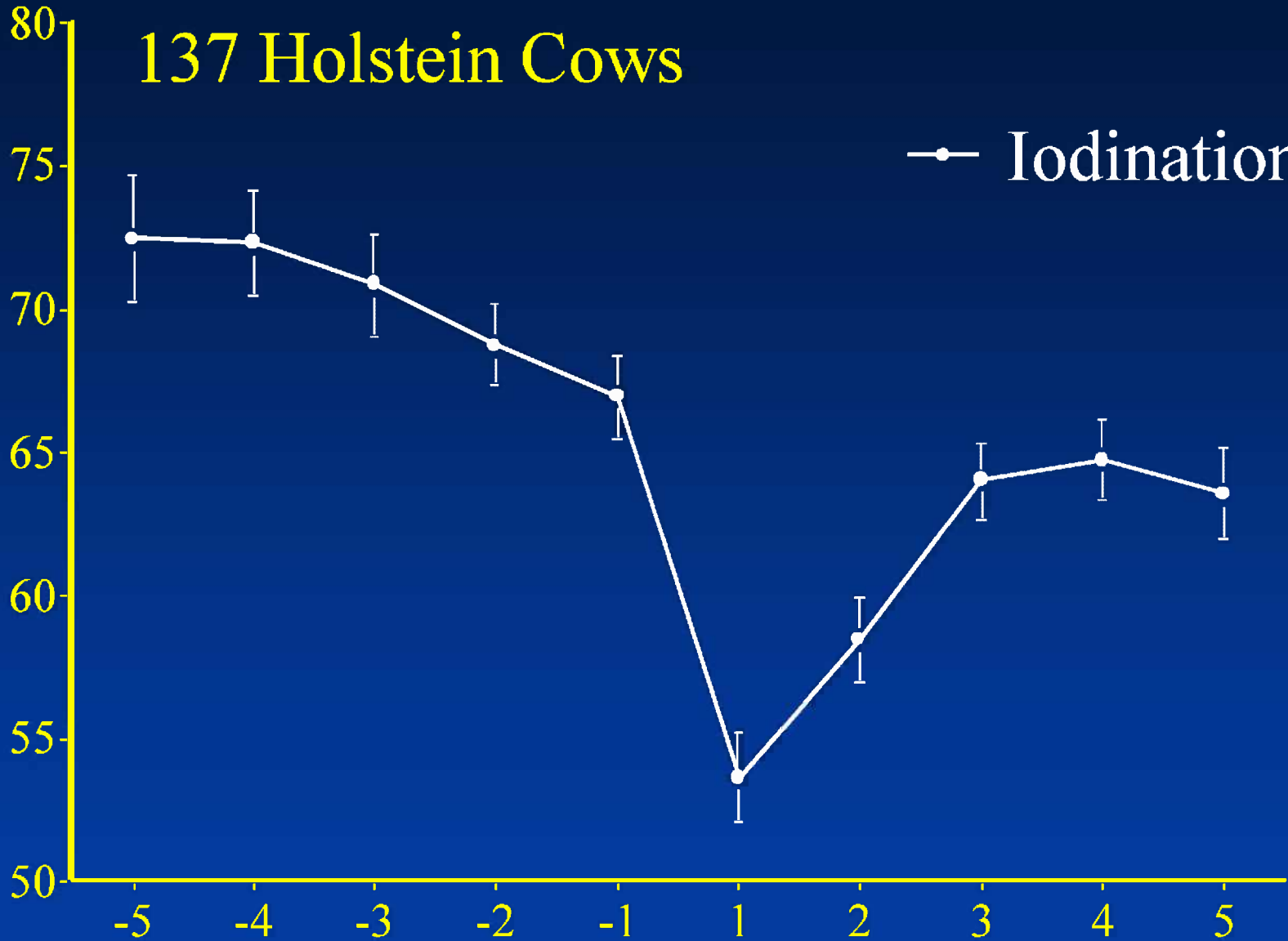
—•— In vitro IgM Production



137 Holstein Cows

Percent of Lab Standards

—●— Iodination



Time Relative to Calving (weeks)

WHY ARE DAIRY COWS
SO IMMUNE SUPPRESSED
AROUND THE TIME OF
CALVING???

Hormones?

Metabolic stress?

Comline, RS, et al. J Endocr 63:451-472, 197

