

Effect of Dietary Change on
Faecal Gram Stain
Characteristics in Psittacines

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Normal Faecal Microflora

- Mixed population of gram positive aerobes and anaerobes (Ref: Richie, Harrison and Harrison).
- Normal psittacine faeces would not be expected to have a gram negative population (Ref: Cheville).
- Confirmed on recent cockatoo cull in Australia (2002 personal communication)

Normal Fecal Gram's Stain



Method

- 100 greys fed all seed diet for more than a year without supplements.
- 80 converted to pellets and 20 kept on seed based diet as a control.
- Gram stain taken every 4 weeks from 40 pellet fed birds and 20 seed fed greys.
- Same person responsible for making faecal smears as consistency is very important.

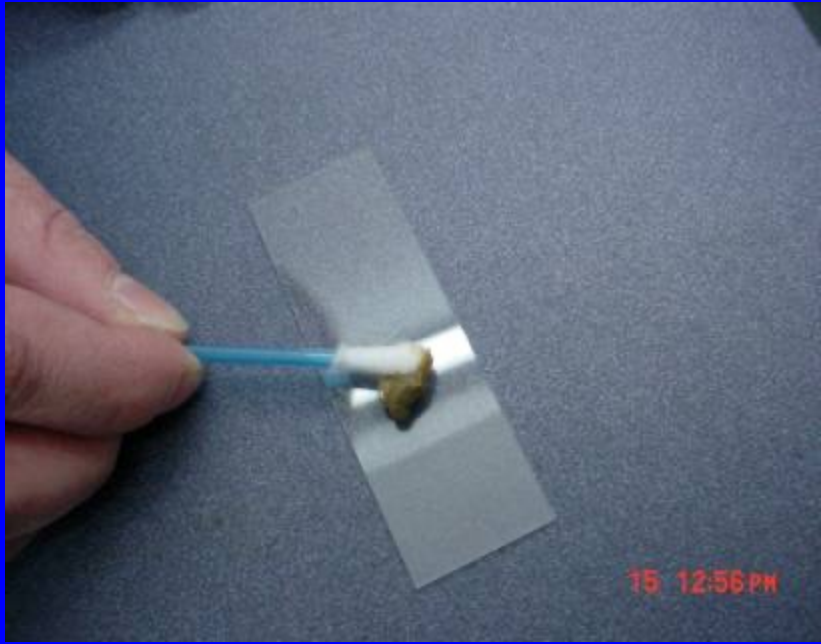




SEED MIX USED

HARRISONS HPC



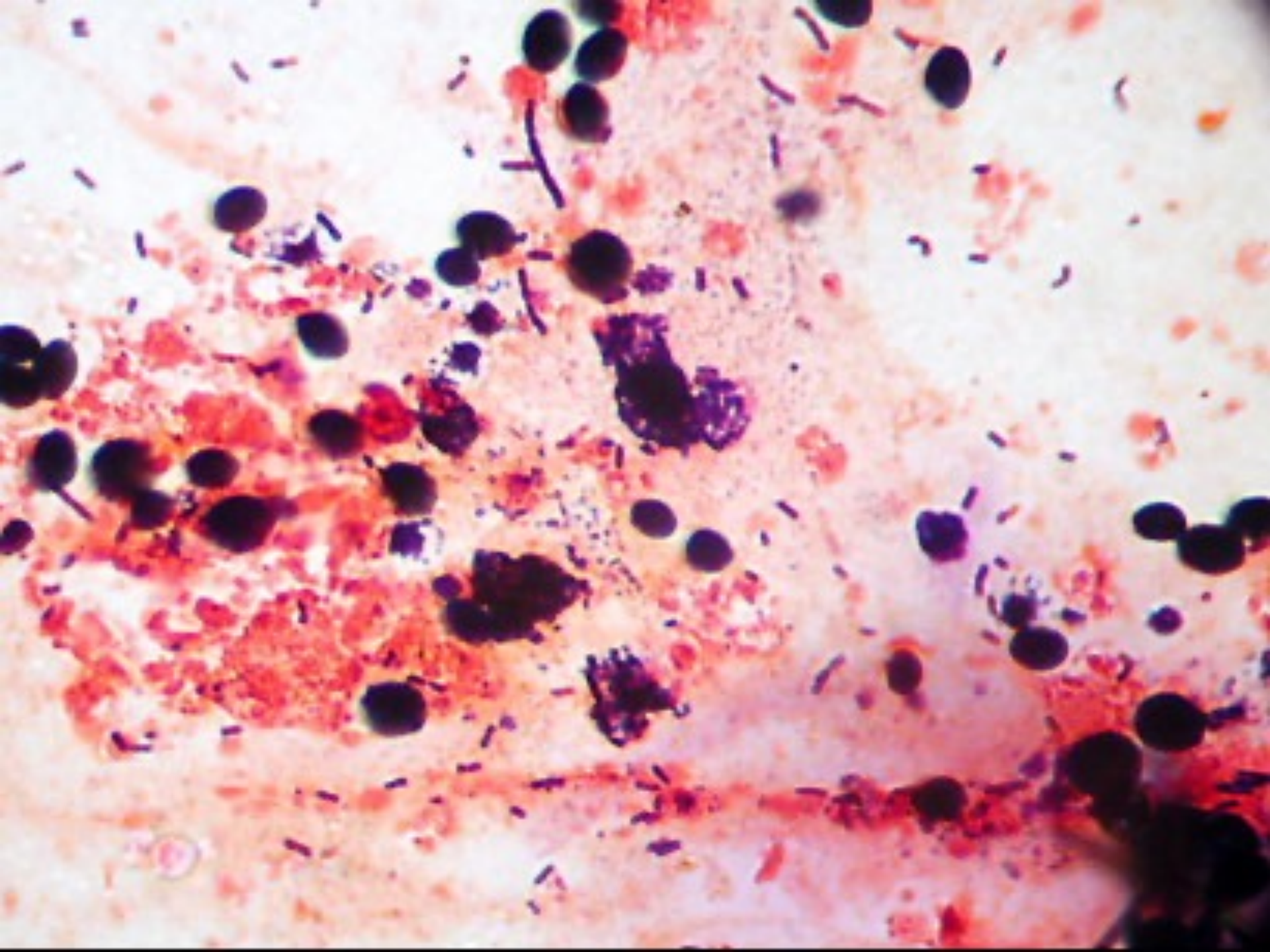


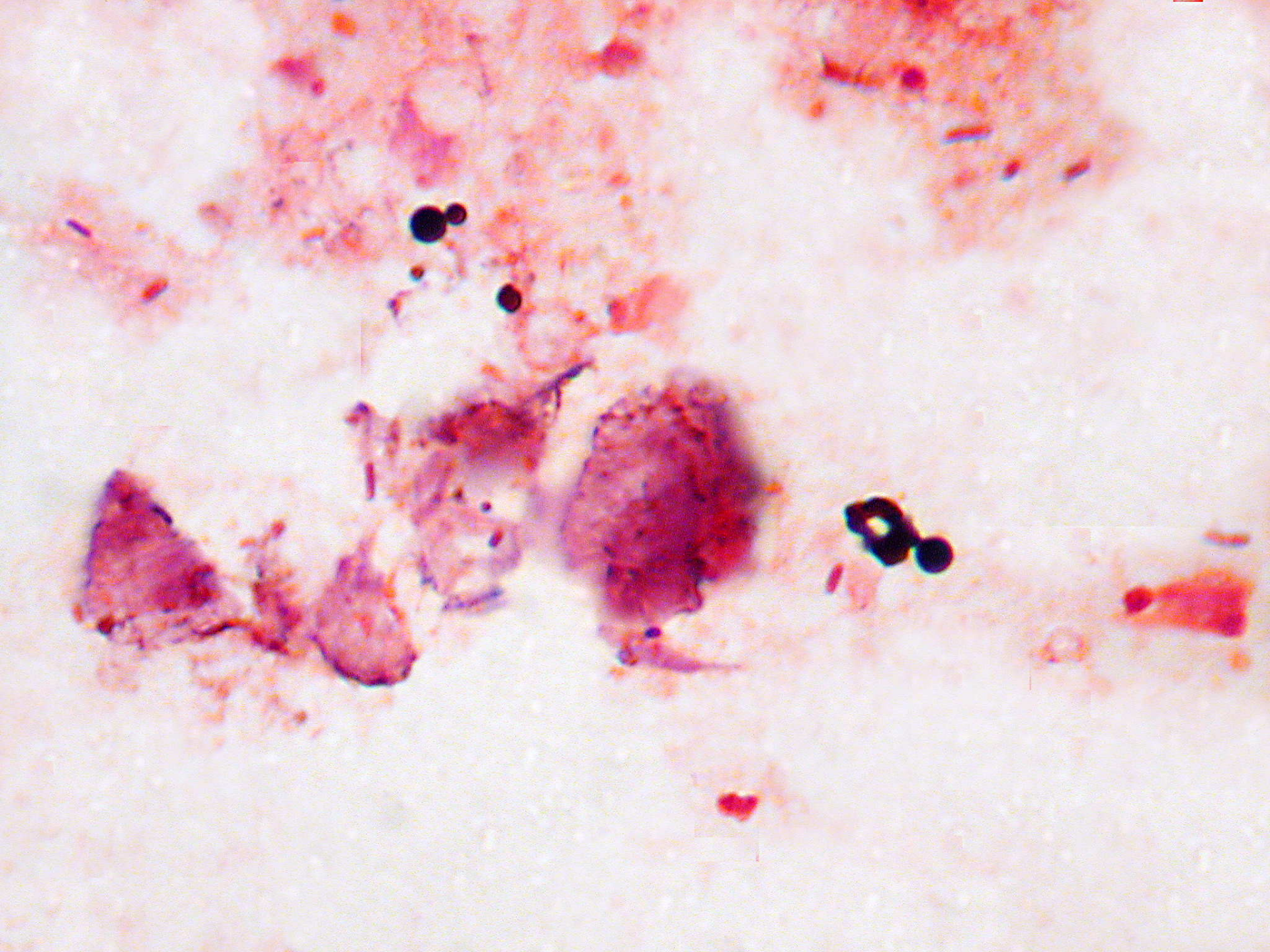


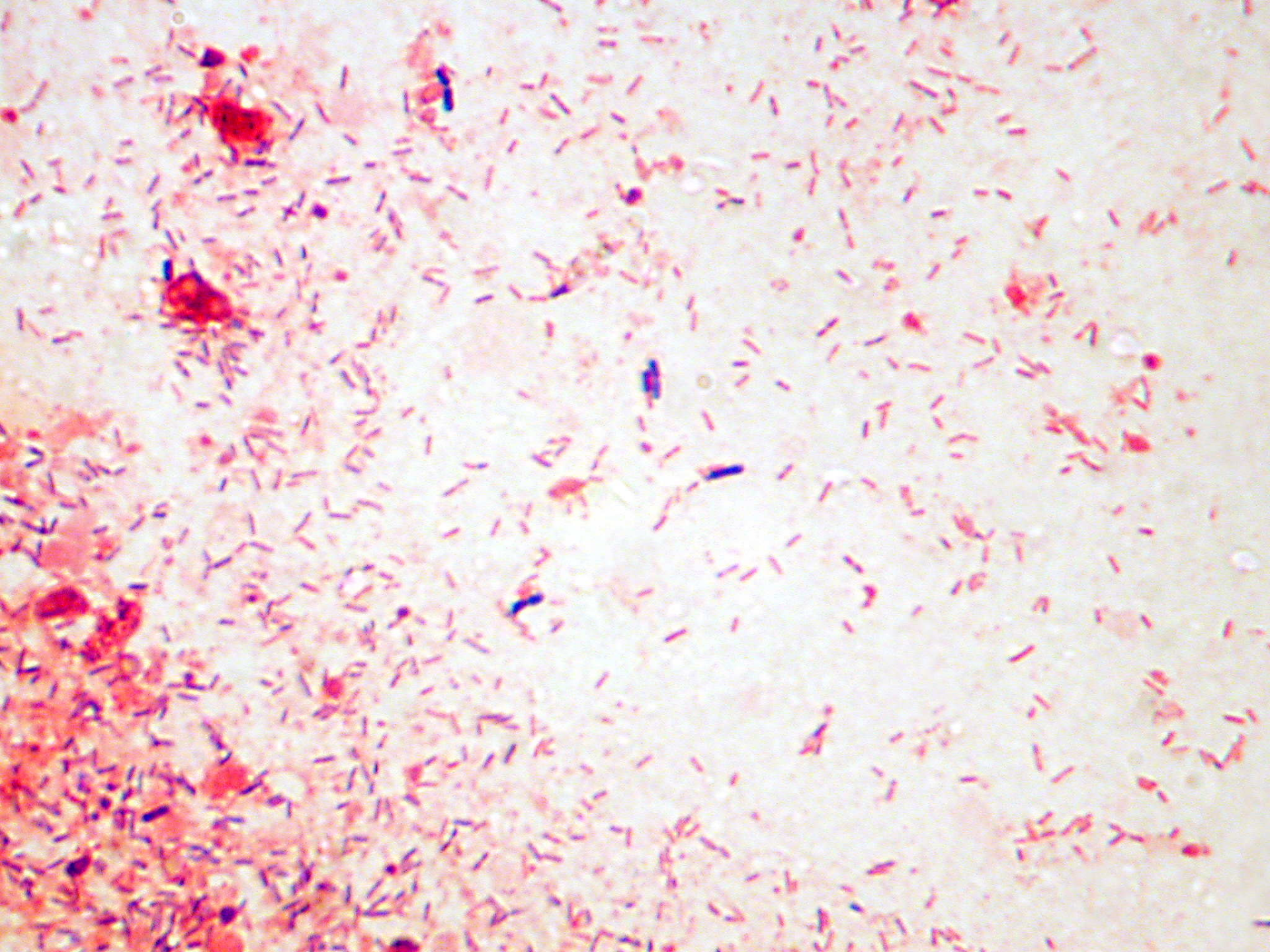
Slide Reading

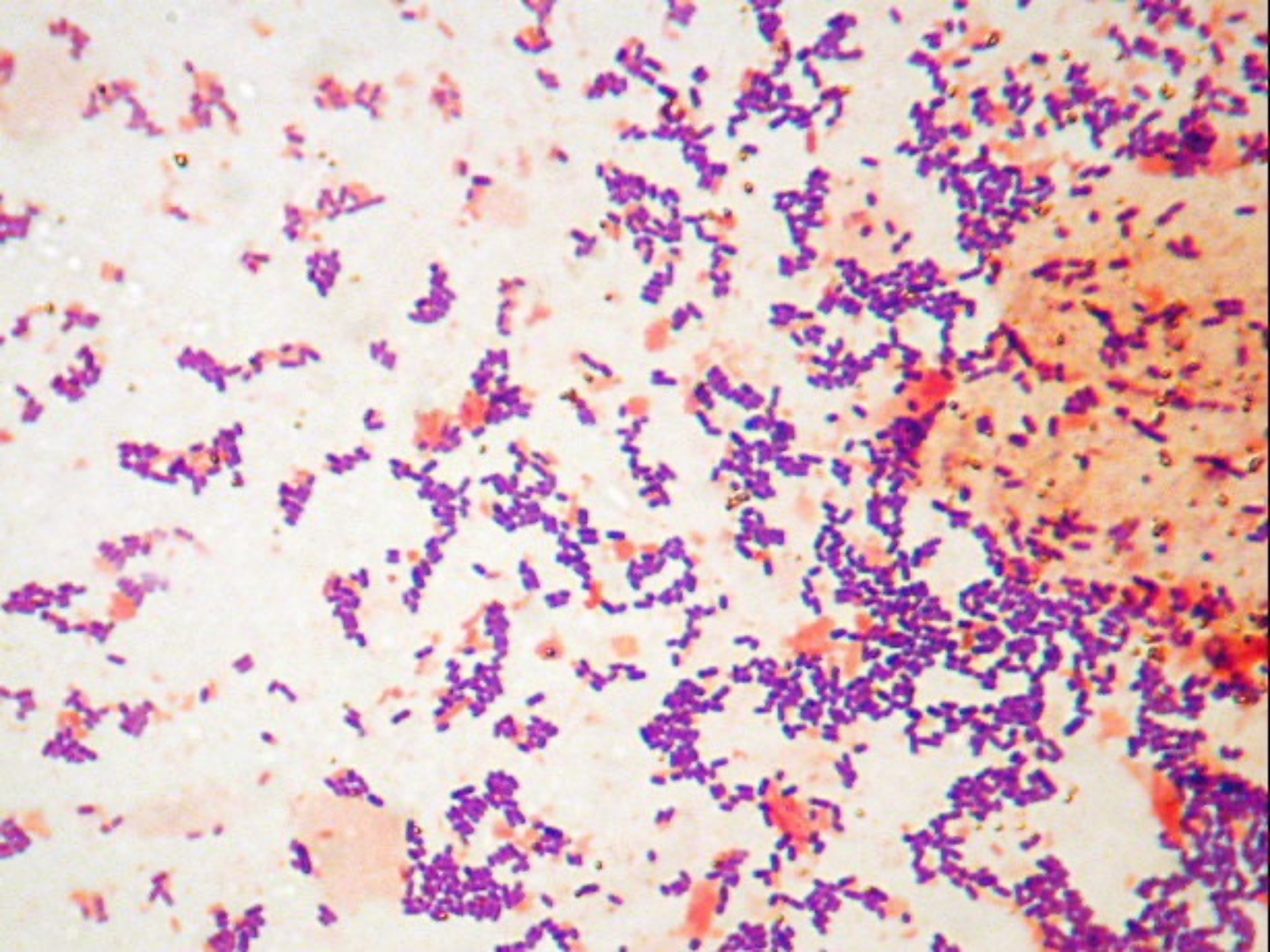
- One field of view
- % gram negatives: %gram positives
- Assessment of total number of bacteria in field.
- Yeasts
- Same microbiologist read all slides to reduce subjectivity



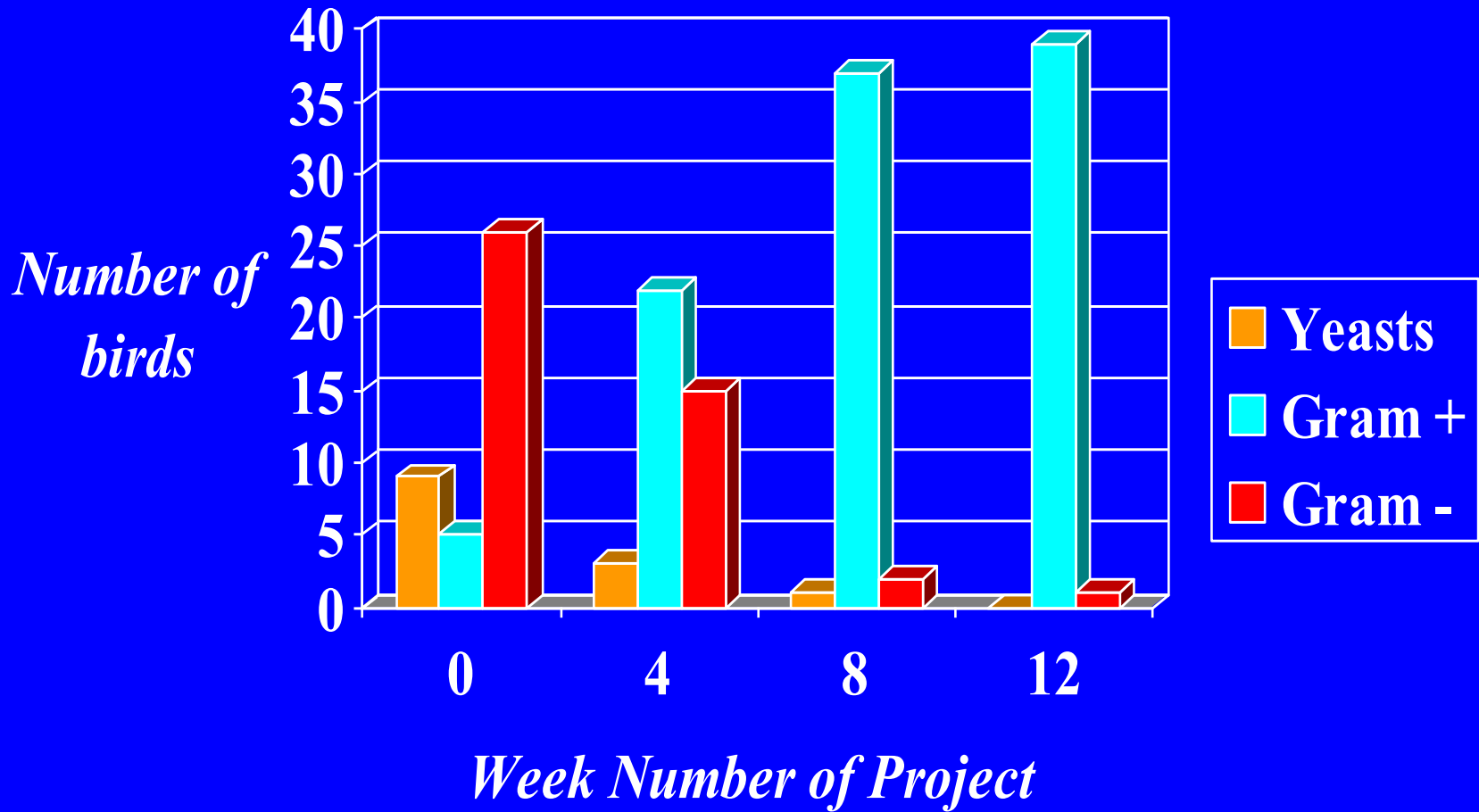




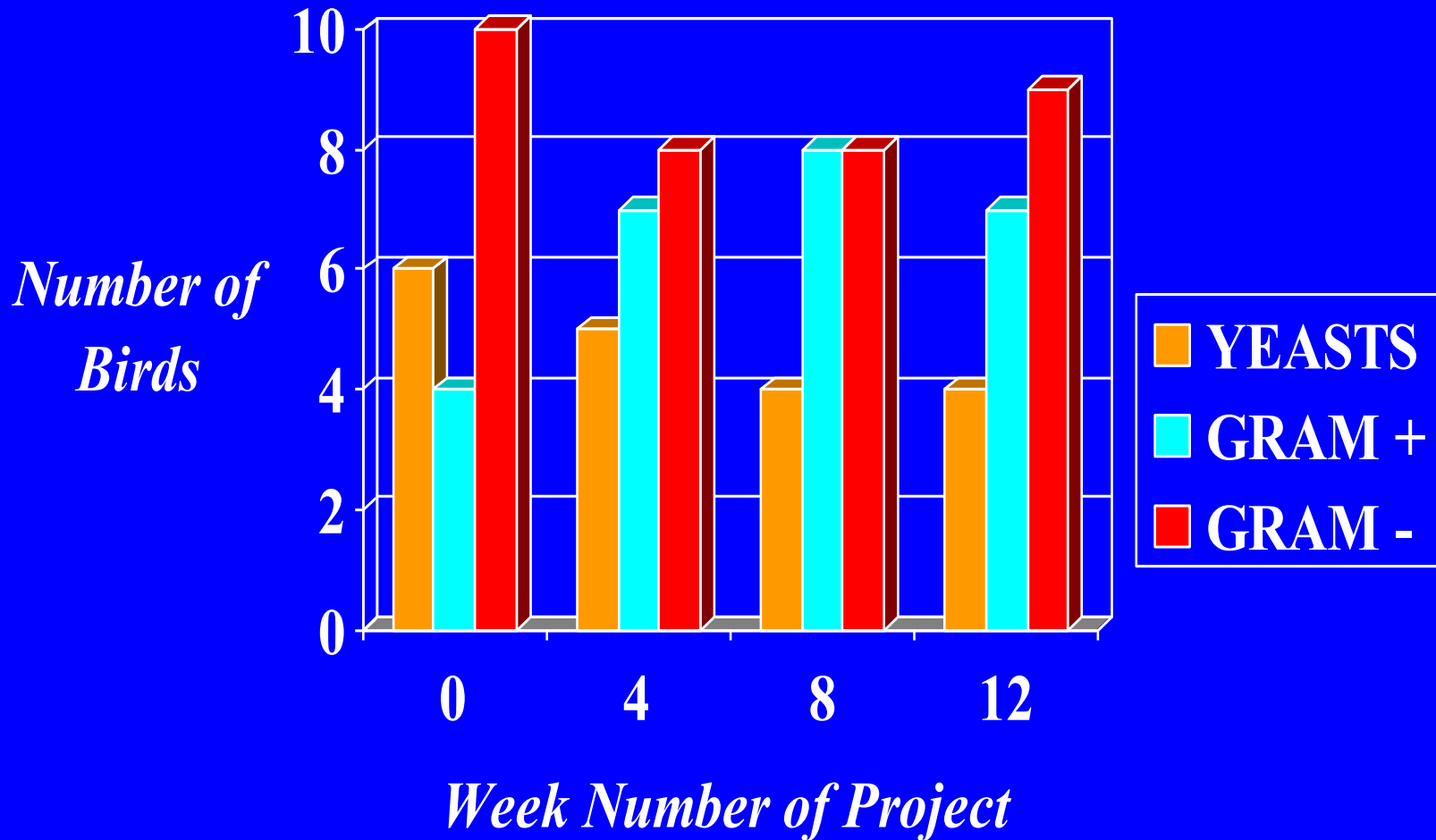




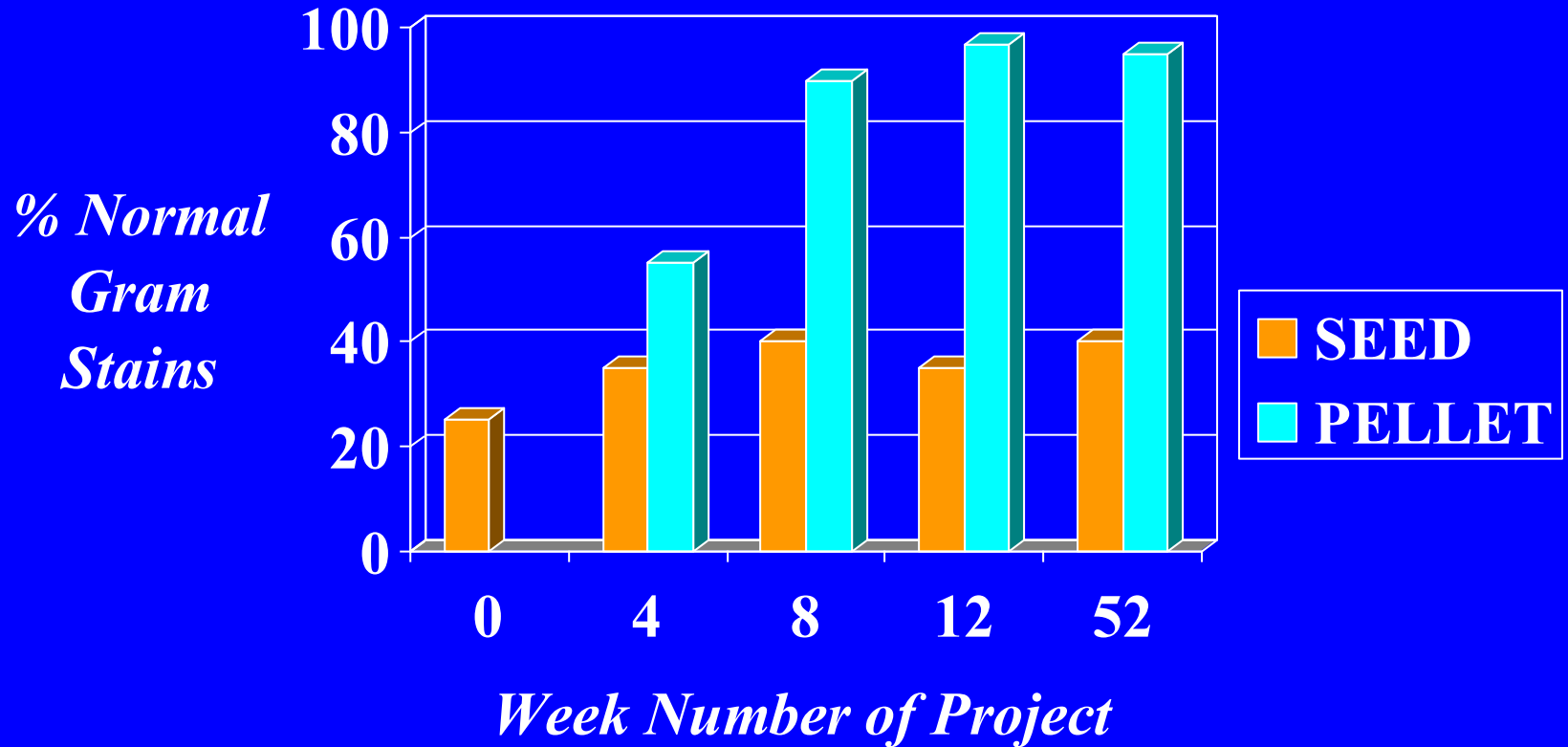
Results for Pellet Fed Greys



Results for Control Seed Fed Group



Comparison Between Seed Fed And Control Fed Group



Practical Usage

- Cheap, effective yet non-invasive monitor of health.
- Any grossly abnormal gram stains would indicate need to investigate further.
- Useful in health checks and post purchase checks as a “lever” to encourage dietary change.
- Change of diet took several weeks to show in birds so monthly gram stain considered most useful.

Conclusion

- Converting grey parrots from seed based diet to pellet foods produced significant changes in the faecal gram stain characteristics.
- The changes were reflected by improved breeding performance and better performance in the pellet fed birds.
- Useful cheap tool for health checks and to encourage pet owners to convert their birds to better diets.

Thank You

- Harrisons Bird Foods for supplying pellet diet.
- RCVS Trust for financial assistance.
- Dave Bebbington for reading the smears.
- Becks Bird Barn for collecting samples.