



# NYSCHAP NEWS

## NEW YORK STATE CATTLE HEALTH ASSURANCE PROGRAM

### JANUARY 2002

*Special Johne's Disease Issue # 1 of 3*

#### **NYSCHAP Testing Results Available for Veterinarians and Producers by WEB Access:**

Veterinarians can access NYSCHAP testing data for their NYSCHAP clients based on their Diagnostic Laboratory account number. Producers enrolled in NYSCHAP can access their own test results based on their NYS premise ID. These codes are required to provide security and to maintain confidentiality of results.

To request access to NYSCHAP data for your farm or your clients' farms, go to the NYSCHAP webpage at <http://diaglab.vet.cornell.edu/assoc.html#NYSCHAP>, press "log in" and then follow the instructions to request access to the page. Each farm will need their premise ID # (5 digit number on the NYSCHAP accession forms) for security. After the initial log in - individuals will be contacted (probably by email) with an assigned user ID and temporary password which can then be changed to the user's preference.

The NYSCHAP webpage data is updated weekly on Sunday evenings. We are looking for constructive feedback from users. Please note the disclaimers on the webpage regarding electronic results. If a problem is found, details such as dates, accession numbers, date ranges, your farm name and premise code or the practice account number, are needed to help with the troubleshooting efforts.

**Fecal Culture Update:** Weekly submissions of fecal samples have increased to an average of 450-500 samples per week.

**Contamination Update:** Briefly, culture contamination rates overall have been within expected limits (< 5%) but some farms were experiencing higher contamination rates (9-50% of samples submitted especially over the summer months). Sample handling and laboratory methods of reducing contamination rates were discussed in the October NYSCHAP issue. With more research, the NYS Johne's Laboratory has found that fungal contaminants do not interfere with growth of the Johne's organism (*M. avium* subsp. *paratuberculosis* or MAP). Johne's results are now routinely being reported out on fungal contaminated cultures. With this change, contamination rates reported have dropped to <0.6% in the past 2 months. Only 2 farms had more than one contaminated sample (bacterial overgrowth) in October, none in November and one in December. While MAP cultures can be read through fungal contaminants this does require additional effort and cost at the Laboratory. Therefore, we must reiterate that sample handling and shipping ASAP is still a critical component to reduce contaminants and optimize recovery of MAP.

#### **Use and Interpretation of Johne's Testing in the NYS Johne's Program**

The NYSCHAP Johne's Module is based on management because it has been shown that testing and removal of positive animals is a costly and only partially effective method of Johne's control. However, testing can be a useful tool to support the different goals of a farm's Johne's program and to enhance management programs on infected farms. Johne's goals can be summarized in a couple of general categories:



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- To determine if Johne's is present on a farm,
- If Johne's is present,
  - \* To identify animals shedding the highest number of organisms and contributing most to infection on the farm.
  - \* To determine or monitor how much infection is present.
- In herds where Johne's has not been identified – to document a herd's test negative status. Test negative status adds marketing advantages to herds selling replacement stock.

Key points relating to test interpretation (how the tests compare to each other and to predicting infection), different testing strategies to support the goals listed above, and a description of the NY Voluntary Johne's Test Negative Status Program will be summarized in the next 2-3 NYSCHAP Newsletters. More details are available on each of these topics on the NYSCHAP website.

### **Testing and Johne's Disease: General Comments**

There are many stages of Johne's infection in herds and individual cattle. Not all animals or herds progress through all stages or at the same rate.

- Because different stages of infection are present in a herd, tests generally perform better at the herd level than in the individual animal to detect infection.
- The current tests for Johne's are insensitive in early stages of infection and perform best in late infection. This is true for fecal culture and for antibody tests such as the KELA, commercial ELISAs, or AGID. In general, fecal culture has been found to be 2-3 times more sensitive than antibody tests for

detecting infection.

- Fecal culture and ELISA are correlated but only overlap 30-50% of the time, and then mostly at the higher values.
- Interpretation of test results vary with the amount of infection present in the herd. The same test result can have a different interpretation in a herd at a different prevalence or level of infection. This is especially true for ELISA or antibody test results but can also apply to fecal culture results.

The 2 main diagnostic tests currently available for Johne's and recognized by USDA in the National Johne's Program are:

- Johne's Culture – of tissues or feces. Culture and detection by DNA probes are the "official" tests for Johne's in the federal code of regulations. Laboratories approved for Johne's testing are required to pass an annual proficiency test.
- Antibody detection tests including Johne's ELISAs. Antibody tests are considered presumptive but not definitive tests for Johne's and as such are recommended for screening for infection with confirmation of seroreactors by more definitive testing. Approved Laboratories are required to pass an annual proficiency test for ELISA testing.

The next newsletter will address how fecal culture and ELISA (KELA) relate and are interpreted at different cut-off's and at different levels of herd infection.

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