Laboratory Services Division

Animal Health Laboratory

Veterinary Clinic Milk Bacteriology Quality Assurance

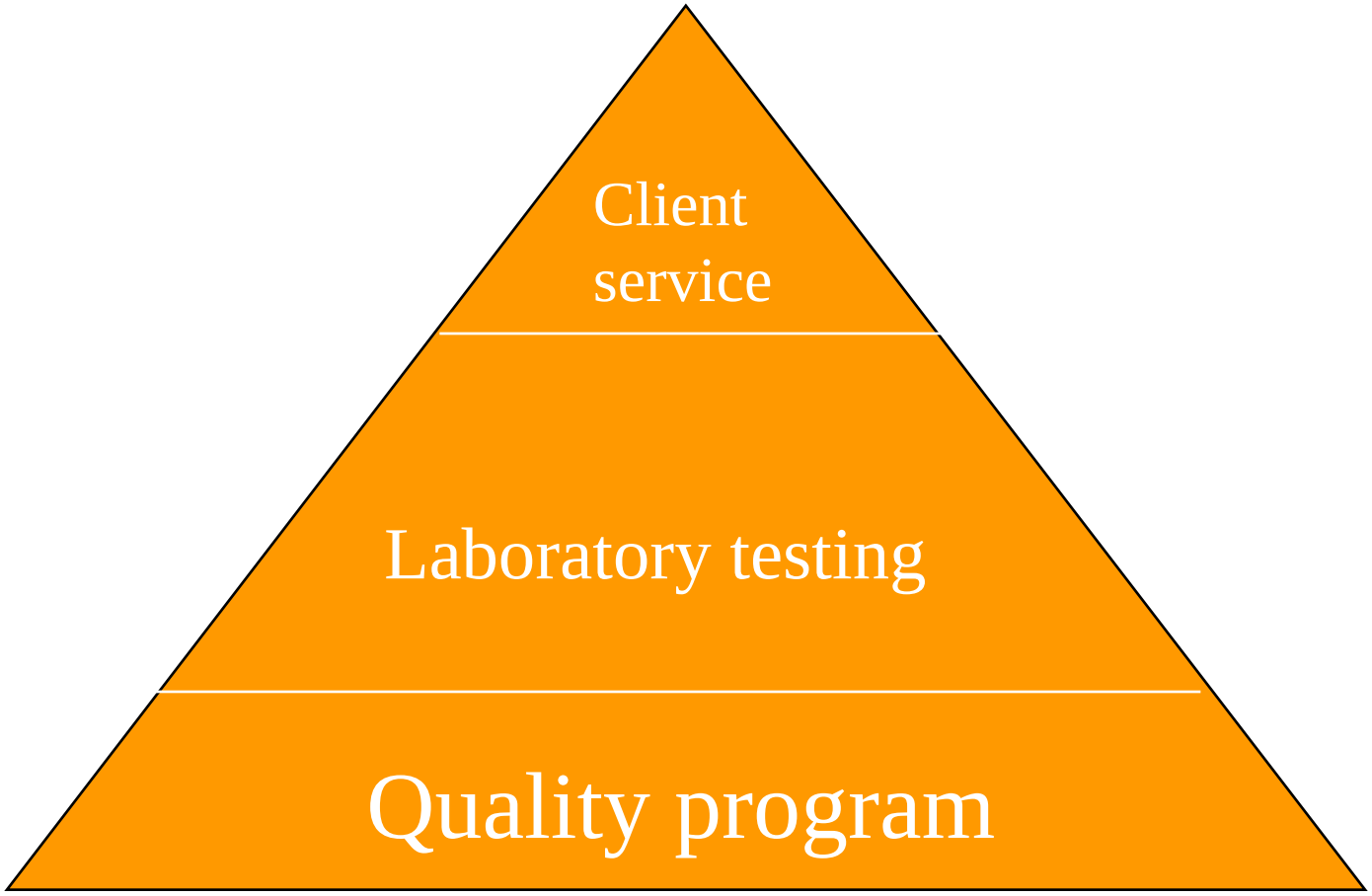
Jim Fairles, DVM, MBA

Client Services Veterinarian, Animal Health Laboratory,
Laboratory Services Division, University of Guelph

CAHLN / RCTLSA

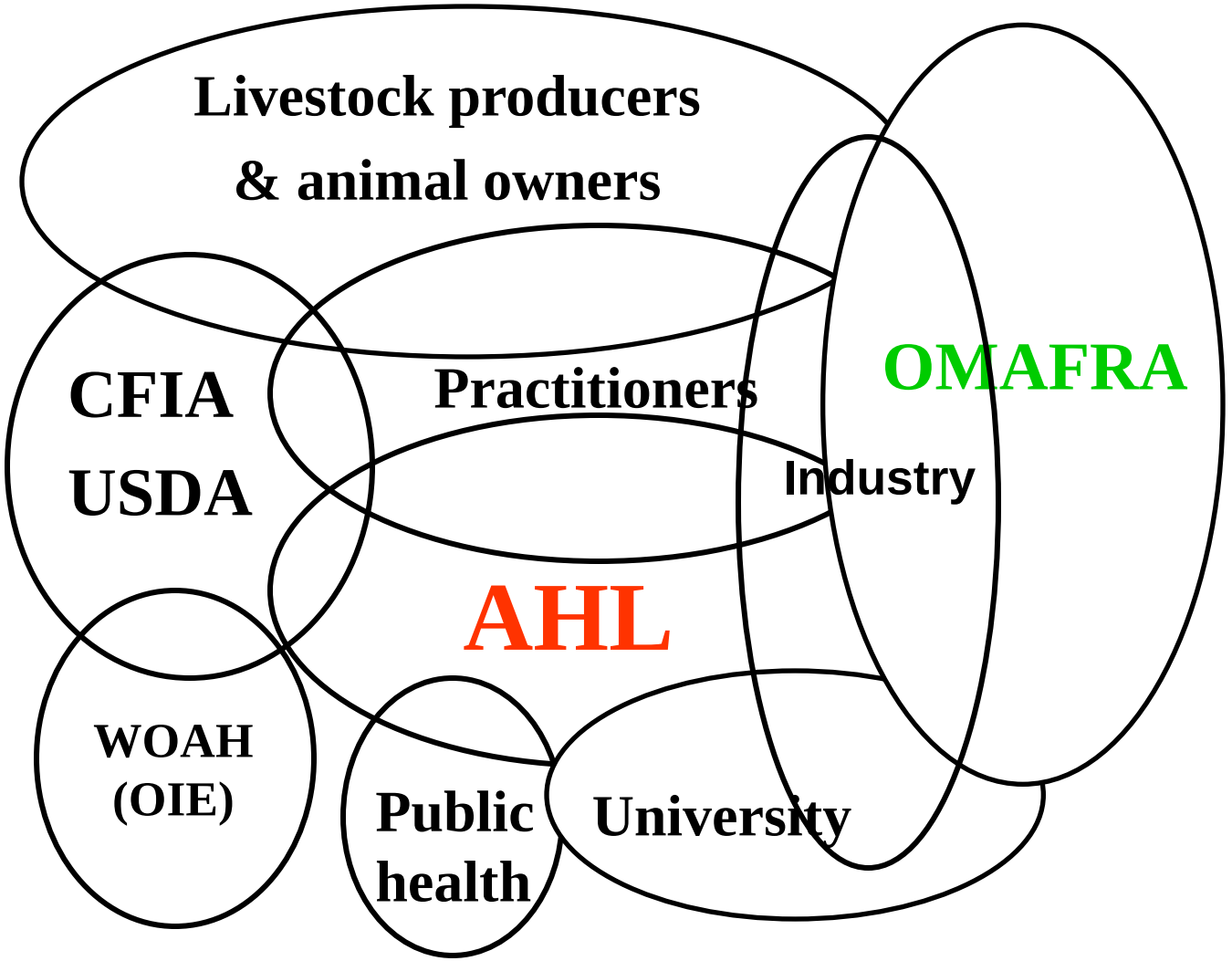
June 5 2017

AHL function and structure

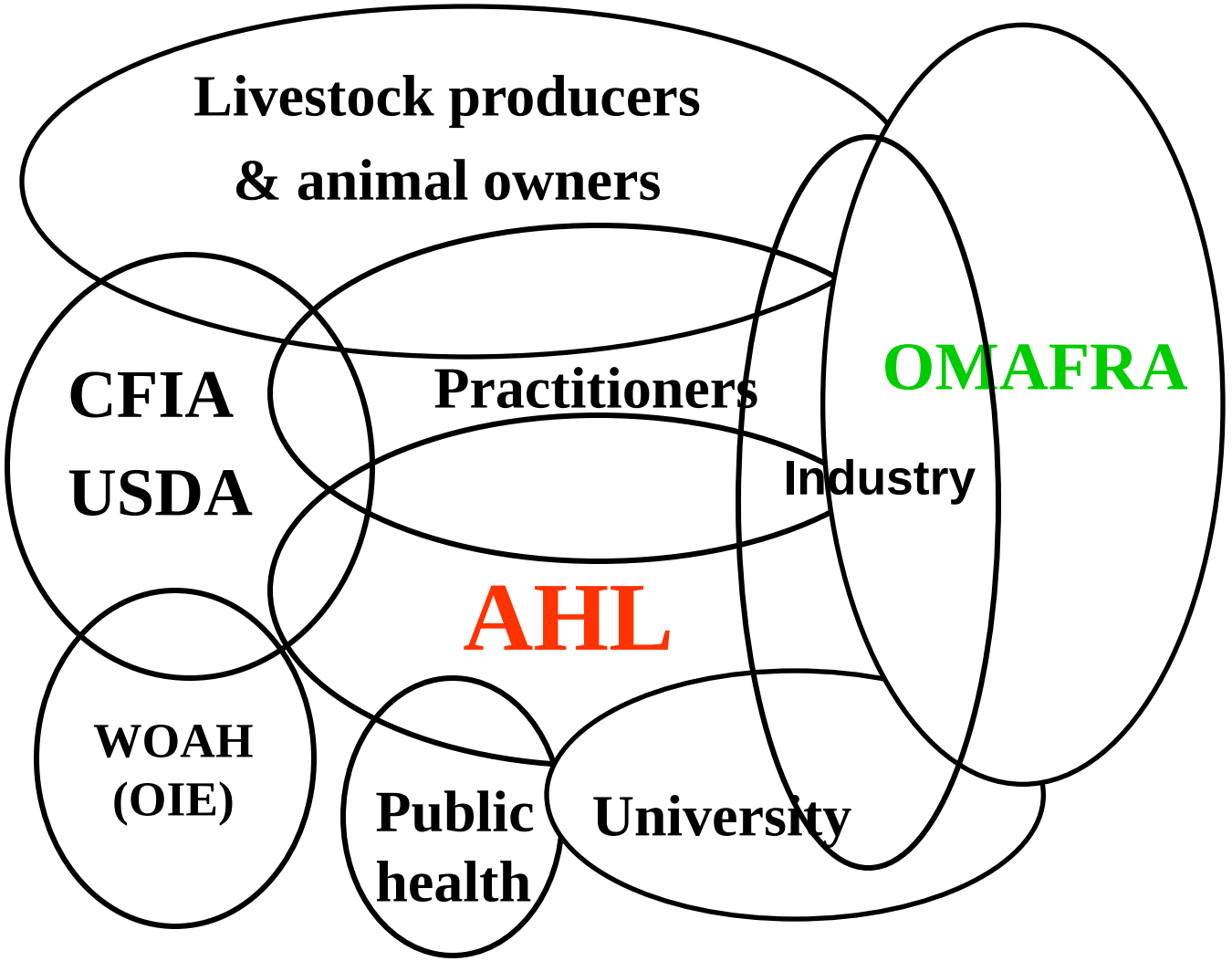


2

Stakeholders/partners of the AHL



Stakeholders/partners of the AHL



Proficiency Programs

- Veterinary Clinics and Proficiency testing providers.
- Quality providers in Canada.
- Veterinary Laboratory Association http://www.vetlabassoc.com/quality-assurance-program/
- Milk Bacteriology?
- Quality Milk Production Services - New York State https://ahdc.vet.cornell.edu/sects/QMPS/Programs/proficiency.cfm

Quality Assurance Program

We can show you how your test results compared to others in the veterinary field.

The Veterinary Laboratory Association Quality Assurance Program ® is an external proficiency program specially designed for veterinary laboratories and hospitals to provide a confidential means of comparing your laboratory's internal test results to those of your peers in the veterinary field. The Program, provided by Atlantic Veterinary College (AVC) offers:

- Customized, professional reports that let you know, at a glance, where you stand in relation to your peers.
- A great way to monitor your sample analysis by quarterly tracking of your method and instrument performance.
- Participants can choose any combination of the areas of testing available to customize the Program to meet the needs of their facility. Sample specimens are sent out four times per year for participants to analyze and return their results within a two-week period.
- Data is pooled and statistically analyzed by the AVC. Within five weeks, a confidential results summary is provided – presented as a customized report using both graphical and numerical data for quick and easy examination.
- Review articles and images are provided alongside results for hematology differentials, bacteriology, parasitology, and histopathology modules. The articles are written by academic specialists to discuss the reasoning behind their opinions and provide participants with a unique continuing education tool.
- Help set the standard for quality assurance in the veterinary field by subscribing today to the VLA Quality Assurance Program®.

Membership Benefits

- Voting Rights in Officer Elections
- Continuing Education Opportunities
- Networking with other Veterinary Professionals
- VLA Forum access

Join the VLA

New York State Veterinary Diagnostic Laboratory

Sign in | Register

My Account | Tests & Submissions | Results | Lab Sections | Programs | Resources | AHDC Research | About AHDC | Giving

QMPS

QMPS Home
Testing
Services
Fee Schedule
Contract Research
Education & Training
Forms & Resources
Publications
QMPS History
Who We Are

Contact AHDC

Quality Milk Production Services > Services > Proficiency

Laboratory Proficiency Testing Program

Download Brochure

The purpose of this program is to provide an external quality assurance program as a means for assessing and monitoring laboratory methods and procedures for diagnosis of intramammary infections.

This program also serves as a valuable resource for education, self-assessment, quality assurance and public confidence.

What do I get in my kit?
Two proficiency samples will be shipped to the participant each quarter. These samples consist of commercial milk inoculated with a single strain of mastitis-causing pathogen. Enrollment in the Laboratory Proficiency Testing Program for subsequent years will provide a variety of pathogens for identification, allowing for exposure to different organisms from the previous year. In addition to the milk samples, a Microbial Identification Form, survey and report upon completion of the analysis will be received.

Test Search

Perform a search of our test and fee catalog.
Select the criteria below:

All Species
All Lab Sections
All Test Types
Enter Keywords
Test Search

Regulations

- College of Veterinarians of Ontario
  - PROFESSIONAL PRACTICE STANDARD
  - Diagnostic Laboratory Testing - July 2014
  - 4. Implements and regularly documents a quality control process for each piece of in-house laboratory equipment.
- Human Pathogen Act
  - Risk Group 2 human pathogens – E. coli, Staph. aureus

AHL Milk Bacteriology In-Clinic Laboratory Proficiency Program

- Purpose:
- to provide an external quality assurance program for assessing and monitoring laboratory methods in veterinary practice laboratories for the diagnosis of bovine intramammary infections. This program will provide education and self-assessment for in-clinic staff. Improved laboratory quality assurance will ensure accurate and appropriate bovine mastitis diagnoses and improve client confidence.

AHL Milk Bacteriology In-Clinic Laboratory Proficiency Program

- Enroll
- Initial visit by the client outreach technician
  - Report generated commenting on basic laboratory best practice.
  - Sampling procedures, submission, SOP's, lab layout, equipment, disposal
- Conduct the in-house quality assurance program: every three months – split milk bacteriology sample – test in-house and send to AHL.
  - Report on comparison between in-house result and AHL result

AHL Milk Bacteriology In-Clinic Laboratory Proficiency Program

- Feedback and Reporting Summary
- 1) Major discrepancy - a major mastitis pathogen was not confirmed or was found at AHL and not in the in-house lab. (SA, *Prototheca*)
- 2) Moderate discrepancy – an environmental mastitis pathogen was missed or misidentified
- 3) Acceptable discrepancy – misidentification of a minor pathogen or the identification to the genus level or lack of isolation of mastitis bacterial pathogen would not have changed any treatment or management decisions (e.g., *Citrobacter* spp. being misidentified as *Enterobacter* spp.)

How are Clinics doing! – some Do's

1. Culture quarter milk samples from clinical mastitis cases only.
2. Split and deliver milk samples to AHL as soon as possible.
3. Develop in-clinic standard operating procedure (SOP) for all steps of milk culture including sample collection, and acceptance criteria.
4. Invest in education (initially and continuing) and provide adequate resources to ensure that minimal standards for bacterial identification are met.

How are Clinics doing!

5. Work with dairy herd owners and educate them about proper sample collection. Ensure they understand the difference between quarter and composite milk samples.
6. Confirm in-clinic results in an accredited laboratory where important decisions, such as culling, will be made based on results.
7. Dispose of samples and used plates and other biohazards as per Guideline C-4: The Management of Biomedical Waste in Ontario.

Plans for the Immediate Future

- One of our major issues for AHL is the lack of experience with the current clinic in-house culture methods
- AHL is initiating a small study to compare the four major methods that are used in veterinary clinics
  - To gain technical experience
  - To determine level of diagnosis that can be obtained when using the method SOP's

AHL Milk Bacteriology In-House comparison

- AHL
  - Blood, MacConkey, MALDI-TOF
- In-House
  - Tri Plate (Minnesota) https://www.vdl.umn.edu/services-fees/udder-health-mastitis/farm-culture
  - Quad Plate – (Sensor Health) https://sensorhealthvet.com/collections/veterinary/products/agarsense-quad-plate-new

AHL Milk Bacteriology In-House comparison

– “checkup” http://www.semex.com/images/di/eastgen/EGCHECKUPFlyerlr.pdf

Pathobiology – Animal Health Laboratory building

- combined federal-provincial funding - $37 M federal, $25 M provincial
- official opening October 7, 2010
- improved disease detection and emergency preparedness:
    - much improved biosecurity of necropsy suite, restricted mammalian and wildlife/avian necropsy rooms
    - FAD and TSE labs within the new building, rather than in portables
    - replacement of many pieces of major equipment
    - improved flexibility and surge capacity
    - replace incinerator with an alkaline digester

Thank You!

- DSP, AHL, OMAFRA, Growing Forward 2 for funding
- Josie Given – Client outreach technician
- AHL Bacteriology – Dr. Durda Slavic and all the Milk BacT staff!
- OMAFRA - Dr. Ann Godkin
- Clinics for participating

Questions?


UNIVERSITY
of GUELPH
LABORATORY SERVICES
Animal Health Laboratory