The digestibility of trace nutrient minerals in animal diets varies substantially due to the sources of the minerals as well as to interactions with other minerals or organic components in the diet. Therefore, dietary concentrations alone may not accurately reflect the nutritional trace mineral status of animals. Direct determination of mineral concentrations in blood, serum, or animal tissues may aid in the assessment of trace mineral status.

Recommended Tests for Nutrient Trace Mineral Evaluation
Blood serum, whole blood, or liver tissue from either biopsy or necropsy specimens are typically the best samples for evaluating trace mineral status. Choosing the best sample usually depends on the trace mineral of primary interest. Whole blood with an anticoagulant is an excellent sample for selenium evaluation; blood serum is a good sample for selenium, zinc, manganese, or copper evaluation. Liver tissue is the best sample for copper, iron, and cobalt evaluation.

Mineral Disorders
Mineral deficiencies or imbalances may occur individually or in various combinations. Problems with trace mineral nutrition may lead to: ill thrift and poor growth and development; abortion and retained placenta; fetal abnormalities; reduced immunity and increased susceptibility to disease; infertility; poor skin, hair, fleece, and hoof quality.

For additional information, including prices, collection protocol, shipping requirements and more, please see our catalog of available tests on our website at animalhealth.msu.edu or contact the lab at 517.353.1683.
DCPAH is a full-service veterinary diagnostic laboratory, fully accredited by the AAVLD for all species through 2017.

**Sample Submission Forms**
Visit our website at animalhealth.msu.edu to access our most current submittal forms. Customized forms preprinted with your clinic information are also available at no cost via the Product Order Form.

**Unbeatable Shipping**
DCPAH offers a variety of shipping options. Our mailers comply with U.S. Postal Service, FedEx, UPS, and DHL regulations. All UPS mailers include prepaid overnight weekday delivery. All U.S. Postal Service mailers include prepaid delivery; delivery time will vary depending on your location.

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**Speak Directly to Experts**
Our veterinary professionals are available for consultation and can help you interpret your test results to better manage the health of animals entrusted to you.

**Get Results by Email and Online**
Had it with the fax machine? Contact us at 517.353.1683 to have results delivered by email.

All DCPAH clients also have free, quick access to view results online through WebView. Reports are posted to the web hourly. Visit animalhealth.msu.edu and click “Log In” to request access to your diagnostic results.

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DCPAH is a leader in establishing technical guidelines for public veterinary diagnostic laboratories in the United States and maintains a quality assurance team dedicated to promoting accuracy and reliability.

**Customer Service Hours**
Monday through Friday, 7:30 a.m. to 5:30 p.m. EST