

Ochratoxin-A (OTA) Fact Sheet



Background Information: Ochratoxin-A (OTA) may be associated with problems in silages, since *Penicillium* and *Aspergillus* are prevalent storage molds. Can co-contaminate feedstuffs with other *Penicillium* toxins, such as, Citrinin, Patulin, Roquefortine C, Mycophenolic Acid (MPA), and Cyclopiazonic Acid.

Major crops affected: Corn, Barley, Wheat, & Rye, and their associated silages. *Penicillium* is a major silage mold and may be a greater silage problem because it grows at a lower pH than do other molds.

Associated Mold: *Penicillium sp.* and *Aspergillus sp.*

Conditions favoring production: *Penicillium* is a major silage mold and may be a greater silage problem because it can grow at lower pH than do other molds. Considered to be more prevalent from a storage mold situation, rather than field/growing condition mold situation.

Symptoms: Impaired kidney function/damage, liver damage (fatty liver), enteritis, necrosis of lymph nodes, and possibly blood in urine. Reduced feed intakes and performance. Inhibition of protein synthesis. Carcinogenic effects.

Interpretation Guidelines:

Detection Limit	Concern Level* (TRDM)	Potentially Harmful Level** (TRDM)	
		Cattle	Swine
1.1 ppb	250 ppb	5,000-9,000 ppb	700-1,500 ppb

*Level indicating possible favorable conditions for mycotoxins and probable need for further testing of all feeds or the TMR. Pending further tests, negative samples should be considered at concern levels in the presence of moderate symptoms and at harmful levels with marked symptoms. Limit amounts fed if moderate performance effects are present. Discontinue use at least temporarily if pronounced performance effects or acute clinical symptoms are present. Closely observe animals and continue checking for other possible causes.

**Mycotoxins at these levels indicate probable involvement in performance effects or acute clinical symptoms. Discontinue feeding at least temporarily in the presence of either type of symptoms. Observe animals closely in the absence of symptoms and do further testing of all feeds or the TMR.

TRDM = Total Ration Dry Matter

Dairyland Lab Packages that include Ochratoxin-A:

- Individual Mycotoxin request
- Mycotoxin Basic Package
- Mycotoxin Select Package
- Mycotoxin Complete Package

Serving the testing needs of agriculture since 1958

Comprehensive analyses of feed, forage, soil, water, molds and mycotoxins

Arcadia, WI • Stratford, WI • De Pere, WI
St. Cloud, MN • Battle Creek, MI • Jerome, ID

217 E. Main • Arcadia, WI 54612
P (608) 323-2123 • F (608) 323-2184

www.dairylandlabs.com

Sources

Adams, Richard S., Kenneth B. Kephart, Virginia A. Ishler, Lawrence J. Hutchinson, and Gregory W. Roth. "Mold and Mycotoxin Problems in Livestock Feeding." Dairy Cattle Nutrition (Penn State Extension). Penn State Extension, n.d. Web. 17 Sep. 2013.

Carlson, M.P., and S.M. Ensley. Understanding Fungal (Mold) Toxins (Mycotoxins). University of Nebraska-Lincoln Extension, Institute of Agriculture and Natural Resources. June 2003. articles.extension.org. Web. 3 Feb. 2016

Diaz, D.E., W.M. Hagler, and L.W. Whitlow. "Mycotoxins in Feeds." Feedstuffs. 15 Sep. 2010.

Gallo, A., G. Giuberti, J.C. Frisvad, T. Bertuzzi, and K.F. Nielsen. Review on Mycotoxin Issues in Ruminants: Occurrence in Forages, Effects of Mycotoxin Ingestion on Health Status and Animal Performance and Practical Strategies to Counteract Their Negative Effects. *Toxins* **2015**, 7, 3057-3111.

Whitlow, L.W., M.B. Genter, W.M. Hagler, Jr., J.A. Hansen, F.T. Jones, B.A. Mowrey, and M.H. Poore. (1994, 2007) Understanding and Coping with Effects of Mycotoxins in Livestock Feed and Forage. North Carolina State Cooperative Extension Service. Dec. 1994.

Whitlow, L.W., and W.M. Hagler, Jr. Mycotoxins Issues in Dairy Cattle: Effects, Prevention, and Treatment. article.extension.org. Web. 3 Feb. 2016.

Yiannikouris, A., and Jean-Pierre Jouany. 2002. Mycotoxins in feeds and their fate in animals: a review. INRA, EDP Sciences. *Anim. Res.* 51 (2002) 81-99.

Serving the testing needs of agriculture since 1958

Arcadia, WI • Stratford, WI • De Pere, WI
St. Cloud, MN • Battle Creek, MI • Jerome, ID

Comprehensive analyses of feed, forage, soil, water, molds and mycotoxins

217 E. Main • Arcadia, WI 54612
P (608) 323-2123 • F (608) 323-2184

www.dairylandlabs.com