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Immulogical assay and arbitration inspection from single to multiple mycotoxins in Agro-food

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Multiplexed mycotoxins with strong carcinogenesis and toxicity are fatal threats in food and feed safety, and require highly sensitive and high-throughput detections greatly. Rapid immunoassay and arbitration detection methods play a critical role on two sides of one coin. In the rapid immunoassay, a series of high specific and high affinity monoclonal antibody, recombinant antibody and nano-body against aflatoxin B1 (AFB1), ochratoxin A (OTA), and zearalenone (ZEA), etc., were developed as the key recognition reagents

Based on these specific antibodies, simultaneous detection for multiplexed mycotoxins was studied by using the Au (or Europium)-based lateral flow strip and non-fouling antigen microarray. The limit of detection was lowered down to pg mL-1 level (0.3 pg mL-1), depending on mycotoxins in food and feed samples. On the other hand, simultaneous arbitration detection method based on LC-MS/MS was investigated. Either multiplexed immuno affinity column or solid phase extraction column was used in the sample extraction. The internal standard allowed precise determination of mycotoxins regardless of matrices. Multiplexed mycotoxins (AFB1, B2, G1, G2, OTA, ZEA and T-2 toxin) were successfully identified by using a new multi-immuno affinity column in a single run. Furthermore, a promising proposal was suggested to achieve the rapid, sensitive, ultra high-throughput detection of 96-384 contaminants in food and feed, including bio toxins, pesticides, veterinary drugs, etc., based on immuno chemiluminescence biosensors using Hadamard transformation imaging (iHT).

The kinds of labor disputes taken to an arbitrator are as many and as different as the wide range of decisions and actions that effect employers, employees and trade unions. Liability can span from cents to millions, and there can be a solitary griever or a union of grievers.

Arbitration is a private process where disputing parties agree that one or several individuals can make a decision about the dispute after receiving evidence and hearing arguments. Arbitration is different from mediation because the neutral arbitrator has the authority to make a decision about the dispute.

Arbitration, while being nicknamed the 'businessman's method of resolving disputes', is governed by state and federal law. Most states have provisions in their civil practice rules for arbitration. These provide a basic template for the arbitration as well as procedures for confirmation of an arbitrator's award (the document that gives and explains the decision of an arbitrator), a procedure that gives an award the force and effect of a judgment after a trial in a court. Many states have adopted the Uniform Arbitration Act, although some states have specific and individual rules for arbitration.

Rights Arbitration (a.k.a. Grievance Arbitration) deals with the allegation that an existing collective agreement has been violated or misinterpreted. Various legislatures require that the parties who enter into a collective agreement set out a procedure for the handling of disputes and differences. The idea is that parties should be obliged to meet at different steps in their own specific grievance procedure to review and discuss the grievance. However, the fact is that the parties themselves cannot resolve many disputes and for this reason arbitration is necessary so that the matter may be determined. Typical arbitration awards deal with a complaint that a specific item in collective agreement has been violated.

It is also worthy to note that some labor disputes employ 'med/arb' to resolve their differences as opposed to straight arbitration. Med/arb takes place when disputants agree from the start that if mediation fails to result in agreement the mediator, or another neutral third party, will act as arbitrator and be empowered to reach a binding decision for disputants.