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Microscopy for the determination of the composition of feedstuffs and the detection of undesirable substances

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Abstract Apart from the detection of animal constituents and some occasional analysis of the composition which started long ago, the laboratory for feed analysis by microscopy at ALP started in 2005 to analyse feedstuffs samples regularly to verify the declaration and detect undesirable substances. The method used to determine the components of a sample depends on the form of the sample (meal, pellets, flakes) and aims at creating easy to observe and homogeneous fractions. The growing experience with the simple and inexpensive manipulations, such as grinding, sieving, sedimentation, and staining, combined with results of other type of analyses (e.g. chemical) allowed us to gain a good insight on the product composition and traceability.

Because contaminants and products may vary in time and places, an international network of feed microscopists is very useful for increasing the general knowledge. In Europe, the IAG - International Association for Feedingstuff Analysis, Section Feedingstuff Microscopy-, is such a network. Its aim is to exchange information and skills. The main activities include the training of specialists, the organization and critical discussion of ring tests, the development of microscopic methods and the elaboration of statements for national and EC purposes. The group organizes annual and working groups meetings since 1959. The description of the ring tests organised since 2004 in the frame of the IAG is presented here. Apart from tests on identification and estimation of constituents, they include tests on the detection of ergot in cereals, ragweed in bird feedstuffs and -more recently- toxic weeds in hay.

Keywords microscopy;feedstuffs;undesirable substances;compliance;declaration.