IAG NEWSLETTER 2025/26

Dear IAG Feed Microscopy colleagues and specialists!

It is a pleasure to welcome you to this IAG Newsletter, which highlights our achievements in 2025 and presents our plans for 2026.

All activities planned for 2025 were successfully completed: three proficiency tests — one on processed animal proteins, one on feed composition, and one on botanical impurities and - for the first time - forbidden materials — were carried out. We held our annual meeting in Freiburg, Switzerland, hosted by Agroscope. In the frame of the meeting, a workshop was performed led by Piotr Czajkowski, where we learned about fraud in feedstuffs.

This year also brought significant changes within the IAG Board. Our president, Genny, stepped down following her retirement. Consequently, Laura Draack joined the board, and Manuela Zadravec has taken over the role of president—a responsibility she accepts with great appreciation and humility.

In our view, one major milestone was the recognition of IAG by DG SANTE. Regulation 152/2009 is currently undergoing revision and improvement, and the process requires data on packaging materials. Our article, "*Survey among European and Canadian feed control units on monitoring packaging material residues in feed by microscopy analyses*", contributed important information for this purpose. In addition, several IAG members are participating in the dedicated working group, where they can discuss methodological topics and challenges related to the limit of detection and the limit of tolerance.

To enhance the visibility of IAG and improve the circulation of information, we have opened a social media account on LinkedIn, and it is planned to do so on ResearchGate (links will be shared shortly). We warmly invite you to visit these platforms and share your comments.

For 2026, we plan to organize proficiency tests on processed animal proteins, feed composition, botanical impurities and forbidden materials and on poisonous plants, as well as a full-day workshop on undesirable seeds and poisonous plants. This will be followed by our annual meeting, kindly hosted by LTZ Augustenberg in Karlsruhe, Germany. We hope these activities will support our younger members in developing valuable skills.

To improve the functioning of the IAG, we will open a bank account next year, which will allow us to collect membership fees.

You will find more details on all these topics in the following pages. The Board also warmly encourages all members to contribute to IAG's work through suggestions, criticism, and comments.

Enjoy your reading!

The new IAG-Board

Manuel Zadravec, Roland Weiss, Jeroen Vancutsem, Lotte Hougs, Laura Draack and Tommy Stojkovski

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Last words of our former President Genevieve FRICK

Dear IAG members,

It is time now to say Goodbye to you!

After the IAG 2025 Annual Meeting in Fribourg and Posieux, I am leaving the board and the IAG, as well as my active work at Agroscope by the End of June this year. We had a nice meeting with positive discussions and exchange of experiences. We left the meeting with one decision: The structure of the IAG Feed Microscopy Association will obviously undergo changes in its structure and statutes.

What we left open weeks ago: who will be the next president? and will there be a new board member elected?

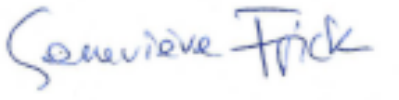
I am happy to inform you that we had a small board (Teams) meeting yesterday 4th June 2025, and that we can present you, after some exchanges with her, a new board member in the person of Laura Draack, Head of Laboratory for Basic Feed Analysis, Feed Microscopy, Animal Nutrition in LUFA Nord-West in Oldenburg, Germany. She presented the last PT on Composition. Welcome to the board!

Also, we are happy to applaud and thank Manuela Zadravec who agreed to take over the presidency of the Association! You already know her well, she comes from the Croatian Veterinary Institute in Zagreb and is member of the board since several years, leading the redaction of the Newsletter, and first author of our last common publication.

Many thanks!

I wish you all a very good start in the summertime, nice work and exciting IAG life in future.

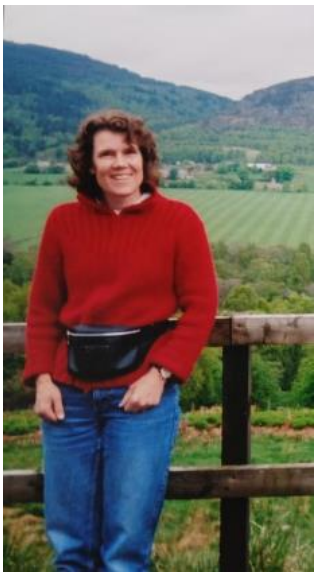
Best regards! Avec mes meilleures salutations,



Geneviève Frick

Geneviève FRICK – our presidents retire!

After eight years guiding IAG and more than 20 years as a member, Geneviève (Genny) Frick has now retired, closing a long chapter of dedicated service.



Genny's involvement with the International Association of Feedingstuff Analysis (IAG) appears prominently from 2003 onward, when she attended a meeting in Posieux. Although her name does not appear in earlier records, it is unlikely that this was her first engagement with the group. As the only participant from Posieux that year, her presence strongly suggests that she played a role in hosting or supporting the organization of the meeting—an indication that she was already well connected with the community before 2003. What is clear, however, is that she did not attend the working group meeting held in Hamburg in 2002, marking her appearance in 2003 as an important recorded milestone.

Her leadership trajectory within IAG advanced quickly. In 2004, at the meeting in Leipzig, Genny was elected 2nd Chairman, reflecting both the trust of her colleagues and her growing influence within the organization. Her dedication and steady involvement culminated in her election as 1st Chairman at the 2011 meeting in Krefeld, succeeding Jan-Sten Jørgensen of Denmark.

Genny's service did not stop there. Since the 2017 meeting in Uppsala - when Inge Paradies Severin concluded her term - Genny has held the position of president of IAG. Her presidency has been characterized by continuity, experience, and a deep commitment to the association's goals.

One of the most significant and enduring contributions Genny has made to the IAG community is her extensive work in organizing proficiency tests. She has been a key figure in this area for many years, with documented activity dating back at least to 2004. Her involvement in these efforts has strengthened quality assurance, collaboration, and scientific integrity within the organization.

Genny hosted the annual meetings for IAG in Posieux in 2004, 2014 and 2025 where the participants could enjoy the always inspiring scientific program, memorable social events, and great surroundings.

Throughout her career, Genny has demonstrated unwavering dedication to IAG's mission. From her early meetings to her ongoing presidency, she has consistently contributed her expertise, leadership, and organizational skills. Her long-standing commitment continues to shape and support the community today.

Dear Genny, enjoy every moment of your retirement - may it bring you good health and many wonderful experiences!

New president's addresses

Dear IAG members, dear colleagues,

After the highly successful and inspiring leadership of IAG by Geneviève (Genny) Frick, following in her footsteps is both a great honor and an undeniable challenge. It marks an important milestone for our association. I will do my best to continue her work and to uphold the strong reputation IAG has built under her guidance.

Allow me to briefly introduce myself. I graduated from the Faculty of Veterinary Medicine, University of Zagreb, where I also obtained my PhD degree. Since 2001, I have been employed at the Croatian Veterinary Institute in Zagreb, working in the Laboratory for Feed Microbiology, which is the National Reference Laboratory for processed animal proteins. I have been an IAG member since 2009, and in 2021 I joined the IAG Board.

As another year comes to an end, it is time to reflect on our achievements and begin planning for the future.

In 2025, IAG organized three proficiency tests focused on processed animal proteins in collaboration with the Walloon Agricultural Research Centre. LUFA Nord-West prepared the one for feed composition materials, and AGES the one for botanical impurities and forbidden materials.

This year, Agroscope in Fribourg kindly hosted our annual meeting. Over nearly three days, we enjoyed an excellent program of engaging lectures, productive discussions, and valuable exchanges, complemented by meaningful social events. The meeting proved both professionally enriching and personally rewarding.

Shortly after the annual meeting, we elected a new board member following Genny's leaving. We are pleased to welcome Laura Draack (LUFA Nord-West, Oldenburg, Germany) to the board. In addition, I assumed the position of President of IAG.

Looking ahead to 2026, we plan to organize three further proficiency tests, again focusing on processed animal proteins, feed composition and botanical impurities and forbidden materials. We are also currently preparing our next annual meeting, which will feature an exciting and highly relevant workshop on the detection of plant seeds and poisonous plants. The event will be organized by LTZ Augustenberg (Karlsruhe, Germany). Further details - including confirmed dates - will follow in this newsletter.

We are optimistic that IAG will soon have its own bank account, a step that will greatly simplify our financial administration.

To increase the visibility of our association, we have launched an IAG profile on LinkedIn and it is planned to do so on ResearchGate (links will be shared shortly).

I warmly encourage all members and friends of IAG to share ideas, ask questions, provide feedback, and openly engage with the board. Your input is vital as we shape the future of our association together.

I hope that with your support and cooperative spirit, all our plans will come to fruition.

Finally, I wish each and every one of you a successful, healthy, and happy New Year 2026.

With my best regards, see you in Karlsruhe in June 2026

Yours sincerely

Manuela Zadravec, the new IAG president

IAG Annual Meeting 2025 in Posieux (Switzerland)

In 2025 the annual IAG meeting was held in Posieux (Switzerland) and was hosted by Agroscope. A few brief meeting notes are included. Many thanks for the organisation of the meeting!

Only for members: all the lectures can be found on the IAG Homepage: www.iag-micro.org

20/05/2025

Welcome and introduction (G. Frick)
Agroscope presentation (C. Jud)
An introduction of the work of the IAG was presented (publication of articles on packaging materials, organisation of PT, work on the association rules and structure, organization of annual meeting with workshop).

Tour de table: IAG members' year (G. Frick)
A round table was organised where the members present their activities from the past year.

Current challenges and future prospects of microscopic methods in private laboratories (A. Zeiri)
A general outline of the company Agrolab was presented. The lack of the availability of (certified) reference materials was emphasized. For this reason, the lab produces its own reference materials. The lab noticed that for some samples microscopic results are not confirmed by PCR. It was noted that sometimes information on the origin of the samples is missing to implement the flowchart correctly. The correct identification of animal structures as plasma, milk powder and hydrolysed proteins is not easy. The identification of cartilage has been discussed as also the nature of chondroitin sulphate as well as the presence of mites, rodent hairs and (pest) insects. The need for training was also raised.

Presentation about ForFarmers and some interesting samples (E. Wink)
A general outline of the company ForFarmers was presented. The laboratory provides feed solutions and performs also some microscopic analyses and bought recently 2 new Zeiss microscopes.

Microscopic assessment of Vit A after the granulation process of vitamin-mineral premix - case study (P. Czajkowski)
It was noticed that vitamin A globules are partially damaged (10-15%) in mineral pellets during the granulation process. Pure vitamin A globules are nicely round. To analyse the samples, pellets were first depelleted in water and examined microscopically after drying.

Experiences with modified sedimentation funnel for insect analyses + legislation update (J. Vancutsem)
The sedimentation funnel used in the laboratory for analysis of animal proteins is a Gilson type 500 mL with a 4 mm bore. To minimize clogging the laboratory experimented with a Squibb type sedimentation funnel with 10 mm bore with satisfying results.

The update in legislation concerns the maximum level for ergot according to regulation 2024/1808.

21/05/2025

IAG proficiency test on animal protein detection 2025 (P. Veys): See further in the newsletter
IAG Ring Test on microscopical determination of the composition of mixed feed 2025 (L. Draack): See further in the newsletter
IAG proficiency test on botanical impurities and forbidden material 2025 (R. Weiss): See further in the newsletter

EURL-AP workshop - summary and PT (M. Zadravec)
An online workshop was organised on 15/05/2025. In the work program of 2025-2027 the evaluation of a merge of the double PE/TCE sedimentation steps and steps of the TCE sedimentation within a single protocol will be made as also further development of analytical methods on used cooking oils and hydrolysed proteins. Further the EURL will continue to execute their usual activities. During the open discussion topics on the detection of insects and dairy products were raised as also the difficulties on the double sedimentation. A combined microscopy/PCR proficiency test was organised in 2024. 26 NRLs participated as also 4 foreign countries.

Following results were to be expected:

Sample	Matrix	Terr. Vert.	Terr. Invert.	Fish	Ruminant	Pig	Poultry
1	Pigfeed+ 0.1 % feather meal + 1 % egg	+	-	-	-	-	+
2	Pigfeed (with dairy product) + 1 % salmonPAP	-	-	+	+	-	-
3	Poultry feed + 0.5 % T. molitor PAP	-	+	-	n.a.	-	-
4	Pig feed (blank)	-	-	-	-	-	-
5	Fishfeed+ 0.1 % bovinePAP + 0.1 % porc. haemoglobin	+	-	+	+	+	-

The global results of the PT were excellent. Except for sample 2 the global accuracy for terrestrial animals was 0,77 with 6 false positive results. It is known that some salmon bones resemble bones of terrestrial animals.

→ Link to the report: https://www.eurl.craw.eu/wp-content/uploads/2025/03/EURL-AP-report-2024-final.pdf

A second on-line session of the EURL-AP workshop was held on 12/11/2025. This session focussed on the ILS on mass spectrometry (EURL-AP), differentiation in the processing degree: PAP vs blood products with mass spectrometry (German NRL), insect particles identification by deep learning AI (EURL-AP) and an open discussion (preparation of difficult materials as chewing products for dogs, combination of sedimentation protocols, the presence of authorised ingredients that cause a DNA signal).

Validation of visual methods: how LOT and LOQ differ (D. Marchis)
Interesting insights on the validation of microscopic methods were presented. In the working group 'Undesirable Substances' of DG SANTE a topic on the LOQ and LOT (limit of tolerance) of packaging materials was discussed. The laboratory has worked out a validation protocol with several validation parameters (Specificity with 20 samples (complementary feed), assigned LOQ 0.05%, recovery, repeatability, reproducibility, measurement uncertainty for a total of 54 analyses at 2 different levels with 3 operators. Concerning measurement uncertainty: in EU Implementing Regulation 2024/771 it is stated that measurement uncertainty is not required for visual/microscopic examination. A validation through an interlaboratory study of an approved method with an assigned LOQ has been proposed.

Safety issues and Risk assessment (T. Stojkovski and J. Vancutsem)

Safety in the laboratory is important. To administer this safety assessment, tables can be used whereas risk rating can be calculated based on likelihood, consequence and exposure of a hazardous event (Kinney evaluation). Some examples on safety issues were presented: clogging of sedimentation funnels during double sedimentation (details further in this newsletter), the use of petroleum ether for double sedimentation, the use of chemicals during pregnancy, the correct functioning and use of fume hood, exposure measurement (testing of urine, blood). Taking actions is important e.g. supplementary blood and urine tests were taken, instructions to the analyst were made.

Sample dividing process for PCR and Microscopy analysis in case of AP determination (J. Vancutsem)

A method for sample dividing was presented for samples with a (possible) combined microscopic and PCR-analysis. Sample matrices concerned are poultry and pig feed, PAPs and some samples matrices with little added microscopic value as blood products. 3 subsamples of > 50g are taken (2 for microscopy + 1 for PCR). Subsampling is performed on a plastic tray after decontamination with hydrochloric acid (use gloves also to avoid contamination).

Practical workshop on milk and blood products (IAG board) and **practical workshop on fraud** (P. Czajkowski and IAG Board)

A practical workshop has been organised on fraud attempts: extracted Soybean meal adulterated with limestone, sand, urea, lupine; yeast adulterated with plant material and minerals; choline chloride adulterated with salt.

Also, PT samples with the presence of blood products (including plasma powder) and milk products (milk powder, lactoserum) were presented at the practical workshop.

22/05/2025

Automatic authentication of insect particles by deep-learning in microscopy (P. Veys)

AI experiments with automated microscopic image analysis for improved classification were executed. Detection is based on the YOLO model with very fast measurements (50 ms) with good precision. After extraction of the results, they are classified based on the CNN model.

Possibilities for a new structure of IAG (J. Vancutsem)
The possibilities for a new IAG structure were proposed. The advantages and disadvantages of a de facto association, non-profit organisation and international non-profit organisation were discussed.

Open discussion session (IAG board, all)

In the open discussion session following topics were addressed:

- *Diversity of insect particles (resemblance with some plant particles?):*

  Staining with chlorazol black is possible. Notice however that other chitin containing particles (as from krill…) will also stain. A note was made how make the distinction between forbidden and labelled insects.

- *Which embedding media can be used for the detection of milk particles?*

  It will depend: for general protein staining Lugol can be used. In glycerol the differentiation between milk powder and whey powder can be made.

- *Existing expertise regarding authenticity of honey amongst members:*

  Several labs mentioned their experience with this analysis.

- *Milk and blood products detection in feed:*

  This was addressed in the workshop part.

- *Mustard seeds, how to distinguish from other Brassicaceae:*

  It was mentioned that a nice overview of the different Brassica-types was given in the handbook 'Mikroskopische Diagnostik pflanzlicher Nahrungs-, Genuß- und Futtermittel, einschließlich Gewürze'.

IAG organisation and board selection

An updated election scheme was presented.

	2025	2027	2029	2031	2033
President	election		election		election
Board member 1		election		election	
Board member 2	election		election		election
Board member 3	election		election		election
Board member 4		election		election	
Board member 5		election		election	

Our president Genny Frick went on retirement and Manuela Zadravec has been elected as president and Laura Draack as new board member. Roland Weiss has been re-elected as

board member. Pascal Veys postulated for a function in the board – especially for the financial aspects for the planned new structures of IAG.

We wish the entire IAG board – especially Manuela – good luck with their new function and work!

Social Program during the IAG-meeting

Walk on the town walls:

Visit of Sorens Organic School Farm and aperitif:

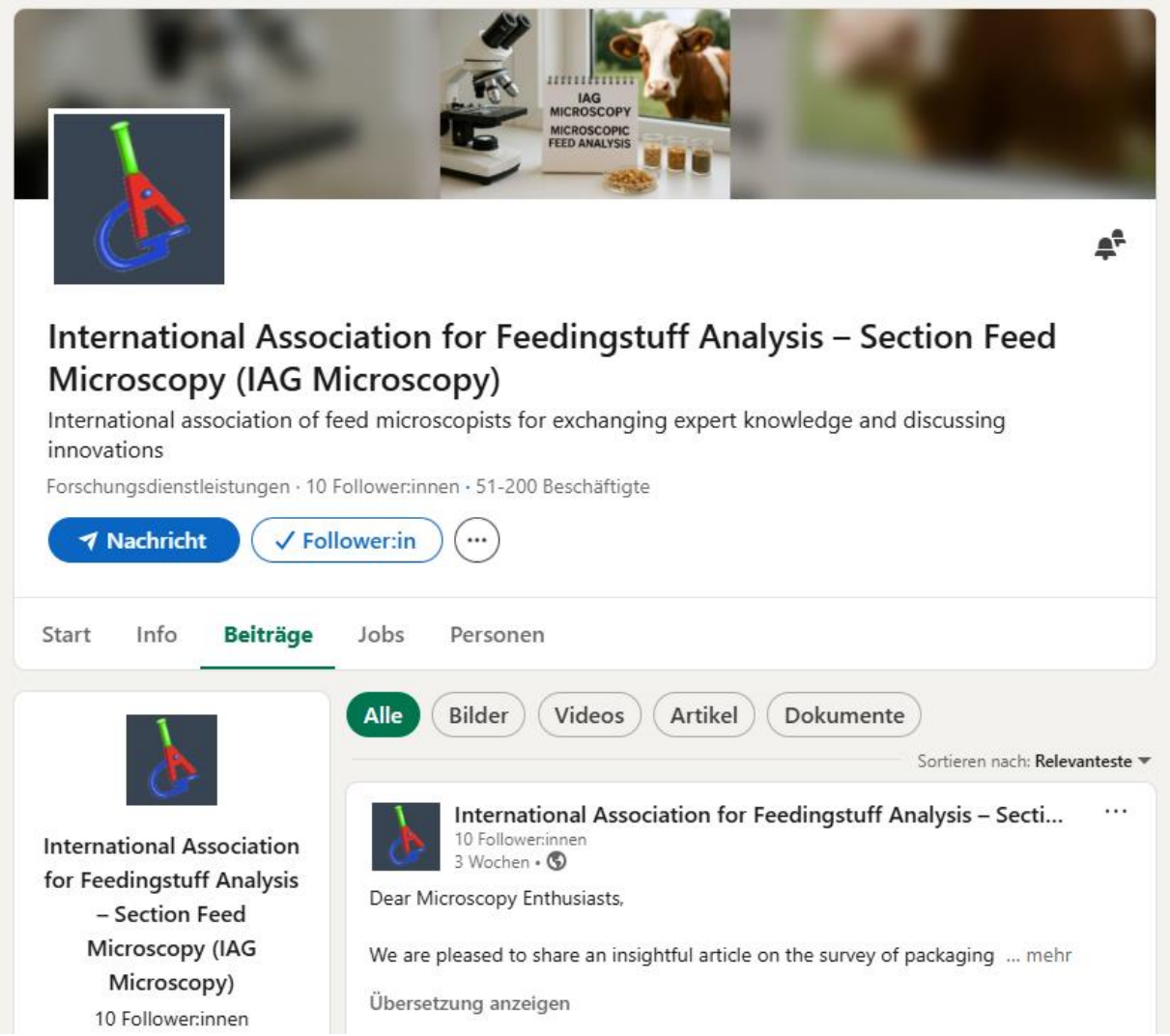
Pictures by IAG

IAG on LinkedIn

This year the IAG-Board has decided to go a step further and started with an account on

→ **LinkedIn**

Many thanks to our colleague Tommy Stoikovski who created the site and is also the Administrator of this platform.

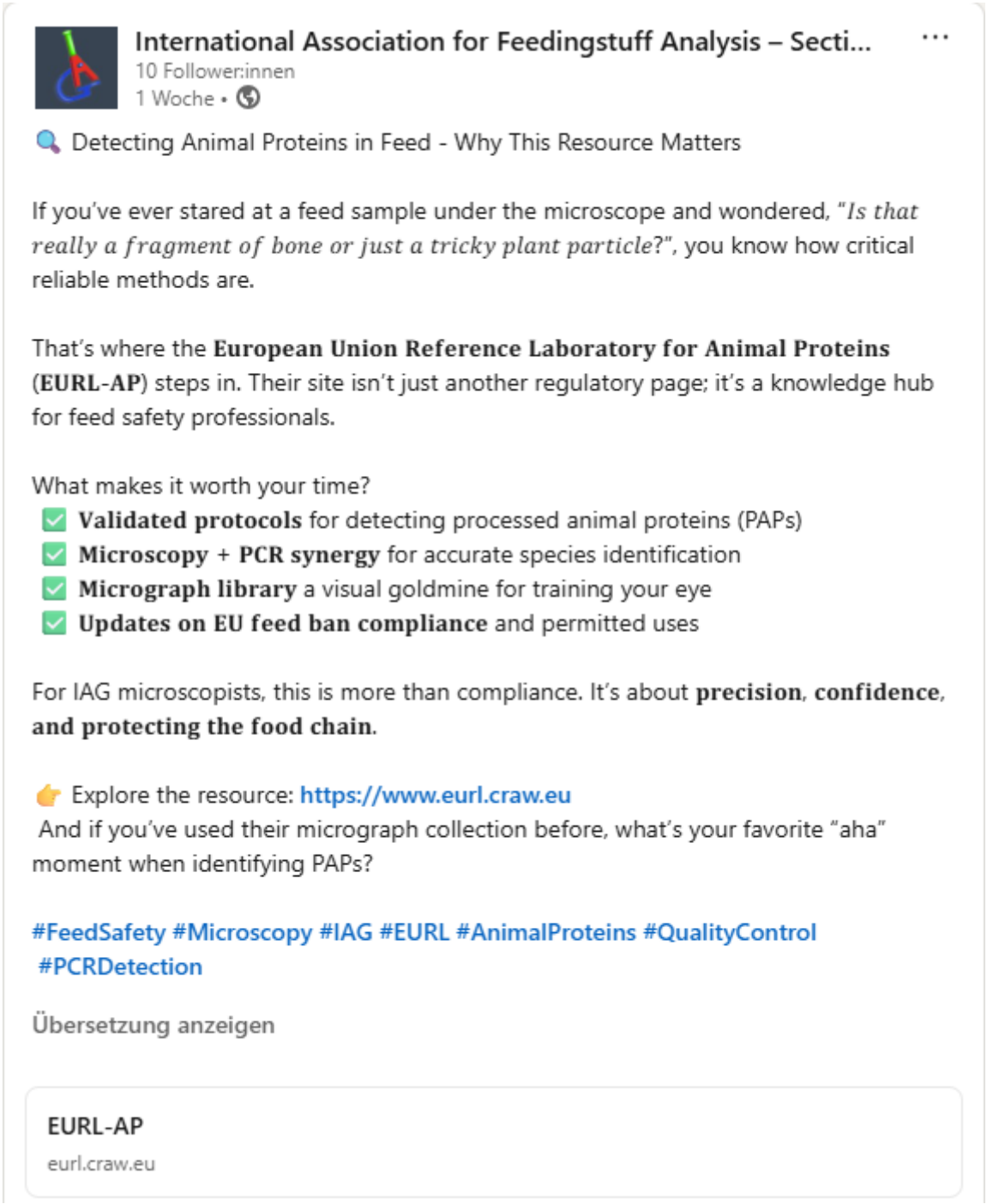


Dear members and followers of the IAG Microscopy LinkedIn page, we are now live!

Feel free to share your comments, questions, articles, collaboration requests, events, or any other content that contributes to the field of Feedingstuff Microscopy.

Enjoy!

For example, to promote excellent work and collaboration with our colleagues from the EURL-AP, with following content:



International Association for Feedingstuff Analysis – Secti...
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🔍 Detecting Animal Proteins in Feed - Why This Resource Matters

If you've ever stared at a feed sample under the microscope and wondered, *"Is that really a fragment of bone or just a tricky plant particle?"*, you know how critical reliable methods are.

That's where the **European Union Reference Laboratory for Animal Proteins (EURL-AP)** steps in. Their site isn't just another regulatory page; it's a knowledge hub for feed safety professionals.

What makes it worth your time?
✅ **Validated protocols** for detecting processed animal proteins (PAPs)
✅ **Microscopy + PCR synergy** for accurate species identification
✅ **Micrograph library** a visual goldmine for training your eye
✅ **Updates on EU feed ban compliance** and permitted uses

For IAG microscopists, this is more than compliance. It's about **precision, confidence, and protecting the food chain.**

👉 Explore the resource: https://www.eurl.craw.eu
And if you've used their micrograph collection before, what's your favorite "aha" moment when identifying PAPs?

#FeedSafety #Microscopy #IAG #EURL #AnimalProteins #QualityControl #PCRDetection

Übersetzung anzeigen

EURL-AP
eurl.craw.eu

IAG proficiency test on animal protein detection 2025

Purpose and Background

Proficiency test was organized by **CRA-W (Belgium)**, EU Reference Laboratory for Animal Proteins on behalf of the International Association for Feedingstuff Analysis (**IAG**) to detect animal proteins in feed using **light microscopy**.

Legal basis: **TSE Regulation (EC 999/2001)** and analytical methods under **EC 152/2009**, amended by **EU 2022/893** and advanced **SOPs.**

Study Design

4 sample types:

1. Ruminant feed (blank)
2. Horse feed + 0.5% salmon PAP + 0.05% bovine PAP
3. Ruminant feed + 1% Hermetia illucens (insect PAP)
4. Ruminant feed + 2% porcine plasma powder

Homogeneity confirmed before shipment.

Participants: **61 registered**, **58 submitted results**.

Overall Results

- Global **Accuracy** per sample: 0.805 – 0.948 → overall satisfactory.
- Best detection: **fish material** (AC 0.935, MCC 0.827).
- Weakest detection: **terrestrial vertebrates** (AC 0.866, MCC 0.750), especially plasma powder.
- Error rate: **9.3%** (previous year: 6.1%), with 42 sensitivity and 23 specificity errors.
- Main issue: **false negatives for plasma powder** (27 cases).

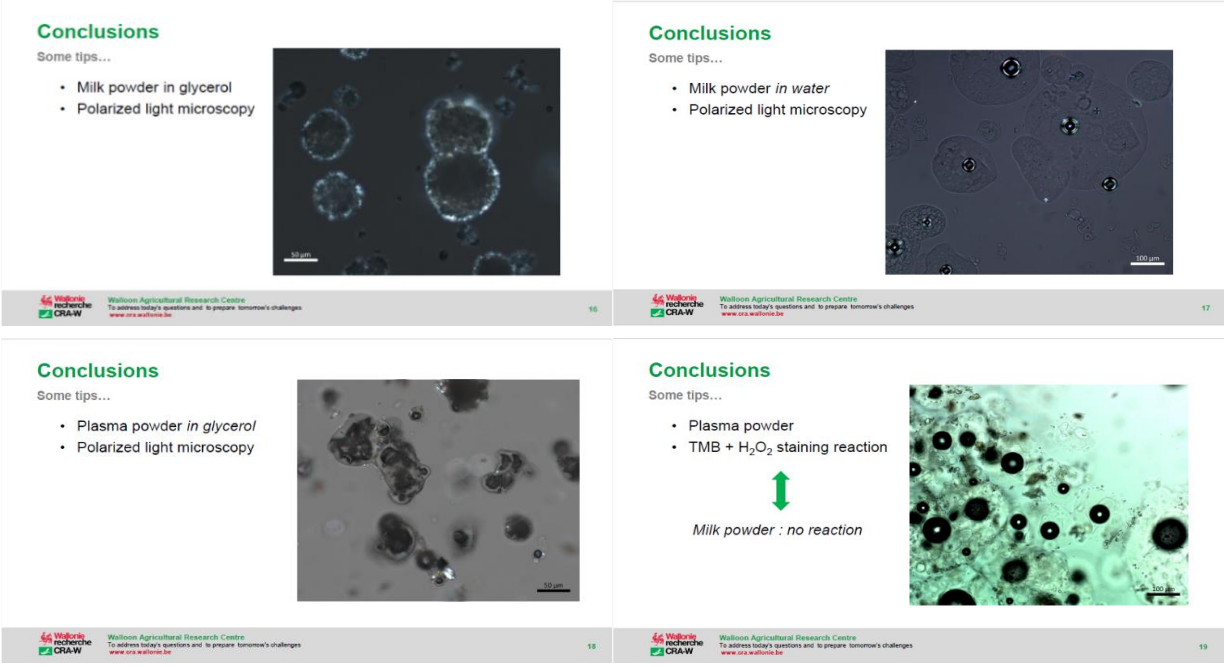
Sample-Specific Observations

- **Sample 1 (blank)**: only specificity errors (misidentification of hairs, fish bones, etc.).
- **Sample 2 (salmon + bovine)**: mostly correct, few ND for fish.
- **Sample 3 (insects)**: good detection, some ND and few FP.
- **Sample 4 (plasma)**: only 53% correctly positive; many ND, misinterpretations (milk instead of plasma).

Conclusions & Recommendations

- **Fish and insect material**: well detected, stable results.
- **Plasma powder**: biggest challenge → focus on:
  - **Floating fractions**
  - **Polarized light** for milk products
  - **TMB + H_2O_2 staining** for blood products.
- Further SOP development and training is recommended.

Finally, some tips of the EURL-AP for detecting milk power and plasma powder are enclosed:



Graphs: Slides of PPT "IAG proficiency test on animal protein detection 2025" by P. Veys & O. Fumière

Safety on double sedimentation

Safety logo and slogan used by Nutreco

Take a minute

The double sedimentation method, like any lab analysis, can come with some safety challenges. It's good to be aware and take precautions. Think about more possible risks that are not mentioned and registered before. Always take a minute to think about what you are going to do. Especially in cases of change, after deviating from your daily routine or after a long pause in a certain task.

Illustration generated by Copilot (AI)

Fume hood

Tetrachloroethylene (Perchloroethylene, PCE) is carcinogenic! Always work in a fume hood! Make sure you are up to date with the latest version of the safety data sheets for PCE and Petroleum ether (PE). Check the air flow of your fume hood regularly.

Don't take the support stand for the separation funnels or the separation funnels out of the fume hood for your convenience while working with PCE. Use a step if you can't reach the top of the support stand or ask someone for help.

Wear the right personal protective equipment like safety glasses, lab coat and nitrile gloves.

Support stand

Always mount the stand correctly or attach it firmly to the fume hood. Position the base so that its longest side is perpendicular to the direction of the clamps. This provides maximum stability and prevents tipping.

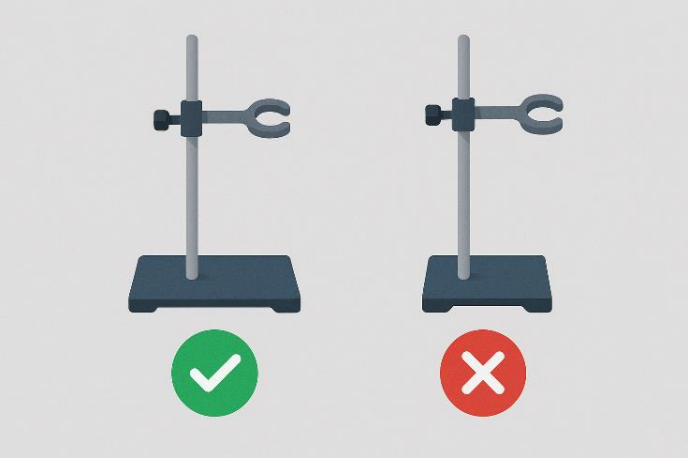


Illustration generated by Copilot (AI)

Clogging of separation funnels

At times the separation funnels can get clogged because of samples with large particles or a lot of sediment. Think of premixes or samples with a lot of barley- or oat hulls.

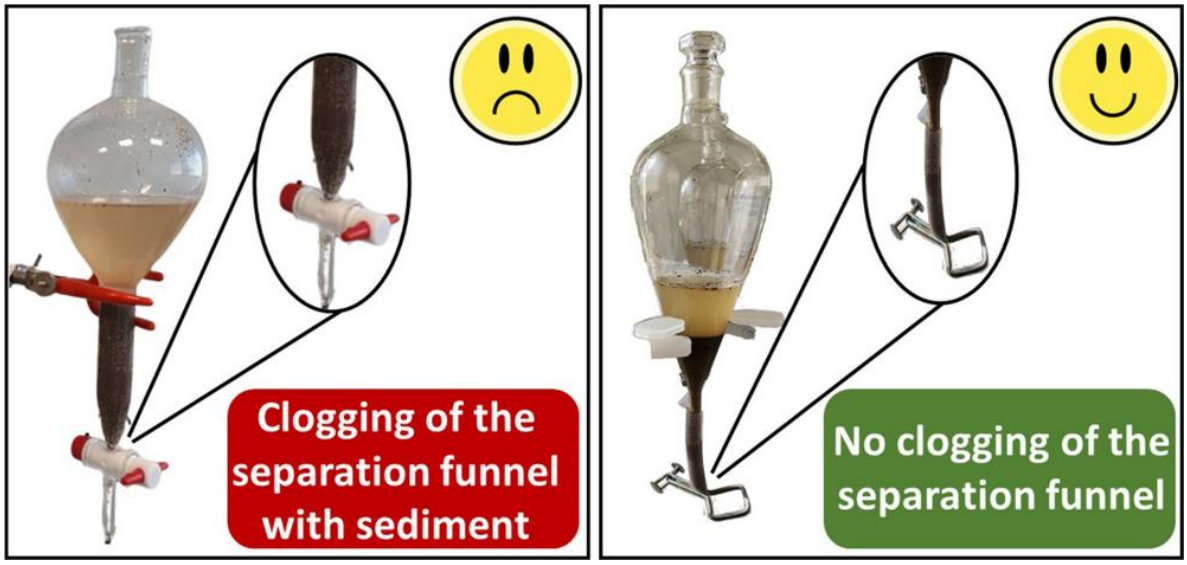
It is possible to get (adjusted) separation funnels with a bigger crane opening that reduces clogging. For samples that will generate more than 10% of sediment it is allowed to weigh in 3 grams of sample instead of 10 grams which reduces the risk of clogging.

If a separation funnel gets clogged, you can hold it above a beaker and use a long thin stick or wire to unclog the opening. But watch out that the PCE rushes out right away when the opening is unclogged. Make sure you have enough volume left so you have time to close the crane and won't lose your sample. Otherwise refill the separation funnel and try again.

Another possible solution to prevent clogging of the separation funnel is presented in the following article free available on ScienceDirect:

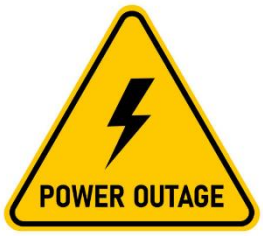
Optimization of glass separating funnels to facilitate microplastic extraction from sediments - ScienceDirect

It is a method which uses adjusted separation funnels attached with a plastic tube and special clamp on to the end of the funnel. Although I don't have experience with this method, it seems like something that could work.



Power outage

A power outage can lead to a dangerous situation. The power outage can be for the whole laboratory or just for an instrument or fume hood. It can be a short period, or it can be long. Make sure you have safety protocols in place for these situations. Evacuate, if necessary, until the workspace is safe again. Confirm that the fume hood and devices are working again after the power is fixed, some systems won't start up automatically after an outage or can be damaged.



Safety training

There are a lot of safety trainings available by different organisations. For example, by **IOSH** (Institution of Occupational Safety and Health). One of the things they learn you is the mnemonic ERIC SP in HSE (Health, Safety & Environment). Which stands for: eliminate, reduce, isolate, control, PPE and sustain. With the words in order of importance. Whereas the "P" and the "S" are more like extra's and not regarded as real safety measurements.

Safety on Liquid Acid Additives

Since last year at MasterLab (Netherlands), we have received an increasing number of requests to analyse liquid feed additives for the presence of PAP (processed animal protein). These liquid additives are accompanied by safety data sheets and warning labels. Initially, we were willing to attempt analysing these samples. However, when we opened the sample jar, we noticed a strong, penetrating acidic odour. We immediately closed the jar again.

Our workplace does not have suction points, and even if we prepare the microscopic slide under a suction point, the odour would still be noticeable, and the liquid would continue to evaporate.

Picture from a sample at MasterLab

For now, we have decided not to analyse these samples and to notify the customer accordingly. At the IAG meeting last year in Poisieux, we raised the question of how to handle such situations. The IAG has also received similar inquiries about dealing with potentially hazardous samples.

I was advised to contact the EURL for feed additives to determine whether it is legally required to check these samples for PAP. Unfortunately, the EURL-Feed Additives did not provide a clear answer to this question.

Response of EURL-Feed Additives:

"Thank you very much for your e-mail. As regards your inquiry, it is very difficult to judge anything from the information given. The purpose of analysis is not necessarily for official control, but perhaps for product specification. If such products are to be used for a 'regulated' purpose, there might, however, be a legal reason to verify the absence of PAPs in the final product. In any case, this must be clarified with the customer.

As far as I see, the solution is clear, and PAPs could then only be part of the solution, for example gelatine. That is, however, impossible to detect by microscopy.

While I am not an expert in the field of PAPs, I can only roughly guess. But in any case, and as said above, without knowing the nature of the sample and its intended use, there is no recommendation I can give. It is most of all not the task of the EURL to get involved in such issues."

However, they did advise to contact the customer, and I agree that this is the best course of action. We should maintain open communication with the customer and explain that we are experiencing safety concerns. Together with the customer we can find a solution.

The 20-20-20 Rule: Protecting Your Eyes During Microscopy Work

Microscopists often spend long hours focusing on intricate details under the microscope. While this precision is essential, prolonged near-focus can lead to eye strain, headaches, and fatigue. To counteract these effects, the 20-20-20 rule is a simple yet effective guideline recommended by eye health professionals.

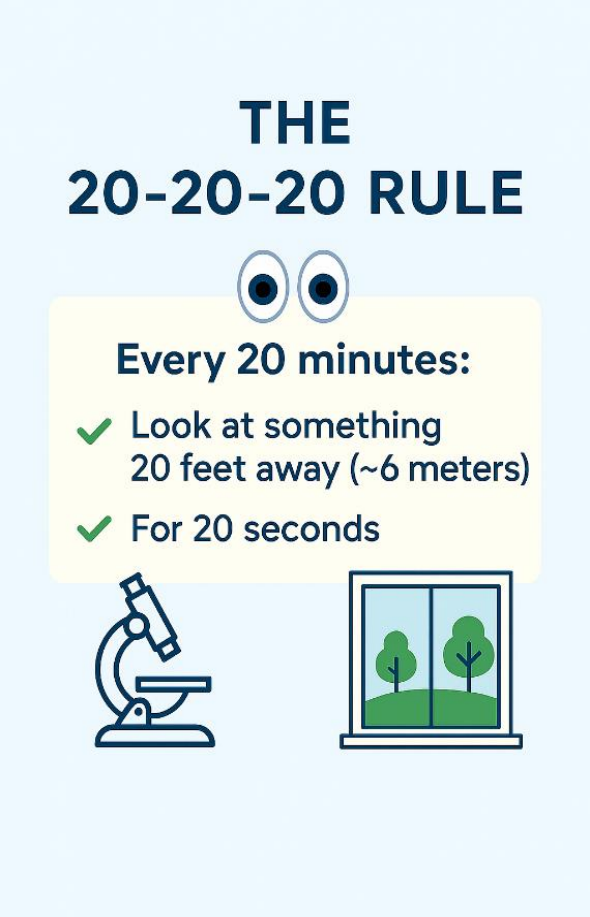


Illustration generated by Copilot (AI)

What is the 20-20-20 Rule?

Every 20 minutes, take a break and look at something 20 feet (approximately 6 meters) away for 20 seconds. This short pause allows your eye muscles to relax, reducing strain and maintaining visual comfort throughout the day.

Why Does It Matter for Microscopists?

Microscopy demands sustained close-up work, which can cause the ciliary muscles in your eyes to remain contracted for extended periods. Regularly shifting your focus to a distant point helps prevent digital eye strain and supports long-term ocular health.

Quick Desk Exercise

To complement the 20-20-20 rule, you can ask an AI assistant (e.g. Copilot or ChatGPT) for a quick desk exercise to activate your cardiovascular system or release tensions in your body.

For example, ask for (quick) desk exercises:

- Specify your goal: (e.g., "energy boost," "relieve tension," "activate cardiovascular system").
- Add time constraints: (e.g., "under 5 minutes" or "quick routine").
- Mention body focus: (e.g., "neck and shoulders," "legs," "full body").
- Ask for format: (e.g., "make it a printable PDF," "give me an infographic," "step-by-step guide").
- Request a theme: (e.g., "microscopy", "Christmas", "Star-Wars").

Example outcome:

"The Microscopist Shoulder Roll"

- *Sit upright in your chair.*
- *Slowly roll your shoulders forward in a circular motion 10 times.*
- *Then roll them backward 10 times.*
- *Finish by gently stretching your arms overhead and taking a deep breath.*

This simple routine improves circulation, relieves tension, and reminds you to move during your day.

And of course, don't forget to take a refreshing walk outside in the fresh air from time to time.

Sample types analyzed for animal protein content in Denmark 2023, 2024 and 2025

Distribution between product category and sedimentation type

When a sample is analyzed under a microscope for animal components, the possibility of detecting unwanted content increases drastically, after concentration of the part of the sample where the fragments are found.

For many years, this has been done by separating heavy fragments from lighter fragments by shaking a standardized sample amount in a solvent with a relatively high density. The goal of sedimentation is to isolate animal fragments from vegetable fragments. Bones have been sedimented and the botanical material has floated on the top of the solvent. The solvent is chosen based on a desired density that optimizes this separation (single sedimentation). After eight different terrestrial invertebrates (Insects) have been approved for use in feed, there is also a need to concentrate on very light components. The density of the solvent has been changed by adding another solvent, the botanical parts can then be sedimented, while even lighter components, such as insect exoskeleton, remain in the flotate on top of the solvent. This is called double sedimentation.

Double sedimentation requires mixing 2 different solvents and has a higher consumption of chemicals than single sedimentation. In Denmark, single sedimentation is used for single feed materials, as it is not expected that insect components are mixed into the raw material. In addition, single sedimentation is used for mineral premixes for ruminants, as they contain very little botanical material and the flotate from single sedimentation is very small and can therefore be used directly for insect analysis.

Table 1 shows the distribution of samples for single and double sedimentation from 2023 to 2025.

Sedimentation	Category	2023	2024	2025
double	Compound feed horse	0	2	7
	Compound feed ruminant	37	45	75
Double sedimentation Total		**37**	**47**	**82**
single	Compound feed non ruminant	32	16	19
	Compound feed ruminant	11	4	6
	Fish meal/ fish feed	24	14	20
	Minerals	7	2	0
	Processed single feed	92	86	91
	Whole grain	99	50	26
Single sedimentation Total		**265**	**172**	**162**
Total		**302**	**219**	**244**

Double sedimentation has been done on 12% to 33% of the samples in the years 2023 to 2025.

It has been discussed by the European reference laboratory for animal protein (EURL-AP) to standardize the preparation for the analysis of animal components even more than it is today. If a single pretreatment method shall cover all samples, there will be a risk that some samples will be handled less optimally than they are today. The purpose of sedimentation is to concentrate the components which must be analyzed. Double sedimentation is more time-consuming and uses more chemicals than single sedimentation. It has also been shown that there are a number of samples that are very difficult to handle with the equipment that most laboratories use as standard.

One sample preparation method for all samples must be adjusted to be good for the most difficult/complex samples, and this can lead to use of more time and chemicals than today for the easy/simple samples. It is important that the sample type is taken into account when choosing the sample preparation method. If the concentration of the relevant components is actually satisfactory with single sedimentation, then this is what is performed.

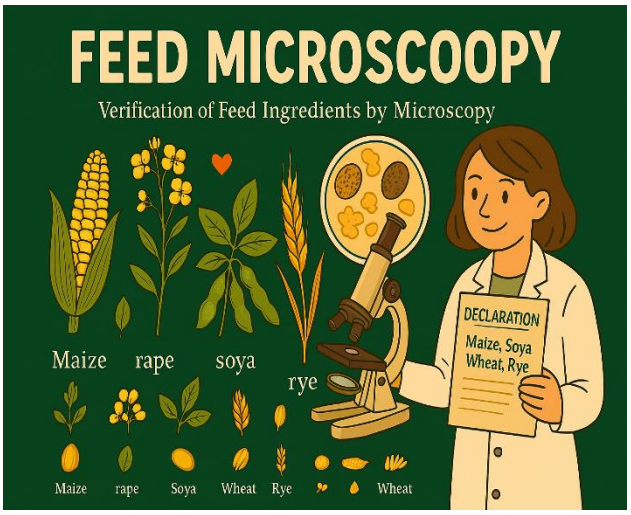
The IAG-board look forward to contribute to this discussion together with the EURL-AP.

IAG Ring Test on microscopical determination of the composition of mixed feed 2025

At the IAG meeting in Fribourg in May, the results of the PT regarding the microscopic determination of the composition of a mixed feed were presented.

Proficiency Test Overview

- Organized by LUFA Nord-West since 2024 on behalf of the International Association for Feedingstuff Analysis (IAG).
- Focus: Microscopical determination of the composition of mixed feed.
- Sample: Commercial pig feed for fattening pigs (65–90 kg).
- Participants: 18 laboratories from 8 countries (Austria, Belgium, Denmark, France, Germany, Italy, Switzerland, Netherlands).



Graph 1: Feed microscopy. Graph generated with copilot, prompt Laura Draack.

- The recommended method for analysis was IAG method A2, "Method for the identification and estimation of constituents in animal feed."

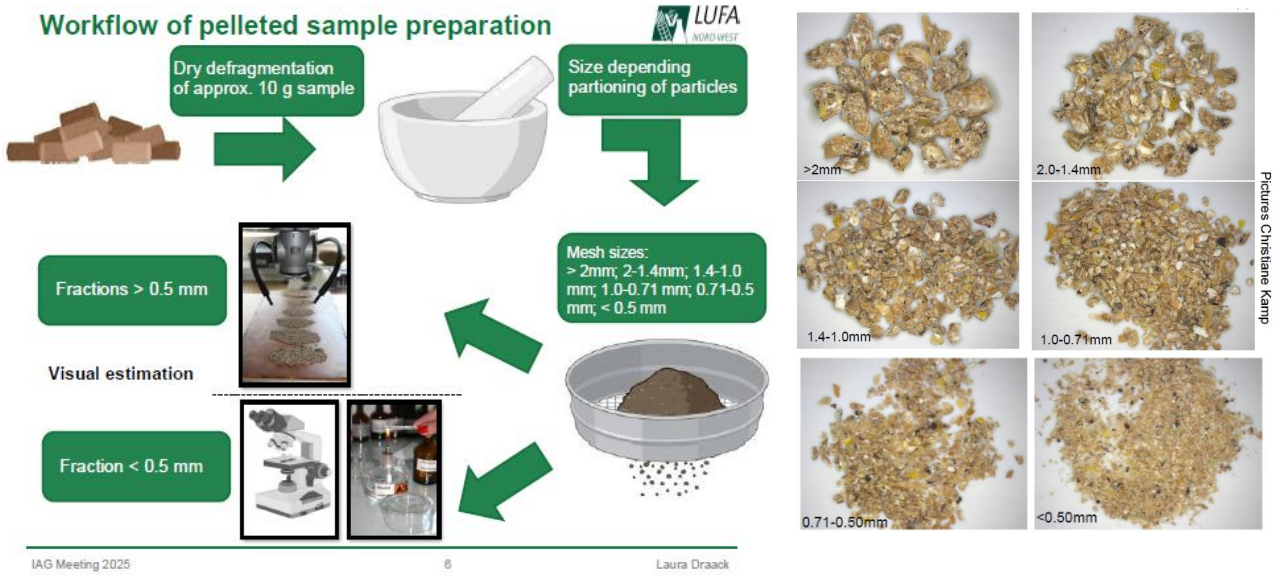
About the sample

The sample consisted of pelleted, mixed feed for fattening pigs weighing between 65 and 90 kilograms. The adjusted declaration was adjusted for evaluation (Table 2). Wheat products, including wheat bran, pellets, and whole wheat, as well as part of the DDGS, were summed up as wheat products. The DDGS were also equally distributed among the other two possible cereal species: barley and maize. Substances without microscopically detectable characteristics, such as soy oil and lysine sulfate, were excluded from the evaluation. The inorganic components chalk, vitamin supplements, and salt were summed up as minerals.

Challenges

- High degree of processing (pelleted feed) made separation of individual components difficult.
- Some labs reported additional substances (e.g., molasses, oats) likely due to abrasion or DDGS.
- Freeze-drying or water depelleting did not fully resolve particle separation.

The following scheme can help to analyze pelleted samples and show the sample after the defragmentation and sieving steps.:



Graph 2: Workflow of pelleted sample preparation and sieve fractions of the PT-sample > 2 mm to <0,5 mm. Pictures taken by Christiane Kamp.

The results of the participants

18 labs reported their results.

The results were evaluated with the uncertainty limits according to the IAG-Model (Table 1).

Value range	**Uncertainty limit**
< 2.0 %	traces
2.0 – 5.0 %	+/- 100 % r
10.1– 20.0 %	+/- 50 % r
20.1– 50.0 %	+/- 10 % a
> 50 %	+/- 20 % r

Table 1: Uncertainty limits of the IAG-Model from Rostock 2006.

Taking into account of the uncertainty limits in Table 1, the results can be summarized as follows:

Maize-products:

- Correct estimation of amount by all 18 participants.

Rapeseed:

- 94 % of the participants estimated correctly
- 1 lab overestimated the amount

Soya:

- Results identitcal to the maize-products (correct estimation by all the participants)

Rye-products:

- Four participants underestimated the amount.
- 61 % of the participants provided corrects results.
- The results of two labs could not be taken into the batch of results, because they summarized the results as "cereals".

Wheat-products:

- 44 % of laboratories did a correct estimation of the amount.
- 39 % slightly overestimated the amount.

Sample Composition (Declared)	**Inclusion [%]**	**Results & Evaluation**
Rye products:	31	Correct in 61%, underestimation by 28%
Barley products:	21	Correct in 83% of cases.
Maize products:	16	Correctly estimated by 100% of labs
Wheat products:	18,2	Only 44% correct; 39% overestimated
Soya:	6,2	Correct in 89% of cases
Rapeseed:	5	Correct in 94% of cases
Minerals:	2,1	Correct in 72%, with some underestimations

Table 2: Adjusted declaration of the PT-sample which is used for the evaluation with results & evaluation.

Conclusions & Recommendations

- Overall, most major components were correctly identified, but wheat and rye posed significant challenges.
- The proficiency test confirms variability in microscopic feed analysis, especially for highly processed feeds.

Twenty labs took advantage of the PT offer, which is in the same range as last year. Most of the results were correct. For some participants, differentiating between the different cereal species was challenging. Furthermore, the high proportion of samples in the <0.5 mm fraction after depelletization is challenging because the components must be estimated by eye, as sorting and weighing is not possible.

In the name of the IAG the LUFA Nord-West will offer the PT in 2026, as well.

Graph 3: Challenges and Outlook. Created with Copilot, Prompt Laura Draack.

News from the EURL mycotoxins and plant toxins

Please find enclosed the link to the Newsletter 2025 no.2 of the EURL mycotoxins & plant toxins:

→ Newsletter 2025#2 | EURL Mycotoxins and Plant toxins

There are two interesting parts the IAG-board wants to point out:

First, the EURL plan a **proficiency test for Ergot sclerotia in 2026**: *Preparation of the test material is currently under evaluation; further details will be provided during Q1 2026."*

Second, there will be a **training course from 14th to 17th April 2026**, with a special topic for: *Ergot sclerotia – visual identification techniques, covering recognition criteria, practical assessment, and common pitfalls in routine analysis."*

The idea of the IAG-board would be: If there are some IAG colleagues who are also representing the NRL for mycotoxins and, above all, are planning also to participate especially in the training course, whether they would like to report on this at the next IAG annual meeting or possibly present the content in a practical workshop.

Please inform the IAG-board, if someone is willing to do so – many thanks in advance!

IAG proficiency test on botanical impurities and forbidden material 2025

Purpose and Context

- The IAG Proficiency Test 2025 evaluated laboratories' ability to detect botanical impurities and prohibited materials in animal feed using microscopy.
- Compliance was assessed against Directive 2002/32/EC (undesirable substances) and Regulation (EC) 767/2009 (prohibited materials).
- New sampling requirements from Regulation (EC) 152/2009, amended by Implementing Regulation (EU) 771/2024, were tested.

Organization and Participation

- Organized by IAG – Section Feedingstuff Microscopy and AGES (Austria).
- 31 laboratories from 15 countries participated; 28 were IAG members, 11 were National Reference Labs.

Samples

- Sample 1: Sunflower seeds (spiked with Ambrosia, Datura, faeces).
- Sample 2: Bird feed (spiked with Ambrosia, Ergot, treated seeds).
- Sample 3: Rye (challenger sample, spiked with ergot at 500 mg/kg or 1000 mg/kg).

Evaluation Approach

- Recovery rates (%) compared to known spike levels for Samples 1 & 2.
- For Sample 3, statistical analysis included mean, SD, Z-score, and recovery rate to assess uncertainty in sample splitting and compliance checks.

Key Findings

- **Sample 1** (Sunflower seeds):
    - Ambrosia: 25 labs achieved 100% recovery; 2 labs <80% (unsatisfactory).
    - Datura: 28 labs excellent; 3 labs satisfactory.
    - Faeces: 16 labs detected correctly; 8 labs failed (unsatisfactory).

- **Sample 2** (Bird feed):
    - Ambrosia: 19 labs excellent; 9 labs unsatisfactory.
    - Ergot: 17 labs excellent; 13 labs unsatisfactory.
    - Treated seeds: 23 labs excellent; 8 labs unsatisfactory.
- **Sample 3** (Rye):
    - Significant variability between replicates; relative SD ranged from ~10% (high spike) to ~20% (low spike).
    - Most results required second determination under EU rules; some non-compliant cases identified.
    - Indicates uncertainty in sample splitting and need for further evaluation.

General Observations

- Most labs performed well for spiked samples (Samples 1 & 2).
- Higher deviations in mixed feed (Sample 2) and challenger sample (Sample 3).
- Confirms capability of participants but highlights challenges in complex matrices and near legal limits.

Pictures by AGES

Helping tools for the identification of unknown seeds

Many thanks to our colleague Britta Hertel from LHL (Germany) who shared some websites for the identification of unknown seeds. As it is planned to organize an IAG proficiency test on botanical impurities and forbidden material as also one for poisonous plants these tools may be very helpful.

First, the Seed ID Guide. It features a gallery with many different seeds and fact sheets on specific seeds.

https://seedidguide.idseed.org/

You can use this link to register for the Seed ID Forum and upload pictures of unknown seeds.

https://www.idseed.org/

Pictures from idseed-website

And finally, another page from ISTA. Here are some further links for determining seeds.

https://www.seedtest.org/en/technical-committees/purity-committee/seed-id-references.html

Planned IAG Proficiency Test for 2026

There are again several IAG Proficiency Tests planned in cooperation with laboratories of some of our IAG members:

- IAG PT on Animal Proteins 2026 by CRA-W (Belgium)
- IAG PT on Botanical Impurities and Forbidden Materials 2026 by AGES (Austria)
- IAG PT on Composition 2026 by LUFA Nord-West (Germany)
- IAG PT on Poisonous Plants by LHL (Germany)

Not yet fixed:

- IAG PT on Packaging Materials by WFSR (The Netherlands)

→ **It is planed that registration for the upcoming Proficiency Tests will start in the beginning of 2026 – but…**

ATTENTION!

Registration for both IAG PTs on **Animal Proteins 2026** and on **Botanical Impurities and Forbidden Materials 2026** have already started. Registered IAG-Members already got an invitation by mail the last days. For all others, please find the links for registration on the IAG homepage or get directly into contact with the IAG-board or via contact-form on the homepage!

→ www.iag-micro.org

PLEASE ALSO NOTE – and only for MEMBERS!

All detailed reports of the single IAG Proficiency Tests can also be found on the IAG-Homepage!

Some clarification about the method for the detection and quantification of packaging materials

Enclosed clarification was sent on behalf of IAG to Frans Verstrate, the leader of the working group for Regulation 152/2009. We hope that our remarks will be taken into account.

International Association for Feedingstuff Analysis
IAG – Internationale Arbeitsgemeinschaft für Futtermitteluntersuchung
Section Feedingstuff Microscopy – Sektion Futtermittelmikroskopie

VERSTRAETE Frans

SANTE

Subject: Some clarification about the method for the detection and quantification of packaging materials

On behalf of the International Association for Feedingstuff Analysis, I would like to clarify some important facts.

When discussing a method for detecting packaging materials, we would like to emphasise that quantifying the total amount of material is less important than assessing the composition, shape, and edges of the particles. For example, 0.2% paper or soft, small plastic fragments does not pose the same risk to animal organisms as 0.2% sharp plastic, metal, or glass particles. Likewise, finding a few sharp particles several millimetres in size is not comparable to detecting twenty soft particles smaller than 0.5 mm.

Therefore, when evaluating the results of the method, the shape, size, and origin of the packaging material must be considered, not just the amount. The total quantity of packaging material must not be the sole parameter used for assessment.

We hope our remarks will be taken into account.

Best regards,

Manuela Zadravec
IAG President

Global forum for animal feed and feed regulators

The FAO Global Forum 2025 in Rome, organised in collaboration with the International Feed Industry Federation (IFIF), is a leading platform for regulators, industry leaders, and scientists to shape the future of animal feed.

FAO event page: Website banner of the FAO Global Forum 2025

This year's discussions focused on feed safety and quality, sustainable and locally sourced feed solutions, innovative technologies, and policies to support global food security. Topics included reducing antimicrobial resistance through better nutrition, leveraging circular economy resources such as agro-industrial by-products and insects, and aligning international standards like Codex into national legislation. The forum also emphasised public–private collaboration and strategies for resilient supply chains amid growing global demand for animal protein.

Explore the recorded sessions and resources on the FAO event page to gain insights into cutting-edge developments and best practices shaping sustainable livestock systems.

Many thanks to **Jeroen van Cutsem** for pointing out this event and recordings to the IAG board.

Feedipedia: Your Gateway to Global Feed Knowledge

Feedipedia is an open-access online encyclopedia dedicated to animal feed resources. It provides science-based information on the nature, occurrence, chemical composition, nutritional value, and safe use of nearly 1,400 feed resources worldwide. This platform is designed to support farmers, researchers, and policymakers in optimizing feed utilization for sustainable livestock production.

Who Maintains Feedipedia?

Feedipedia is a collaborative effort managed by four leading organizations:

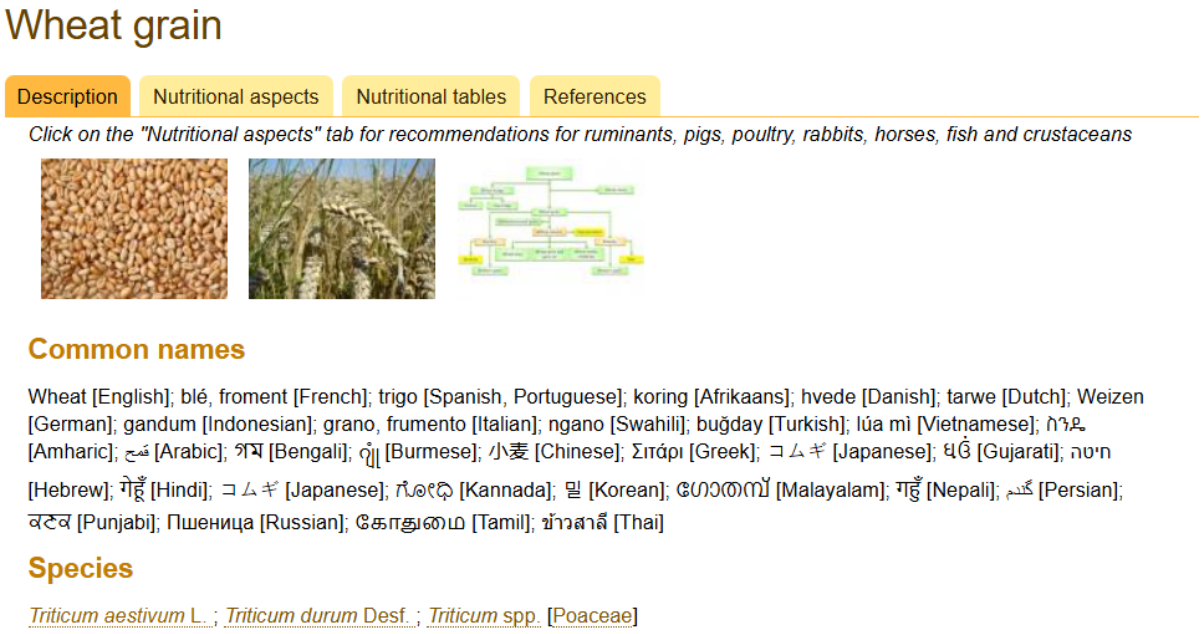
- INRAE (French National Research Institute for Agriculture, Food and Environment)
- CIRAD (French Agricultural Research Centre for International Development)

- AFZ (French Association for Animal Production)
- FAO (Food and Agriculture Organization of the United Nations)

How is the Data Delivered?

The website hosts detailed datasheets prepared by experts, drawing on scientific literature and experimental data. Each datasheet includes:

- Feed descriptions and photos
- Nutritional composition tables
- Feeding recommendations for multiple species
- Notes on processing and environmental impact



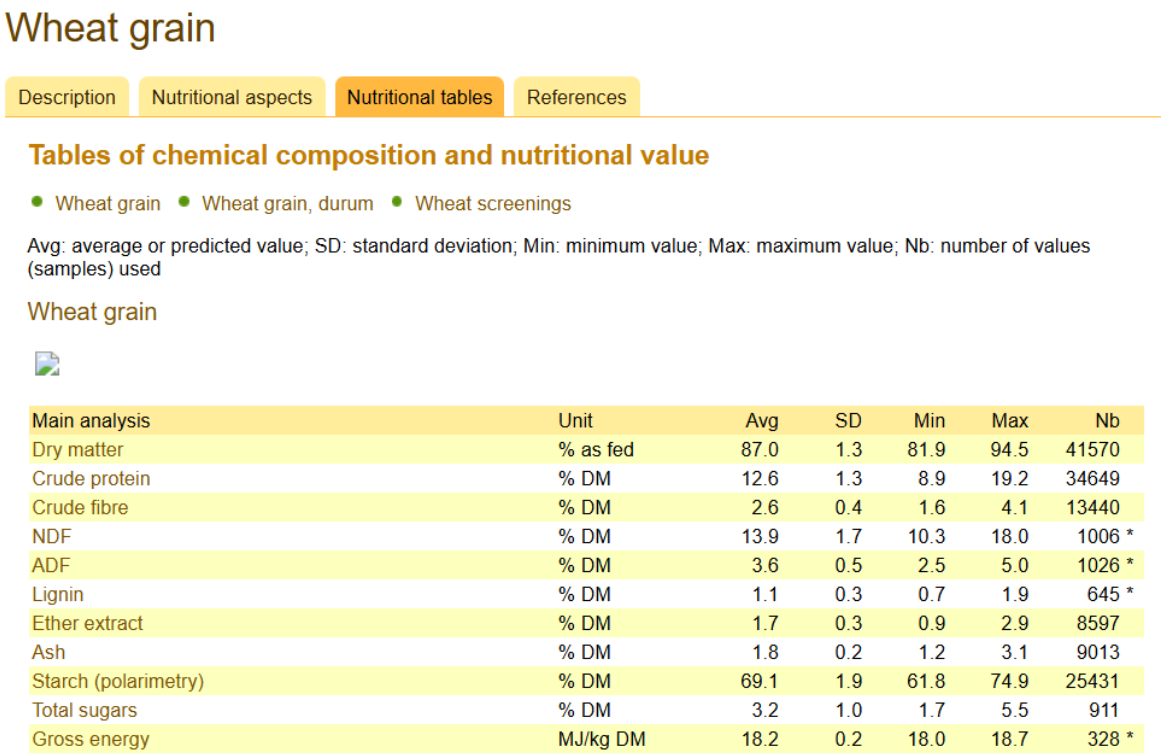
Feedipedia: Example of the description of Wheat, including photos.

Benefits of Feedipedia

- Detailed descriptions and photos of feed resources, helping analysts confirm visual and structural characteristics.
- Information on processing methods that affect particle size and morphology, aiding in accurate microscopic identification.
- Feedipedia's nutritional composition tables serve as benchmarks for expected values.
- Helps detect anomalies in feed samples that might indicate fraud or poor-quality ingredients.
- Use Feedipedia's species-specific feeding recommendations to understand why certain ingredients appear in a sample.

- Validate whether observed components align with intended formulations for cattle, poultry, pigs, etc.
- Free Access: Available to farmers, students, researchers, and policymakers worldwide.

Explore Feedipedia today and unlock the potential of global feed resources.



Wheat grain

Description | Nutritional aspects | Nutritional tables | References

Tables of chemical composition and nutritional value

• Wheat grain • Wheat grain, durum • Wheat screenings

Avg: average or predicted value; SD: standard deviation; Min: minimum value; Max: maximum value; Nb: number of values (samples) used

Wheat grain

Main analysis	Unit	Avg	SD	Min	Max	Nb
Dry matter	% as fed	87.0	1.3	81.9	94.5	41570
Crude protein	% DM	12.6	1.3	8.9	19.2	34649
Crude fibre	% DM	2.6	0.4	1.6	4.1	13440
NDF	% DM	13.9	1.7	10.3	18.0	1006 *
ADF	% DM	3.6	0.5	2.5	5.0	1026 *
Lignin	% DM	1.1	0.3	0.7	1.9	645 *
Ether extract	% DM	1.7	0.3	0.9	2.9	8597
Ash	% DM	1.8	0.2	1.2	3.1	9013
Starch (polarimetry)	% DM	69.1	1.9	61.8	74.9	25431
Total sugars	% DM	3.2	1.0	1.7	5.5	911
Gross energy	MJ/kg DM	18.2	0.2	18.0	18.7	328 *

Feedipedia: Example of a nutritional table from Wheat.

NEW PUBLICATION!

Our Colleague Dr. PhD. Zeiri Asma would like to share this preprint with you:

Microscopy-Based Identification of Blood Products, Milk, and Hydrolyzed Proteins in Animal Feed Under Regulation (EU) 152/2009: Current Challenges

Abstract

Under EU legislation, the use of blood products, milk, and hydrolyzed proteins in animal feed is regulated to ensure safety and prevent the spread of disease. These materials are classified as animal by-products (ABPs) and their use is restricted to prevent risks associated with transmissible spongiform encephalopathies (TSEs) and other potential hazards. Specific EU regulations outline official methods for detecting processed animal proteins (PAPs) in feed, primarily through light microscopy and polymerase chain reaction (PCR). Microscopic identification remains challenging, particularly when distinguishing particles such as milk globules, plasma residues, and hydrolyzed proteins. This review highlights these limitations and emphasizes the urgent need for enhanced training and refined techniques to improve the accuracy and reliability of microscopic analysis in complex samples.

To read the full document please use the link given above!

The work is published online as preprint, so the information is available for everyone to read, review and suggest changes. This meant giving insights into the difficulties of technicians in some specific cases. As you are the best experts in the field, you have the opportunity to give some feedback to make the work better and valuable to help everyone.

If you want to share your opinion, please feel free to get in contact:

Dr. PhD. Zeiri Asma

Independent Researcher, Biology-Entomology

ORCID: https://orcid.org/0000-0002-6115-325X

SAVE THE DATE - Next IAG Meeting

The Annual IAG meeting will take place **on June 16-18th June 2026** in **Karlsruhe, Germany,** hosted by **LTZ Augustenberg**.

There will also be an exciting and highly relevant workshop on the detection of plant seeds and poisonous plants the days before (15/16th June 2026) especially and ONLY for a limited number of IAG-Members.

All useful information for registration can be found in the official invitation letter on the IAG website as soon as it will be published.

→ www.iag-micro.org

Take the opportunity to establish connections with colleagues and take part in discussions and information sharing about important subjects related to a crucial area of monitoring.

Looking forward to your participation!

Closing remark

Dear reader,

We hope you found the items in this newsletter to be interesting to read. Furthermore, we hope that the knowledge provided will be helpful for all of your endeavours. Your inquiries will be assisted by the board members of IAG section Feed Microscopy as well as, of course, by all other members. Thus, feel free to get in touch with us.

Board of IAG section Feed Microscopy

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