Therapeutic gaps in the poultry sector

Hearing of 31/01/2025

Participants: Olivier SALANDRE (poultry veterinary practitioner, CSMV representative), Sophie LAGADEC (Univet veterinary practitioner and Sanders Bretagne consultant, SNGTV representative), Claire CHAUVIN (Anses Ploufragan, veterinary epidemiologist)
for ANMV: L. Baduel, B. Leroux, M. Salery, M. Zerrouki, L. Fabry, E. Begon

> ***Reminder of the responsibility for the comments expressed during the hearing and reported in these minutes:***
> - *The identification of therapeutic gaps (and details of the situations expressed and the alternatives envisaged) is the responsibility of the representatives of the veterinary profession*
> - *The ANMV provides additional information or answers to the technical-regulatory questions addressed. These supplements are systematically preceded by "**ANMV info**: to distinguish the origin of the words expressed.*

General remarks (new elements since the last hearing – in blue):

1. **The deficiency of antipyretics usable in laying hens still identified as MAJOR Gap no. 1, with the desire for submission of a paracetamol MRL file for poultry eggs** ("cascade withdrawal period (WP)" is for eggs ≥ 10 days). Indeed, the economic impact is very important due to the fever effect on laying performance and animal welfare (AW)
2. **Arthritis due to *Enterococcus cecorum*, is of increasing concern (now MAJOR gap n°2),** because of their significant impact on animal welfare (AW) and of their observation even in very well-controlled environments and appropriate biosecurity measures**. Early and rapid diagnosis, often difficult before symptoms appear, and the absence of an existing vaccine solution lead to extensive use of antibiotics as soon as possible,** bearing in mind that damage is already significant when symptoms appear.
3. **The laying sector is penalised by the absence of MRLs for at least 3 active substances (paracetamol, praziquantel and enilconazole in case of spraying): no noticed progress in this area for at least 2 years.** The sector is ready, if necessary, to participate to studies: **how can MAHs be mobilized?**
4. **The use of autogenous vaccines** sometimes help to respond to the appearance of new strains more quickly than some existing vaccines (e.g. colibacillosis): **the identification of their uses would complement the analysis of lack of efficacy** carried out through pharmacovigilance declarations.
5. **The divestment of medicated feed manufacturers** following the implementation of the European regulation, **causes therapeutic deficiencies** which can sometimes be very problematic (e.g. parconazole for turkey candidosis – 1 MA still maintained but the factories do not have them in stock, which makes the time to obtain the medicated feed unsuitable).

Prioritisation and evolution of gaps since the last hearing in October 2022: see p 10-11

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Table summarising the comments of representatives of the veterinary profession (new elements since the last hearing – in blue):

0 VMP (Absence of appropriate veterinary medicinal products) **is highlighted in yellow, when requesting a medicinal product with a veterinary MA for the species and indication concerned**

Disease	**Problem encountered*:** **PhV:** Pharmacovigilance (efficacy or safety perceived by the sector as unsatisfactory) **Disp:** Availability, shortage **Reg:** Regulatory (cascade application, withdrawal period, restricted access) **0 VMP:** Absence of appropriate veterinary medicinal product **0 TS:** No therapeutic solution	***Problem type:** **PhV** **Disp** **Reg** **0 VMP** **0 TS**	**Alternatives identified**	**PRIORITIES** **Major: M** **minor: m**
Control of the effects of viral passages (infectious bronchitis, pneumovirosis, etc.) **Laying hens**	Need to be able to use an antipyretic in laying hens to limit the clinical, economic impact (drop in laying from 10% to 70% during viral passages) and animal welfare (AW) concerns. It should be noted that this impact is tenfold in alternative farms. ***ANMV info:* Absence of MRLs for eggs for aspirin** *(extension of quantitative MRLs in* ***broilers*** *since 03/2024)* ***and of MRLs for eggs and meat for paracetamol in Poultry.*** => Treatments used and effective in breeding hens farms but sorted eggs must be withdrawn from consumption (human and animal). ***ANMV info:*** *for substances listed in Table 1 => cascade is possible with specific WP - see Reg 2019/6.* ***BUT for acetyl salicylic acid (="aspirin"), sodium acetylsalicylate and sodium salicylate, it is stated: "Do not use in animals producing milk or eggs for human consumption" (see details below)*** *-* ***Aspirin*** *(acetyl salicylic acid): no MRLs required for all species except fish but* ***prohibited in laying hens*** *(see above)* *Sodium salicylate: MRLs meat & offal defined for Turkeys (=> 96% ADI) and "Not for use in animals producing eggs for human consumption". No MRLs required for oral use in pigs and cattle (and "Do not use in animals producing milk for human consumption").Topical use: no MRLs required for all species except fish.*	**Reg**	• **Oxytetracycline** (medicated food or via drinking water) in the absence of anti-inflammatory or anti-pyretic medicinal products that can be used in laying hens. A better response is usually obtained via food rather than drinking water. However, with NVR, most factories stopped the manufacture of medicated food. • **Plant extracts** (e.g. sanguinarine) • **Administration of acids, probiotics** • **Disinfection drinking water** • **Mist**	**M** **n° 1**

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	- ***Paracetamol:*** *since 1999, "no MRLs required" status for pigs when administered orally (=> 42% ADI). No residue studies were provided for cattle and poultry* ***=> With Reg 2019/6, cascade use is possible with WP meat ≥ 1d and WP eggs ≥ 10d.*** ***ANMV info:*** *Still no new MRL extensions for eggs.*	**0 VMP (paracetamol MRL for eggs)**		
Arthritis due to *Enterococcus cecorum*	**No vaccines.** **ATB treatments are the only solution.** **Multiple causes, difficult to identify** precisely. **Emerging and recurrent diseases,** even in good breeders with high-growth broilers. Outbreaks of infection may persist, despite antibiotic treatments. **Lack of early diagnostic tools.** The first signs can appear in the first 4-5 days of life, even on "clean" farms. The search for pathogens in the environment is difficult because PCR does not make the difference between commensal and pathogenic bacteria. Research on genetics has not been conclusive. Ongoing research on the impact of flora and microbiota. A project has been proposed for EcoAntibio3 but has not been selected.	**0 VMP (vaccine)**	**Antibiotics:** - **amoxicillin** widely used (at 10 or 20 mg/kg, but possible relapses even with 20 mg/kg) - **Lincospectin:** 99% efficacy if used as early as possible from the onset of clinical signs, in metaphylaxis, or from the first days of life in case of identified risk factors (controversial prophylactic-like use, etc.). **Autogenous vaccines on breeding farms,** but with no effectiveness currently actually demonstrated in the field.	**M n°2**
Aspergillosis **Turkey and hatcheries**	**Off-label use of Imaveral® sprayed in the presence of animals**. The MA is for the treatment of ringworm **for external use** (local application or spray) in Cattle, Equines, dogs and cats, with a 0-day meat and milk WP for cattle and equines. Currently the **MRL enilconazole (IMAVERAL®) exists for Cattle (total residues < 11% ADI) and horses but for topical use only.** **With Reg 2019/6, the "cascade" WP for topical use can now be ≥ 1 day.** For information, a study conducted by Jansen (see opposite) showed that the amounts of enilconazole residues found in the skin and meat the day after 2 mists per day at 20 mg/m^3 for 3 consecutive days were 7 times lower than the ADI. But **1 single study may be insufficient to safeguard veterinarians on the setting of a WP for a route of administration other than that specified in the SPC.**	**0 VMP (enilconazole MRLs in poultry when fogging)**	**Phytotherapy** ***ANMV info:*** *The majority of research on herbal treatments for aspergillosis is focused on humans, including a new treatment approach using antimicrobial peptides (2024) and a new antifungal "Olorofilm" (ongoing phase 3 trial).* **Environmental treatment** Published data (Lille 2010) on residues during spray treatment:  Poster Résidus enilconazole SNGTV  Résultats étude pilote résidus enilco	**M n° 3**

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	Supply of the very fragile market with only 1 VMP sold by an equine oriented MAH. **Removal of CLINAFARM biocide** (imizalil) from Elanco. ***Info Anses:*** *ban since mid-2020 due to the absence of biocidal dossier submitted for this active substance.* Its use is no longer possible, including hatchery => **risks and concerns +++ with a possible increase in aspergillosis cases in 1-day animals.** No more product in stock. ***Anses info:*** *No other authorised biocides usable (see p16 report mentioned below)* **What are the risks for the user of off-label spray use?** Info from Anses Ploufragan: A thesis in Nantes - CHU is underway (Sophie Hartuis supervised by Patrice Le Pape) on the epidemiology of environmental Aspergillus resistance to azoles. Animal thesis (https://tel.archives-ouvertes.fr/tel-01373927/file/TH2015PEST1183_archivage.pdf) sent at the time – no contact since. ***Anses info:*** *No new information on user's risk.* *3 European agencies investigated resistance to azole compounds: see* Impact of the use of azole fungicides, other than as human medicines, on the development of azole-resistant Aspergillus spp.			
Histomonosis **Turkey** **+ guinea fowl** **+ label poultry and laying hens**	**Very important challenge for the turkey sector:** "orphan disease for an orphan sector". Disease difficult to control once established. **Evolution, impact and outcome varies,** depending on age of occurrence, gender (males more affected) and batches. Euthanasia or early slaughter is applied, depending on the age of the animals. **Distress +++ over several days: major impact in terms of animal welfare.** Prevalence of 2 to 6 cases out of 400 lots per year - remains low, so low that it is difficult to test the effectiveness of any treatments. **Much higher prevalence in outdoor farming.** Microbial impact and immunity factors still to be explored.	**0 VMP (vaccine)**	**No effective alternatives.** **Combination of antibiotics** for digestive purposes. *Reminder:* the cascade is not applicable with paromomycin for calves and pigs as it is contraindicated in turkeys due to the risk of resistance development. Use of ATBs or azoles (carcinogens) in other countries (US and? Eu). Ronidazole with MA for pigeons, but prohibited for animals whose meat and products are intended for human consumption. **Phytotherapy:** very random efficacy. **Biosecurity.** Water hygiene **Deworming** against *Heterakis*. **Probiotics** (effect?) **Future vaccines?** published work on live attenuated vaccines by Austrian (Prof. Hess – encouraging results) and US	**M n° 4**

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			(insufficient results) teams. No new information. Nothing new.	
Pain management for "convenience" procedures: capping, guinea fowl ejointing	**No anti-inflammatory drugs with MA for broilers except aspirin** (limited palatability and questioned compatibility with other products or biocides?). **Immunocastration raises other questions:** product efficacy, degraded meat quality, societal acceptability.	**(0) VMP** **(MA extension to poultry)**	**Immunocastration** (IMPROVAC®) **Ketoprofen:** Extension of MRLs (since **May 2022)** to poultry **(excluding eggs)** . ***ANMV info:*** *4 MRL procedures (Table 1 status) finalised on* ***10/19/2023*** *with following MRLs: 10 µg/kg muscle, 10 µg/kg liver, 10 µg/kg kidney, 30 µg/kg fat+skin* => With Reg 2019/6, cascade WP ≥ 2 days (if prescription of DINALGEN 300 mg/mL), 3 days (if KELAPROFEN® 100 mg/mL or KETOPROPIG® 100 mg/mL), 4,5 days (if DINALGEN® 150 mg/mL or LABIPROFEN® 150 mg/mL) or 6 days (if prescription of other VMPs). But **ideally, these ketoprofen-based VMPs should apply for MA extension to "Chickens/Turkeys/Ducks" target species.** ***ANMV info:*** *no changes recorded to date* **Paracetamol** can be used via the cascade (meat WP ≥ 1d) but how effective?	**M n° 5**
	No local anaesthetics (sprays? gels?) usable for capping. ***ANMV info:*** *no new MA* ***As a reminder:*** **Unauthorised and illegal use of alfaxolone**: the prescription of ALFAXAN® (alphaxalone) at a dose of 2 mg/kg IV to anaesthetize chickens before capping with a fixed 28-day WP **is not allowed** (non-compliance with Art. 113 4) because **the substance is not included in Table 1 of the MRL regulation (No. 37/2010).** Its **use** would fall within the definition of **illegal treatment within the meaning of Regulation 2019/2090, with the related consequences (including destruction of the animals concerned).**	**0 VMP**	Work on the anaesthesia of poultry with isoflurane is currently being published (no recent information). No new information.	**M n° 5**
Candidosis **Turkeys**	There is a parconazole-based premix authorised in guinea fowl with a zero-day WP. **With Reg 2019/6, the "cascade" WP changed from 28 days to 1 day for turkey.** However, with the regulation on medicated foods, manufacturers are disinvesting from this activity and **the only premix of parconazole may soon no longer be manufactured.** Decreasing prevalence? Fewer big severe cases.	**1 VMP**	Parconazole 6 pintade® premix (cascade WP of 1day for turkey thanks to Reg 2019/6). However, the production of this premix is likely to be stopped. No more stock: emergency treatment no more possible ***ANMV info:*** *abandon of concentrate VO56 on 04/04/22. No notification of discontinuation of PARCONAZOLE 6 pintade® to date (but very sharp sales decrease).* Alternatives exist with highly controversial copper-based products. Research can be carried out on the probiotic side.	**m**

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			Iodine in drinking water. Conditions management.	
Hemorrhagic enteritis **Turkey and pheasants**	Previous shortage of DINDORAL®. **Only vaccine on the market => Very fragile situation.** ***ANMV info:*** *Return to the market at the end of March 2024.* *Case selected for ongoing European work Eu JAMRAI 2 on antibiotics or alternatives with difficulties/vulnerabilities in terms of availability.*	**Disp**	No vaccine alternatives to date, with the exception of a "viral autogenous vaccine".	**m**
Pasteurellosis **Turkey, breeding farms**	Recurrences observed for 2 to 3 years on some batches, despite repeated and regular treatments with amoxicillin.	**PhV** **0 VMP** **(vaccine)**	**Autovaccines:** work carried out but limited communication.	**m**
Ulcerative enteritis due to *Clostridium colinum* **Partridges**	Problem encountered in France and Italy.	**PhV** **0 VMP** **(vaccine)**	**Antibiotics:** response but with relapses at treatment discontinuation **Autovaccines:** research in progress	**m**
Collibacillosis **broilers**	Real problem unsolved. The Poulvac E coli® vaccine, the only marketed vaccine, requires at least 2 weeks for immunity to be established (effective only over the second part of life) and contains "only" O78, while recent publications confirm the diversity of strains and the limited efficacy on the mortality of chicks. Then there is **protection of chicks and against other APEC strains** (avian pathogenic Escherichia coli). ***ANMV info:*** *4 cases of lack of efficacy received: of which 2 imputed "possible" (mortality with isolation of EC O78K80)*	**1 VMP**	**Antibiotics** **Autovaccines in breeding farms.**	**m** or "resolution in progress"

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Pathology: **in the process of resolution** **with existing solution**	**Initial problem**	**Initial Problem Type**	**Solution / Alternatives** **Reason for: Resolution in progress / Elimination of therapeutic gap**	**GAP** previously prioritised as: **MAJOR: M** **minor: m**
Parasitism **laying hens outdoor breeding farms** **Teniasis (cestods)**	**Increasing prevalence**. **No MRLs (including eggs) for praziquantel in poultry.** Praziquantel included in Table 1 with "no MRL required" for sheep (total residues < 30% ADI) and horse and MRL of 20 µg/kg for fin fish. CESTOCUR® WP for meat (sheep) = 0 day**=> With Reg 2019/6, possible cascade with meat WP ≥ 1 day and eggs WP ≥ 10 days.** **=> To obtain an MRL for eggs, data are needed on metabolism and residues in poultry.** According to Regulation 2017/880, no possible extrapolation of MRLs between unrelated species, neither between tissues and eggs within the same species. It should be noted that Reg 2019/6 **(Art 40.4)** reinforces this prohibition of use in the absence of data and **provides protection for 5 years on the data submitted.**	**0 VMP** **(praziquantel MRL for eggs)**	***ANMV info:* extension of indication to Raillietina** *(18/03/2024) at a rate of 3 mg/kg/d for 10 days, for* ***GALLIFEN® 200 mg/mL suspension*** *for administration in drinking water* ***for "broilers" (with zero-day eggs WP) and pheasants***	**M** **n°4**
Nematodes helminthosis (*Ascaridia* and *Heterakis*)	Increasing problem, probably linked to the development of outdoor farming, but not only, as confined farms are also affected. Following the change in regulations on the use of anthelminthics, particularly in organic farms, the sector is moving to alternatives with unproven efficacy (and probably low or nul) and the prevalence and impacts of these worms (Ascaridia) are increasing. **The management of Heterakis is an important element to be compared with the control of histomonosis, a disease for which no treatment is available (Heterakis is a possible vector of Histomonas – see publications).**		***2 new MAs:*** - ***FLUBORAL®:*** *MA dated 15/12/2022: Flubendazole oral suspension for pigs and broilers with a concentration of 200 mg/ml (2 times more concentrated than the original oral suspension SOLUBENOL® - for which the MA has been abandoned - and the two generics FLIMABO® and FLIMAFEND®.* - ***FLUDOSOL 200® oral suspension of flubendazole 200mg,*** *for pigs and broilers (MA dated 06/04/2023)*	
Coccidiosis **Turkey and guinea fowl**	Future vaccines *in ovo* only for Gallus ***ANMV info:*** *no new MA to date*	**0 MV vaccines**	***ANMV info:* 11 drinkable solutions with MA for turkeys:** *7 with amprolium with and 4 with toltrazuril*	**m**
Colibacillosis **Laying hens**	**During the laying period, POULVAC E Coli®** can be used (since acceptance of **the 2021 MA variation** – see opposite), but its efficacy has not been demonstrated.	**Reg**	• **POULVAC E Coli®:** removal of the previous "Contraindication" in § 4.7 of the SPC, for its use during laying period. *As a reminder:* MA variation submitted on 01/03/2021, accepted on 09/09/21 by	Resolution in progress

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	However, the use of autovaccines remains essential in a large number of cases, particularly if the *E Coli* strain is different from that of the vaccine.Conditioning the authorisation to the provision of pharmacovigilance declarations poses the problem of being obliged to vaccinate/ "sacrifice" (at least one batch) with an ineffective vaccine. More than 90% of "meat" and "laying" breeding chicks are currently receiving autovaccines with very good results. Use of autovaccines on pullets to prevent disease in the laying building. ***ANMV info**: 10 requests for autovaccines received since last hearing*		the CVMP to amend the SPC §4.1 Indications *"Chickens (broilers, future laying/breeding birds) and turkeys"* and §4.7 Use during pregnancy, lactation or laying *"The safety of Poulvac E.coli® has been demonstrated when administered to hens during the laying period as a single dose by nebulization and drinking water. However, the effectiveness of Poulvac E.coli has not been demonstrated when administered to hens during the laying period. The decision to use this vaccine in hens during the laying period should be made on a case-by-case basis.* *The safety of Poulvac E.coli® has not been studied in turkeys during the laying period. Do not use in turkeys during the laying period and within 6 weeks prior to the laying period."* • **Autovaccines:** Extension of the use of autovaccines to the concept of epidemiologically related farms (strains of the laying animals used during the breeding phase in the chicks) **considered by Reg 2019/6**. ***ANMV info:** 3 cases accepted since last hearing* • Colistin with restriction • Phytotherapy	
Coccidiosis broilers	Rather an economic issue: cost of vaccines (purchase/ administration) + adaptation of the food formula. The meat WP of toltrazuril-based specialties does not allow their administration during clinical episodes. **The 3 vaccines available, for Gallus only, and for short (meat) productions, are more expensive than coccidiostatic additives and a slight decrease in performance appears to occur around 14 days when these vaccines are used.** **=> *In ovo* vaccination is possible with one vaccine, but obligation to have the customer sign a discharge** to use it because the majority of the SPCs of other *in ovo* vaccines mention "Do not mix with other specialties". Available amproliums not very effective. **Sulfonamides have indications for coccidiosis**, but are not widely used. Toltrazuril with 18-day WP in broilers when clinical signs occur at 25-28 days. The VMPs with other active substances have too long WPs for the age at which clinical coccidiosis occurs.	**PhV / Reg**	**In ovo hatchery vaccine,** for Gallus only. Vaccination possible at 1 day at the hatchery with live vaccines. ***ANMV info**: only one vaccine for in ovo vaccination among the 6 vaccines against Eimeria (i.e other available vaccines in Eu according to UPD)* **Three vaccines are available,** for Gallus only, and for short (meat) productions. Treatments other than amproliums, such as sulphonamides, have indications for coccidiosis, but are rarely used. Alternatives used in the field: complex products consisting of plant extracts or essential oils for the most part but without official claims neither rigorous efficacy studies.	Resolution in progress

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	ANMV info: *following a European arbitration WP for eggs, the period of non-use before the start of the laying period has been increased from 4 to 6 weeks for toltrazuril VMPs.* *As a reminder:* Another problem following vaccination: **impossibility of prescribing ATB treatments during the 3 weeks of vaccination immunity setting, which may lead to the use of fluoroquinolones, if sulfonamides are not sufficient or if there are shortages of small packaging of fluumequine VMP.** **Other alternatives** (complex products consisting of plant extracts or essential oils for the most part) **without official indications and claims such as "contributes to risk management related to coccidia".** Products used in drinking water, therefore looking like treatments. **No rigorous efficacy studies for these complex products.**			
Highly pathogenic avian influenza (HPAI)	*As a reminder:* **Vaccine use:** candidates existed but the health policy had first to be defined. Anses had been requested urgently: 2 referrals (for Gallus and palmipeds) were written. The impact is French and European and the economic impact is international.		**New vaccines developed.** **Successful vaccination strategy.** ***ANMV info:*** *For broilers (Gallus gallus), TAU (temporary authorisation for use) were granted for live vaccines for recombinant hatcheries with the IAHP H5 strain, Vaxxitek HVT+IBD+H5® (new TAU dated 25/04/2024) and Vectormune° HVT+AIV® (renewal of TAU dated 19/04/2024).*	Resolution in progress

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Prioritisation of identified gaps

	Olivier SALANDRE	Sophie LAGADEC	Claire CHAUVIN	Prioritisation at the previous hearing (07/10/22)
Control of the effects of viral passages (infectious bronchitis, pneumovirosis, etc.) Laying hens	**M n°1** (eggs' MRL wish for paracetamol)	**M n°1** (eggs' MRL wish for paracetamol)	**M n°1** (eggs' MRL wish for paracetamol, impact of health & welfare)	**M n°1**
Arthritis due to *Enterococus cecorum*	**M n°2**	**M n°2** (vaccine wish, impact +++ on welfare & access to water points)	**M n°2**	
Aspergillosis Turkeys and hatcheries	**M n°3**	**M n°3**	**M n°3** (public health concerns)	**M n°3**
Histomonosis Turkeys, guinea fowl, label and laying poultry	**M n°4**	**M n°4**		**M n°2**
Pain management for "convenience" procedures: capping, guinea fowl ejointing	**M n°5**	**M n°5**		**M n°5**
Candidosis - Turkeys	**minor**	**minor**		**minor**
Hemorrhagic enteritis – Turkeys and pheasants	**minor**	**minor**		**minor**
Pasteurellosis - Turkeys and breeding farms	**minor**	**minor**		
Ulcerative enteritis due to *Clostridium colinum* - Partridges	**minor**	**minor**		
Colibacillosis - Broilers	Resolution in progress	**minor** (existing treatments, only 1 vaccine)		**minor**
Parasitism -Laying hens outdoor and breeding farms - Teniasis (cestodes) - Nematods helminthosis (*Ascaridia* & *Heterakis*)	Resolution in progress (remain vigilant about the risks of intoxication with GALLIFEN® in case of specific genetics)	Resolution in progress (if relapses avoided with GALLIFEN®?)		**M n°4**
Coccidiosis - Turkeys and guinea fowl	Resolution in progress	Resolution in progress		**minor**
Colibacillosis - Laying hens	Autogenous-vaccine	Resolution in progress (few remaining batches concerned)		Resolution in progress
Coccidiosis - Broilers	Gap resolved	Gap resolved		Resolution in progress
Highly pathogenic avian influenza	Gap resolved	Gap resolved		Resolution in progress

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Changes in gaps since the last hearing in October 2022:

Favourable trend for:

- **Teniasis, thanks to a recent MA extension** to Raillietena for a suspension of fenbendazole (at 3 mg/kg/day for 10 days) with a zero-day WP for eggs.
- **Coccidiosis in turkeys and guinea fowl, thanks to the availability of 11 oral anticoccidial VMPs.**
- **Coccidiosis in broilers, thanks to the 11 amprolium-based VMPS or use of vaccines (*in-ovo* or D1).**
- **HPAI, thanks to new vaccines and vaccination strategy** in place

Less favourable trend for:

- **Arthritis with *Enterococcus cecorum*,** newly considered as major gap n°2, due to their major impact on the condition and welfare of the animals, the lack of early diagnostic tools and of vaccines. Therefore, they can only be controlled, to date, by the administration of antibiotics in metaphylaxis or in case of identified risk factors.
- **2 new minor gaps:** pasteurellosis in breeding turkeys and *Clostridium colinum* ulcerative enteritis in partridges, because of relapses observed despite antibiotic treatments (ongoing work with autovaccines)

	Hearing dated 07/10/22	Hearing dated 31/01/25
MAJOR priority	**1. Control of the effects of viral passages (infectious bronchitis, pneumovirosis, etc.) - laying hens** **2. Histomonosis - turkeys, guinea fowl, label and laying poultry** **3. Aspergillosis - turkeys** **4. Teniasis (cestods) - laying hens outdoor and breeding hens** **5. Pain management for "convenience" acts: capping, guinea fowl ejointing**	**1. Control of the effects of viral passages (infectious bronchitis, pneumovirosis, etc.) - laying hens** **2. Arthritis due to *Enterococcus cecorum*** **3. Aspergillosis – turkeys and hatcheries** **4. Histomonosis - turkeys, guinea fowl, label and laying poultry** **5. Pain management for "convenience" acts: capping, guinea fowl ejointing**
minor priority	✚ Colibacillosis - broilers • Candidiosis - turkeys ✚ Coccidiosis - turkeys and guinea fowl ✚ Hemorrhagic enteritis – turkeys and pheasants	• Candidosis - turkeys • Hemorrhagic enteritis – turkeys and pheasants ✚ Pasteurellosis - turkeys breeding farms ✚ Ulcerative enteritis due to *Clostridium colinum* - partridge • Colibacillosis - broilers
Resolution in progress	➢ Colibacillosis - laying hens (thanks to MA variation and autovaccines) ➢ Coccidiosis - broilers (thanks to future vaccines) ✚ Highly pathogenic avian influenza (health policy and future vaccines)	➢ Parasitism - laying hens outdoor and breeding farms - Teniasis (cestods) **(thanks to fenbendazole MA extension to *Raillietena*)** - Nematodes helminthosis **(thanks to 2 new MAs with flubendazole)** ➢ Coccidiosis - turkeys and guinea fowl ➢ Colibacillosis - laying hens
Existing solution	☑ Adenovirus (breeders), Reovirus (depending on strains), viral pancreatitis – guinea fowl **(thanks to autovaccines and TAU)**	☑ Coccidiosis - broilers **(thanks to amprolium VMPs and *in-ovo* or D1 vaccines)** ☑ Highly pathogenic avian influenza **(thanks to new vaccines and vaccination strategy)**