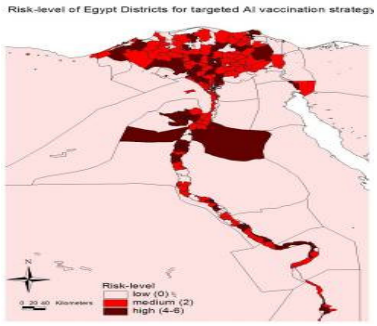
HPAI-EGYPT

AI Vaccination in Egypt: Standard Operating Procedures



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- *General Organization for Veterinary Services (GOVS);*
- *National Laboratory for Quality Control and Poultry Production (NLQP); and*
- *Emergency Centre for Transboundary Animal Diseases (ECTAD), FAO-Egypt*
- *In Collaboration with the French Agricultural Research Center for International Development (CIRAD)*

In This Issue:

An Update on the Recommendations for AI Vaccination Strategy in Egypt

Vaccination against AI in Egypt has been used for the last three years as a principal tool to control the epidemic of HPAI. A recent assessment study has highlighted the limited impact that the current AI vaccination on the control HPAI.

Limited Efficacy of the Current AI Vaccination Strategy and Associated Risk Factor

- low coverage (up to 35%) with an estimated protective coverage below 20%, well under the flock immunity threshold required (at least 50% protective coverage) to control HPAI epidemics
- improper use of vaccines (no booster doses; vaccination of day old bird with inactivated vaccines
- limited biosecurity precautions practiced by vaccinating squads (improper use of PPE;

Recommendations were made based of the assessment findings and in pursuit of for an improved AI vaccination strategy in Egypt. These recommendations were presented, discussed and finalised during a technical workshop held on April 12, 2009 at Pyramisa Hotel in Cairo.

Generic Recommendations on AI Vaccination Strategy and Implementation

- Booster doses needs to be administered 3-4 weeks after the first injection of an inactivated vaccine
- Vaccination of under age birds(<7 days of age) with inactivated vaccines is not recommended
- All vaccination should be administered 14 days prior to the expected slaughter (for consumption) of birds
- Vaccine dose should be adapted to the species vaccinated (e.g. higher dose for waterfowl compared to chicken)

The assessment findings strongly suggest the need to develop a well defined AI vaccination strategy adapted to the various poultry production sectors, types and species/breed. Risk-based vaccination strategy was recommended for household poultry. Emergency vaccination during outbreak events should be stopped. .

Recommendations on AI Vaccination Policies According to the Sectors

Sector 1 and 2: compulsory /self sufficient / supervised by public veterinary services
Sector 3: compulsory / Government funded/ supervised by public veterinary services
Sector 4 (household poultry): compulsory in at risk areas; optional in low risk areas / Government implemented and funded / supervised by public veterinary services

Recommendations on AI Vaccination Protocols According to the Production Type

Commercial Poultry Farms:

Long cycle birds (broilers>1 month; breeders and layers): primary injection at 14 days old with a booster 3-4 weeks later; repeated booster doses every 4 months

Short cycle birds (broilers≤1 month): one dose at 14 days old

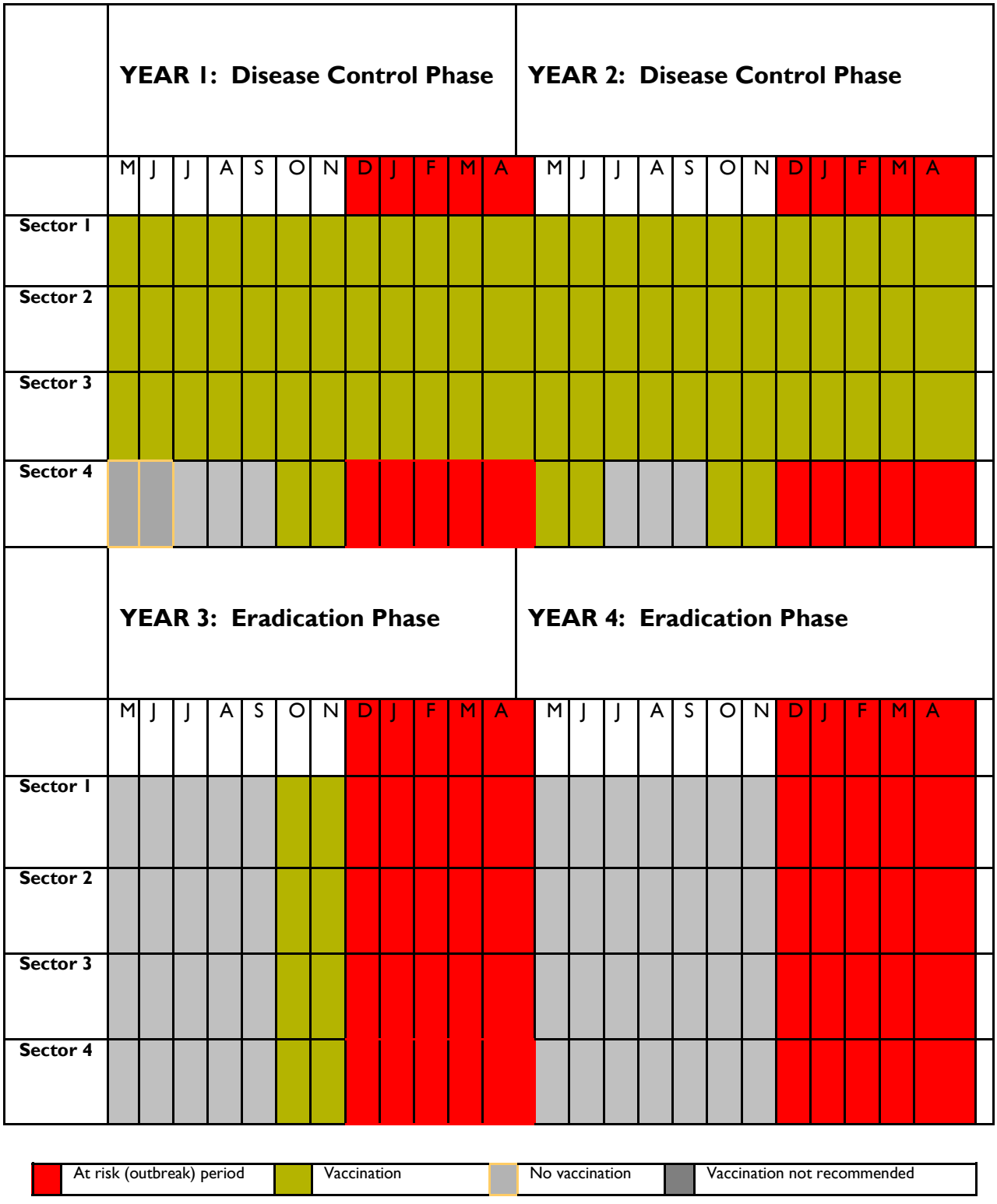
Household Poultry (mixed age and species; local breeds): primary injection at 14 days old with a booster 3-4 weeks later; campaigns to be performed from Oct-Nov just before the "at-risk" period (Dec-Apr). Vaccination of newborns to be encouraged by providing "on demand" free of charge vaccines and vaccination.

Ducks and Geese: same protocols with double volume dose of vaccine

An Update (Cont.)

Operational Plan and Exit Strategy for the proposed AI Vaccination in Egypt

The operational plan for implementing AI vaccination strategy in Egypt is prepared to cover TWO phases (Disease Control and Eradication) over a total duration of FOUR years and accounts for the different poultry production sectors (See below).



Standard Operating Procedures (SOPs) for AI Vaccination

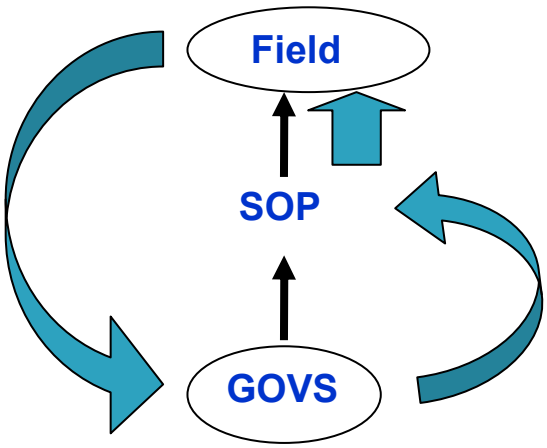
At the moment there is no clear regulation in place on the implementation of AI vaccination in Egypt. Discrepancies in decree implementation are being observed between governorates as they are not adequately defined. Measures are implemented by the means of "circulars" which are being distributed to Veterinary Directorates. Therefore, it is difficult to have an overview of the strategy and its means of implementation from a single document (lack of transparency at both central and local levels); hence, changes are not properly understood and consequently difficult to implement.

Principles and Advantages

The general principle for having SOPs is to ensure proper implementation of the agreed protocol, which consists of the document records on all the information relevant to the application of the protocol in the field. SOPs must provide the principle of the method, material and data needed for implementation, and detailed procedure on how to implement it. As a result:

- SOPs enhance external visibility and ensure quality of the implementation of the strategy. All activities to be performed should be clearly indicated in the document. In addition, all procedures stated in the SOPs should be implemented.
- SOPs increase practicality and uniformity in the implementation of the strategy. Anyone in charge should be able to perform the procedures just by following the previsions indicated in the document.

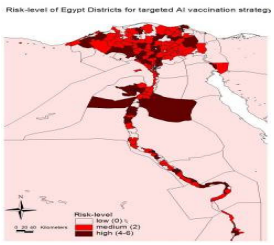
SOPs must be regarded as live working documents (need regular updating) and must allow ample flexibility:



- SOPs are developed by GOVS in collaboration with partner institutes (NLQP, CLEVB);
- SOPs are distributed to all Veterinary Directorates and other relevant stakeholders by means of workshops to explain its principles and utilization;
- SOPs should be regularly amended according to practical difficulties observed in the field;
- SOPs should be amended in order to reflect changes in the global strategy and approaches;
- Changes in the protocol should be clearly highlighted and traceable (version number, date of issue, etc…) and;
- GOVS is responsible to ensure proper use and updating (reviewing) of SOPs; all stakeholders including Veterinary Directorates should provide feedback to GOVS.

- **SOPs are tools for implementation of specific interventions**
- **Feedback on observation of constraints during the application of SOPs need to be provided to GOVS**
- **SOPs should be regularly updated to reflect field realities**

Principles (Cont…)

Activity	Principle	Objectives	Issues
Targeted vaccination 	• Mass vaccination is neither efficient nor sustainable • Reinforcement of vaccination in higher risk area is needed	• Identify risk areas for targeted vaccination (risk mapping using scoring method based on risk factors such as presence/absence of human HPAI cases and poultry outbreaks; density of human and/or poultry population…) • Implement vaccination according to the risk level	• Availability of data on selected risk criteria • Level of discrimination (how to reduce the number of targeted areas) • Mistrust in risk mapping in an endemic country
Organisation of Vaccination Campaigns 	• Vaccination campaigns need to be properly planned • Communication and public awareness activities to support the planned vaccination campaign should be undertaken prior to vaccination activities and tailored to ensure community cooperation.	• Provide checklist of activities to be undertaken before implementation of the campaign • Identify vaccination points (centres) especially for Sector IV • Gives details on tailor-made messages, media and planning for logistics to implement public awareness campaigns	• Ensure adequate manpower to implement vaccination • Ensure availability of transport means • Feasibility of vaccination (points) centres • Central supervision by veterinary services for proper implementation of vaccination campaigns • Ensure biosecurity precautionary measures and principles are respected at all times
Vaccination Protocols 	• Vaccination protocol differs according to the production type and species/breed • Different protocols for household and commercial poultry	• Provide details on the type, dose and schedule for vaccination • Specify administration protocol according to the species/production type • Ensure homogeneity of the procedure	• Ensure use of recommended vaccine • Implement GOVS supervision in farms
Vaccine Selection 	• AI vaccines should be registered and evaluated prior to any use • AI vaccines should be adapted to the type of production and species/ breed • Limited knowledge on vaccine efficacy evaluation protocols in place	• Provide details on AI vaccines registration and evaluation processes • Give methodology on how to select AI vaccine according to the type of production and species/breed to be vaccinated. The selection should be based on the efficacy of the vaccine against local virus isolates (challenge tests); in local breeds (field efficacy trials); the background validation in different species.	• Feasibility of field efficacy trials

Principles (Cont...)

Activity	Principle	SOP Objectives	SOP Issues
Post Vaccination Monitoring 	Critical component in the vaccination strategy: • To assess vaccination effectiveness • To monitor virus circulation in vaccinated flocks	• Provide protocols for sampling and sampling schedule according to sector/ production type. • Ensure homogeneity of the procedure	• Data on number and location of farms • Implementation of sentinels • Laboratory and field sampling capacities • Reluctance of farmers to comply with sampling
Diagnostic Tests	• Standardised diagnostic test protocols are essential for result comparison	• Provide detailed protocols for HI test; RT-PCR; Virus Isolation	• Availability of the document for use in private laboratories (private/public partnerships)

Summaries of Workshop Group Discussions

1. Implementation of the AI Vaccination Strategy

- Consensus on the methodology for targeted vaccination with:
  - Changes in the definitions of at risk Governorates to counterpart mistrust of Governors with risk mapping (definition criteria according to the region: Lower and Upper Egypt)
  - Addition of farm location as a risk factor
  - Risk mapping using all the data available since 2006
  - The poultry outbreak risk criteria to be based on number of outbreaks per year
- Implementation of vaccination points with mobile teams available to vaccinate birds which can not be brought to the centre in cages; this will resolve the problem of transportation (Note: need for a decree to legally enforce vaccination points).
- Involvement of Veterinary Students during the vaccination campaign to face the limited human resources issue.
- Development of an SOP from an existing law on supervision of vaccination in farms by veterinary services (GOVS responsibility)
- Increase communication all along the process to convince private sector to compile with the SOPs: media campaigns aiming facilitating cooperation between community and vaccination teams
- Minimum age for vaccination brought down to 10 instead of 14 days old
- **Need for a decree for implementation of SOPs**

Difference to the Previous AI Vaccination Strategy

- **Scientifically based strategy:** targeted vaccination instead of mass vaccination
- **Use of vaccination points** instead of door to door vaccination
- **Supervision of AI vaccination in farms** (not in place before)
- **Definition of a minimum age for vaccination (10 days)** (not in place before)
- **No more vaccination in ballady hatcheries**
- **Vaccination of ballady chickens in small farms under the management of public sector (implementation and**

2. AI Vaccines Selection and Post-Vaccination Monitoring

- Review the regulation on vaccine registration: need to reduce the registration time (currently 5 years) because of rapid mutation of the virus away from the vaccine strain
- All the imported vaccines have to be tested by CLEVB, capacities of the laboratory has to be reinforced to ensure this
- Development of SOPs on field trial efficacy of vaccines in local breeds (GOVS responsibility with the collaboration of NLQP)
- Increase communication all along the process to convince private sector to ensure the utilization of the recommended vaccines
- Need to plan for updating information from commercial sectors
- Need for compensation scheme to encourage the use of sentinel birds in farms
- Plan to continue upgrading provincial laboratories (n=24) to ensure sampling and testing of serology using SOP for HI test provided by NLQP
- Plan to upgrade satellite laboratories for testing of samples using PCR and serology SOPs provided by NLQP
- The role of private laboratory testing of samples from commercial farms needs to be minimise as those laboratories do not apply Good Laboratory Practices (GLP standards); licensing of these laboratories need to be reviewed.

تقييم سياسية التحصين في جمهورية مصر العربية

سياسة التحصين الحالية يتم تطبيقها خلال السنوات الثلاث السابقة كوسيلة للسيطرة على أنفلونزا الطيور، وقد كان التركيز على التحصين أدي إلي تقليل الاهتمام بإجراءات المكافحة الاخري مثل الترصد والأمان الحيوي والتعامل السليم مع البؤر الوبائية وتبعا للتقييم إلي أن تحصين أنفلونزا الطيور بشكل عام أدي إلي:

- استنزاف أكثر من 85 % عام 2007 / 2008 من ميزانية المكافحة الخاصة بأنفلونزا الطيور.
- قيام المزارع بالتحصين بدون أي معلومات عن الممارسات التي تتم داخل هذه المزارع.
- عدم وجود متابعة لكفاءة التحصين سواء في التربية الريفية أو في المزارع بعد التحصين.
- عدم ترصد انتشار الفيروس في الطيور المحصنة والتي تكون عرضة للإصابة الخفية بدون ظهور أي أعراض والتي يستلزم معها إجراء متابعة سليمة وترقب ظهور أي تحورات للفيروس .

فيما يخص التربية المنزلية:

- مستوي تغطية التحصين لا تتعدي 35 % من العدد المستهدف.
- خطورة انتشار الفيروس من بيت إلي بيت أثناء عملية التحصين نظرا لعدم تطبيق إجراءات الحماية الوقائية عند التحصين .
- عدم إعطاء جرعة تنشيطية للطيور للوصول إلي مستوي مناعي كاف لفترة طويلة.
- تحصين كتاكيت عمر يوم والذي يقلل بعد ذلك من استجابة الطيور للقاح عند البلوغ.
- عدم وجود إجراءات العمل القياسية لعملية التحصين في التربية المنزلية والتي توضح كافة التفاصيل الواجب اتباعها

بالنسبة للمزارع:

- برتوكول التحصين يختلف من مزرعة إلي أخري بدون وجود إجراءات العمل القياسية لعملية التحصين ، بالإضافة إلي أن الكثير من المزارع الصغيرة لا تقوم بالتحصين.
- تحصين كتاكيت عمر يوم والتي تتداخل مع تحصين الطيور عن البلوغ.
- كثير من مزارع البط والإوز لا تقوم بالتحصين.
- عدم وجود معلومات عن مستوي تغطية التحصين وكفاءته في المزارع.

لذا فإن هناك خطر عن سريان الفيروس بدون أن يظهر داخل القطعان المحصنة وينتشر لإصابة الطيور في التربية الريفية إذا ما تم بيعها في الأسواق.

وعليه فقد تم وضع التوصيات التالية:

استخدام سياسة تحصين ضد مرض أنفلونزا الطيور تبعا لإجراءات عمل قياسية وبرتوكولات محددة تبعا لنوع التربية والعمر ونوع الطيور ،على أن يتم مراجعتها باستمرار من قبل الهيئة تبعا للموقف الصحي للطيور ، وتتلخص هذه السياسة في:

١) التحصين في التربية المنزلية باستخدام التحصين الموجهة المبني علي تحديد أماكن الخطر :

- تحديد أماكن الخطر الواجب تحصينها علي أسس محددة ويتم التعامل مع المركز كأصغر وحدة في التقييم وذلك بتسجيل الإصابات في الطيور والآدميين وكثافة التربية في المركز (ذلك متوقف علي مستوي البيانات المتوفر فكلما زادت البيانات اللازمة كلما ساعد على التقييم الجيد والأدق لأماكن الخطر).
- تكثيف حملات التحصين قبل موسم الشتاء (سبتمبر ـ أكتوبر) بإعطاء الجرعة الأولي عند عمر 14 يوم وبعد 4 أيام يتم إعطاء الجرعة التنشيطية.
- يتم وقف التحصين في التربية المنزلية باقي العام مع ضرورة وضع برنامج جيد للترصد النشط والإبلاغ المبكر والتعامل السليم في حالة ظهور أي بؤر مرضية.
- زيادة الجرعة المسموح بها للدجاج إلي الضعف في البط والإوز.
- عدم تحصين كتاكيت عمر يوم.

2) التحصين في المزارع بإتباع نظام التحصين الإجباري لكل المزارع والذي يستلزم معه:

- إعداد برتوكول وخطة عمل تنفيذية :
  - للمتابعة السليمة لكفاءة التحصين في المزارع.
  - إعداد برتوكول وخطة عمل تنفيذية لترصد المرض في القطعان المحصنة .
- وضع خطة تنفيذية للتحصين في المزارع توضح بها مراحل السيطرة والتخلص من المرض ووقف التحصين نهائيا.
- القطعان طويلة التربية تحصن عن عمر 14 يوم وتعطي الجرعة التنشيطية بعد 3-4 أسابيع ثم تكرر كل 4 اشهر.
- القطعان قصيرة التربية تحصن مرة واحدة عند 14 يوم
- وقف تحصين عمر يوم في المزارع.

إرشادات عامة للتحصين:

- عدم تحصين أماكن البؤر أو الأماكن المحيطة حيث انه قد يؤدي إلي انتشار الفيروس أكثر من السيطرة عليه.
- تخطيط لسياسة وقف الحصين ومرجعتها سنويا تبعا للحالة الصحية.
- وقف تحصين عمر يوم .
- تكثيف حملات التوعية والإرشاد لكافة المستويات الموجهة والتي يحقق الأهداف الأساسية في السيطرة على المرض ومنع انتشاره بين الطيور لتجنب الإصابات الآدمية .
- إعداد دورات تدريبية حقلية لجميع العاملين في عملية التحصين والتي يجب أن تشمل الممارسات السليمة في عملية التحصين والإجراءات الصحية السليمة وطرق التوعية والإرشاد للمجتمع والواجبات المهنية.
- وضع إجراءات العمل القياسية بكل الطرق التنفيذية والتقييم الدوري للكفاءة التحصين وتطبيقه الحقلي.
- المتابعة لكفاءة التحصين والترصد لانتشار الفيروس.

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