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Vaccination against Avian Influenza: Challenges and Opportunities for Its Integration into a sanitary plan in Colombia

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Organizations

Colombian Agricultural Institute (ICA)

The ICA has 32 branch offices, one in each region, in addition to local offices serving the needs of municipalities across the country.



National Poultry Fund (FONAV)



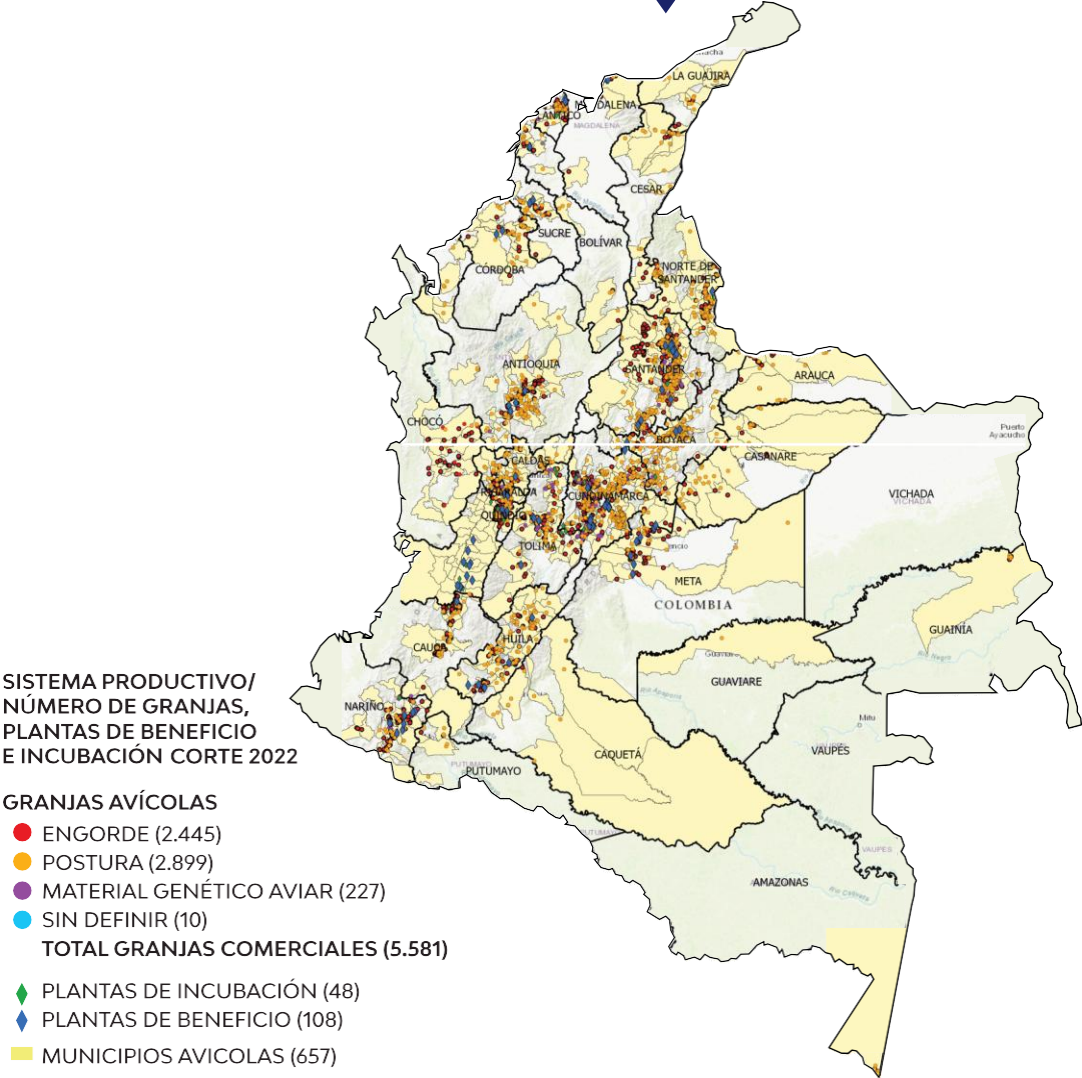
The National Poultry Fund is a special account whose resources are allocated to financing projects aimed, among other purposes, at improving sanitary conditions and food safety in Colombian poultry production (Law 1255 of 2008).

Strengthening Official Sanitary Programs



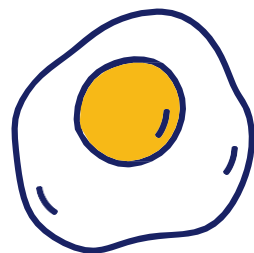
Poultry Territory

Poultry farms in Colombia



	2023	2024	Difference
Poultry municipalities	605	657	52
Total commercial poultry farms	5.327	5.581	254
Broiler farms	2.491	2.445	-46
Layer farms	2.597	2.899	302
Breeders	231	227	-4
undefined	8	10	2

POULTRY FACTS 2024



343
eggs
Consumption
per cápita

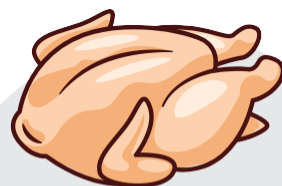


35,7 Kg
of chicken
Consumption
per cápita

Poultry produces 
+2'902.962
million of **tons** of the
most economic proteins



18.020
million of eggs



1'821.768
Tons of chicken meat



100 processing
plants

5.581
Poultry farms



657
poultry
municipalities



Generates more than
350.000
jobs

2.6%
Production growth
rate of the sector



Value of
production
\$29 billions

912
Millions of birds
put on farms



56
Millions are chicks

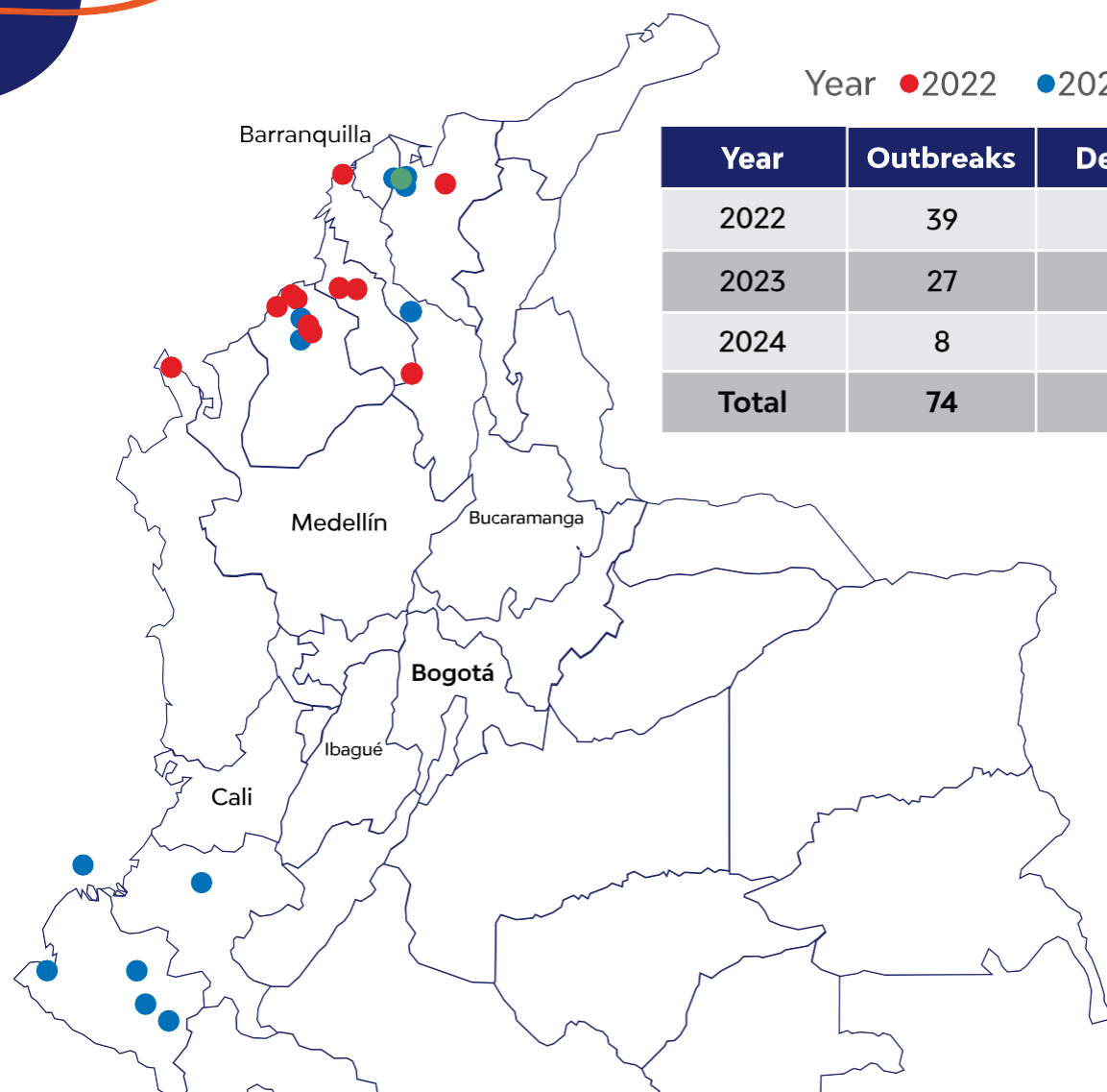


2024

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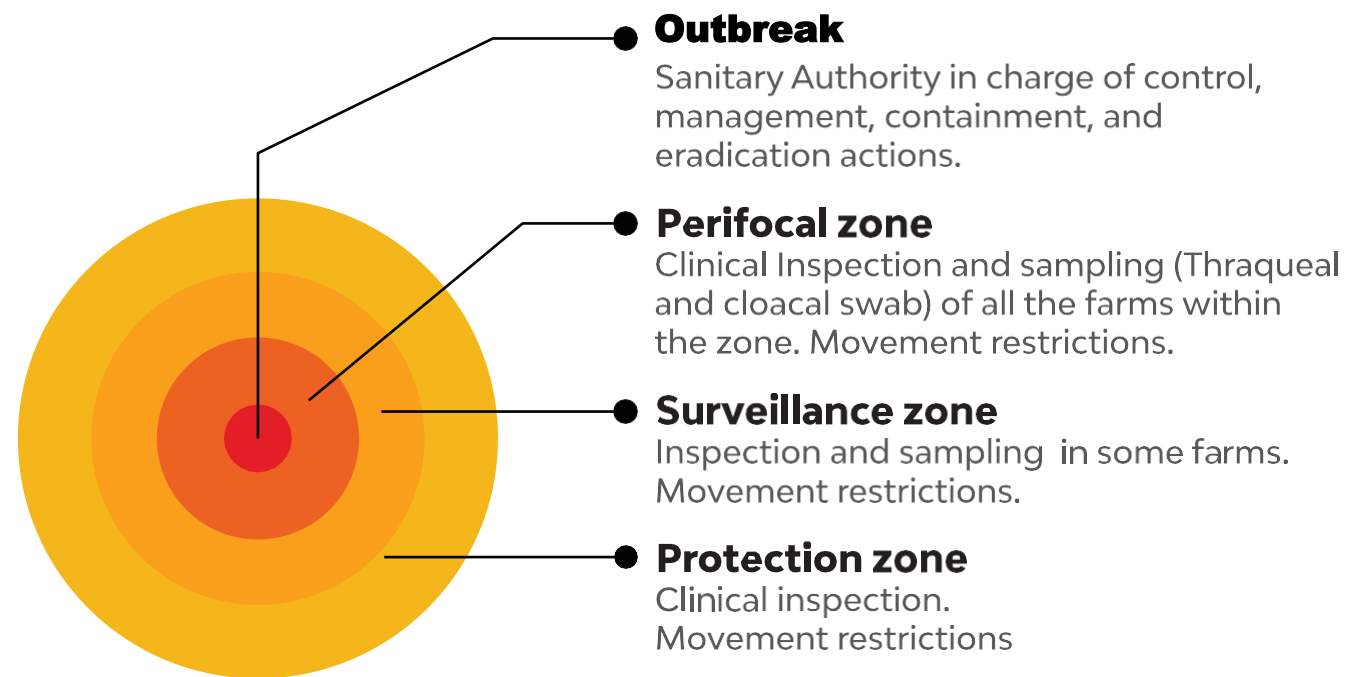


HPAI 2022–2024 – Colombia



Year	Outbreaks	Dead birds
2022	39	48.573
2023	27	5.178
2024	8	364
Total	74	54.115

Outbreak management - ICA



Fenavi's support in HPAI outbreaks

- | | |
|--------------------------|-----------------|
| 1 Sample processing | 1 Veterinarians |
| 2 Desinfection equipment | 2 Control tolls |
| 3 Sampling materials | 3 Lab analyst |
| 4 PPE | |

Vaccination

PREVENTIVE

Nov-Dec

Creation of the national Avian Influenza Subcommittee
ICA-Fenavi

2022

ICA-Fenavi

- Draft of resolution for a vaccine bank
- Meeting with vaccine producers

Nov-Dec

Jan-Apr

Fenavi after General Board decision requests ICA the creation of a National Vaccination Strategy
Fenavi

2023

ICA-Fenavi

- Sgment of the Regulation 845 creating the vaccine bank
- Aproval of the products for the vaccine banks

Jan-Mar

Jan-Jul

ICA – Fenavi and international experts work in technical tables developing the National Vaccination Strategy
ICA-Fenavi

2023

ICA

Analysis, testing, and authorization of available biologicals

Jan-Aug

Aug

Presentation of the Strategy to the National Poultry Comission
ICA

May-Oct

Public consultations of the Resolution for implementation of the National Preventive Vaccination Strategy
ICA

2024

Fenavi

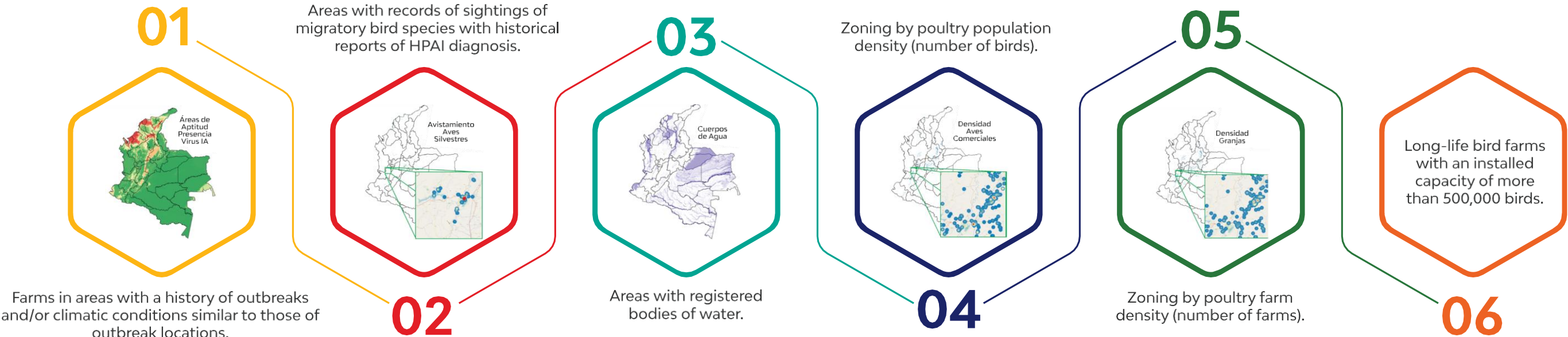
Request to ICA for reissuance of vaccine bank resolution due to expiration of the deadline for declaring a health emergency

Dec

EMERGENCY
VACCINE BANK

Colombia's Vaccination Strategy: Risk Factors

■ Identification of Risk Factors



■ Weighting of analyzed factors to determine priority municipalities.

ID	Weighting
Installed capacity of more than 500,000 birds.	3
History of outbreaks and/or climatic conditions	3
Registered bodies of water	1
Sightings of migratory bird species	2
Poultry population density (number of birds).	2
Poultry farm density (number of farms)	1

Total 12

Preventive Vaccination Strategy Colombia

Reduce the health and socioeconomic risk associated with Highly Pathogenic Avian Influenza through preventive vaccination on farms prioritized by risk.

Coverage and Scope

- **Farms to vaccinate**
Approx.
365 predios
high-risk farms.
- **Birds to vaccinate**
Approx.
36.800.000
- **Bird types**
Commercial
long-life
birds.

Sampling and Surveillance

- **Before vaccination**
serologies/ farm
ELISA
Clinical inspection record of birds.
- **Post-vaccination surveillance**
30 PCR/farm
Frecuencia determinada
Syndromic surveillance
Monthly reporting
Random serological sampling (DIVA): 30 farms every 30 days from day 21 post-vaccination until the end of the flock.
- **Baseline**
30 serums/ farm
HI
Identified birds, random distribution
Long-life birds monthly sampling.

Vaccine and Application

- **Types**
Inactivated vaccines authorized by ICA with DIVA capacity.
- **Technical selection criteria**
≥95% antigenic similarity with circulating strain ≥80% protection in challenge test Proven safety.

Approval Requirements

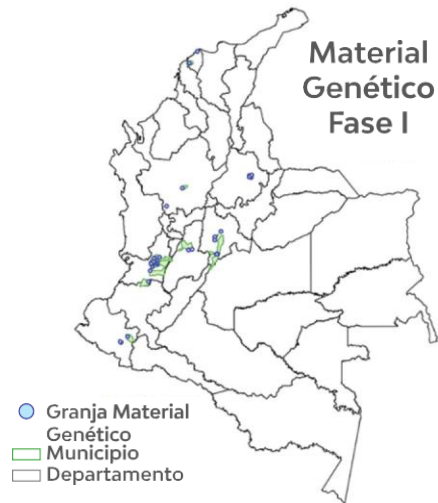
- 1 Valid or pending RSPP and GAB certificate.
- 2 Registered veterinarian with ICA.
- 3 Formal producer commitment
- 4 Compliance with biosecurity measures.
- 5 Negative ELISA results prior to vaccination.

Monitoring and Evaluation

- **Technical indicators**
Seroconversion percentage.
- Adjustments to the plan based on results and epidemiological risk.

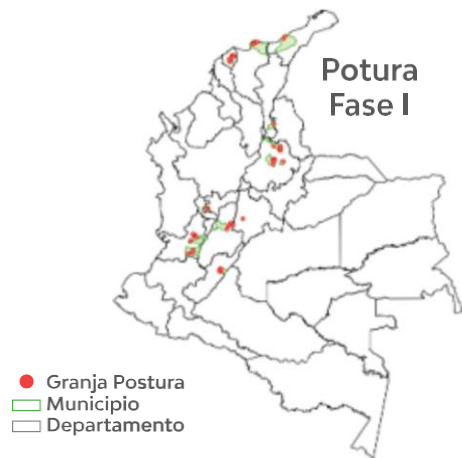
Preventive Vaccination Strategy

Colombia: Stages



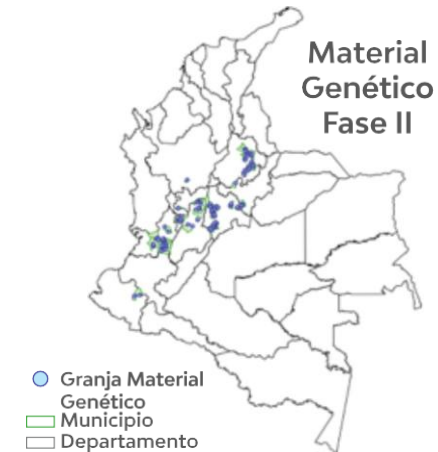
First stage:

- Genetic and layer farms in areas prioritized by risk assessment (municipalities scoring over 5 points)



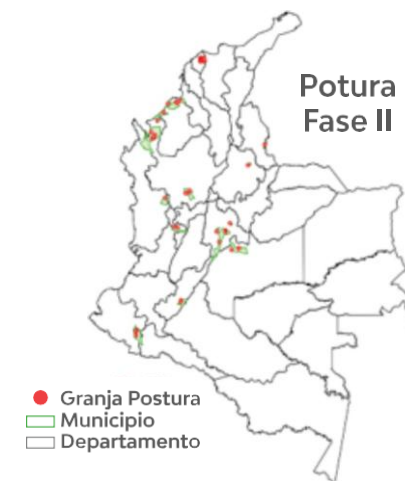
Selection:

- **65** Layer farms (12.633.442 birds)
- **46** Genetic farms (2.824.794 birds)



Second stage:

- Start depending on vaccine availability and progress in stage 1

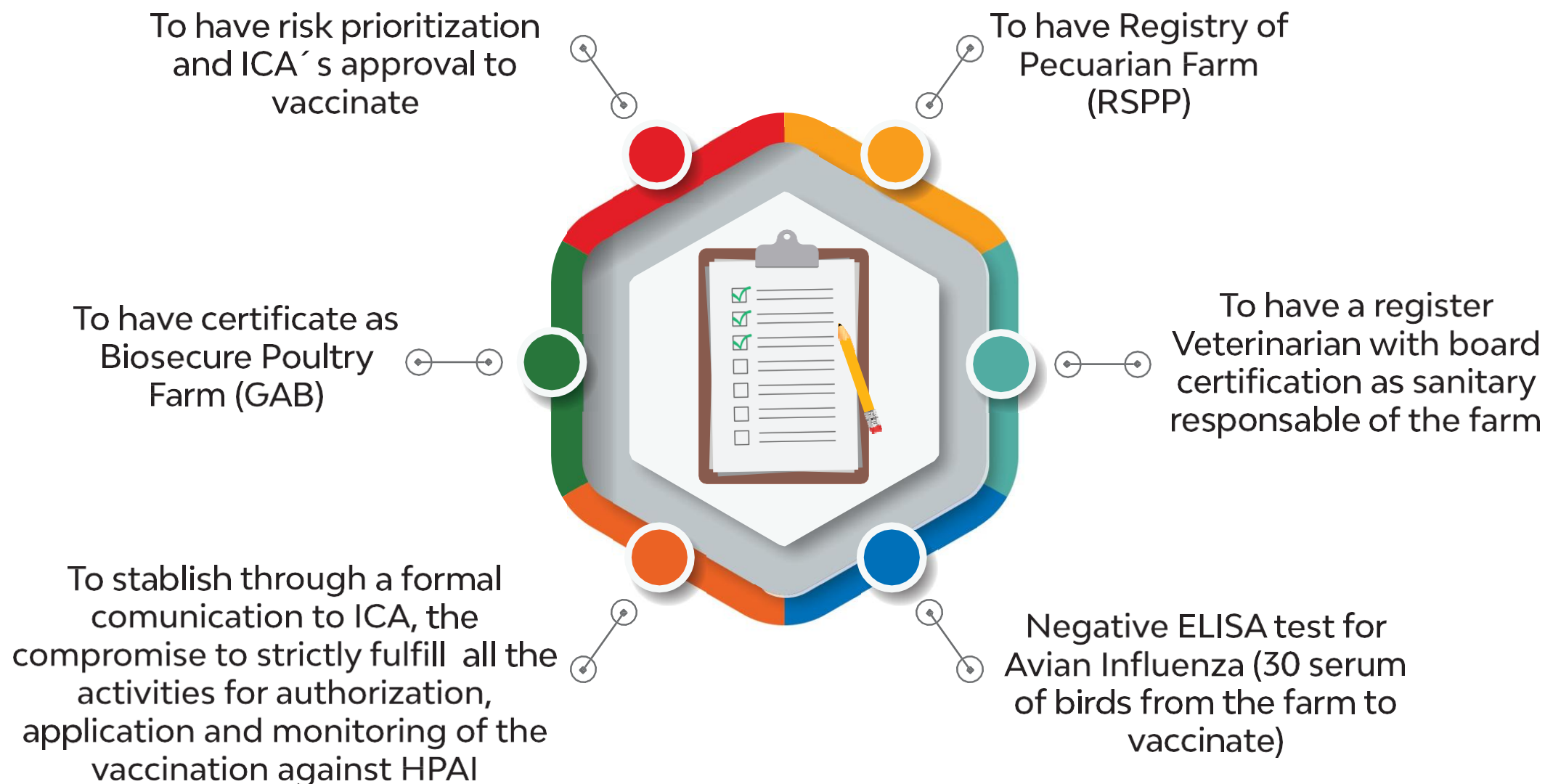


Selection:

- **73** Layer farms (12.039.755 birds)
- **181** Genetic farms (9.218.254 birds)

Preventive Vaccination Strategy – Colombia: Approval

Requirements for Poultry producers



Preventive Vaccination Strategy Colombia: **Study of available vaccines**

Study of available vaccines against HPAI for Colombiás strategy



Evaluation of the vaccines

Technical and scientific test of the different vaccines by ICA's team (Sterility, efficacy, stability)



Available vaccine types

- Inactivated: Dead virus of part of the H5 protein
- Recombinant: Specific expression of H5 protein



DIVA strategy

Differentiation between Vaccinated birds and infected birds

- Molecular
- Serological



Requirements for its approval

- Genetic similarity
- Protection tests
- Application with specific surveillance

Preventive Vaccination Strategy

Colombia: Surveillance

Moment	Objective	Main Activities
1 Before vaccination	Establish the baseline health condition of the birds before vaccination	- Farm characterization and risk factor identification - General clinical monitoring - Collection of serological samples (ELISAs)
2 Baseline	To have an immunological and epidemiological reference for later comparison	Random serological sampling of 10 farms every 30 days, starting on day 21 post-vaccination until the end of the flock
3a Monitoring: risk months (October to February)	Assess vaccination effectiveness during the period of highest virus circulation	- Molecular testing every 30 days - Periodic random serological sampling (DIVA) of 30 farms every 30 days, starting on day 21 post-vaccination until the end of the flock - Syndromic surveillance
3b Monitoring: rest of the year (March to September)	To maintain surveillance to sustain status and adjust strategies	- Molecular testing once - Random serological sampling - Syndromic surveillance

Estimated cost of the strategy

Activy	Stage I	Stage II	Total vaccination
Materials for sampling	\$ 44,410.34	\$ 44,925.90	\$ 89,336.24
Materials for processing	\$ 619,054.27	\$ 291,126.85	\$ 910,181.13
People force	\$ 159,14	\$ 159,14	\$ 318,28
Sample shipping	\$ 97,333.33	\$ 48,666.66	\$ 146,00
Total	\$ 919,937.95	\$ 543,859.42	\$1,463,797.37

Final progress in the **vaccination process**

Vaccine Bank

- New vaccine bank resolution: comment period closed



- Fenavi's comments: Physical availability of the bank in Colombia without the need for an emergency declaration

Preventive Vaccination

- Completion of the second public consultation period for the Preventive Vaccination Resolution



- ICA is currently evaluating technical, operational, and financial aspects to implement the strategy

THANK YOU!

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