



INTERNATIONAL

*The key to your profit!*



# Flock health program

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# What is a healthy hens?



No respiratory signs  
No nervous signs  
No fever



Good physical status  
Good bone calcification  
Good feathering status

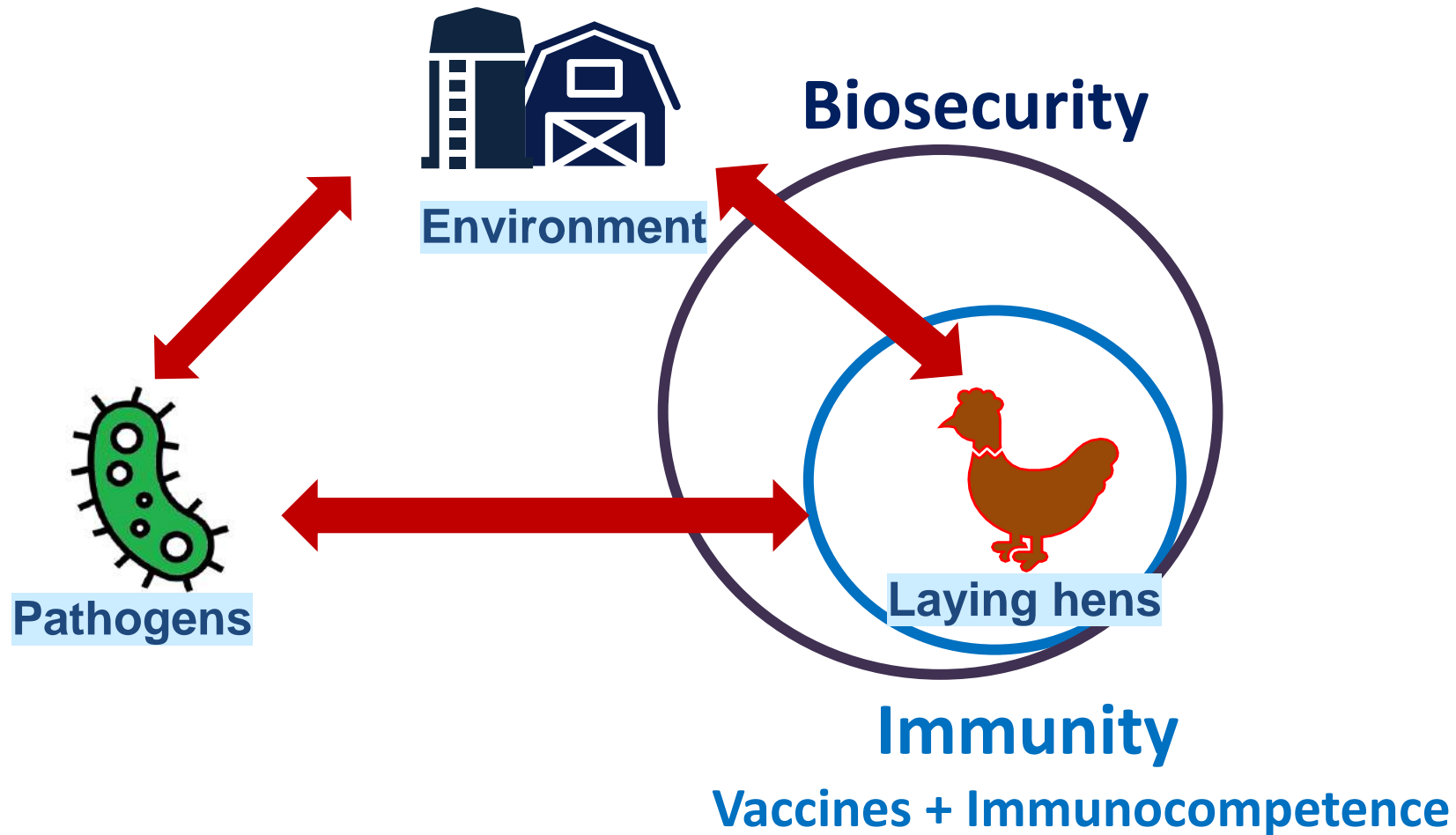


Alert and active birds  
No abnormal behaviour



Good production  
No abnormal eggs

# Health balance



# What is biosecurity?

## Biosecurity

*means a set of management and physical measures designed to reduce the risk of introduction, establishment and spread of animal diseases, infections or infestations to, from and within an animal population.*

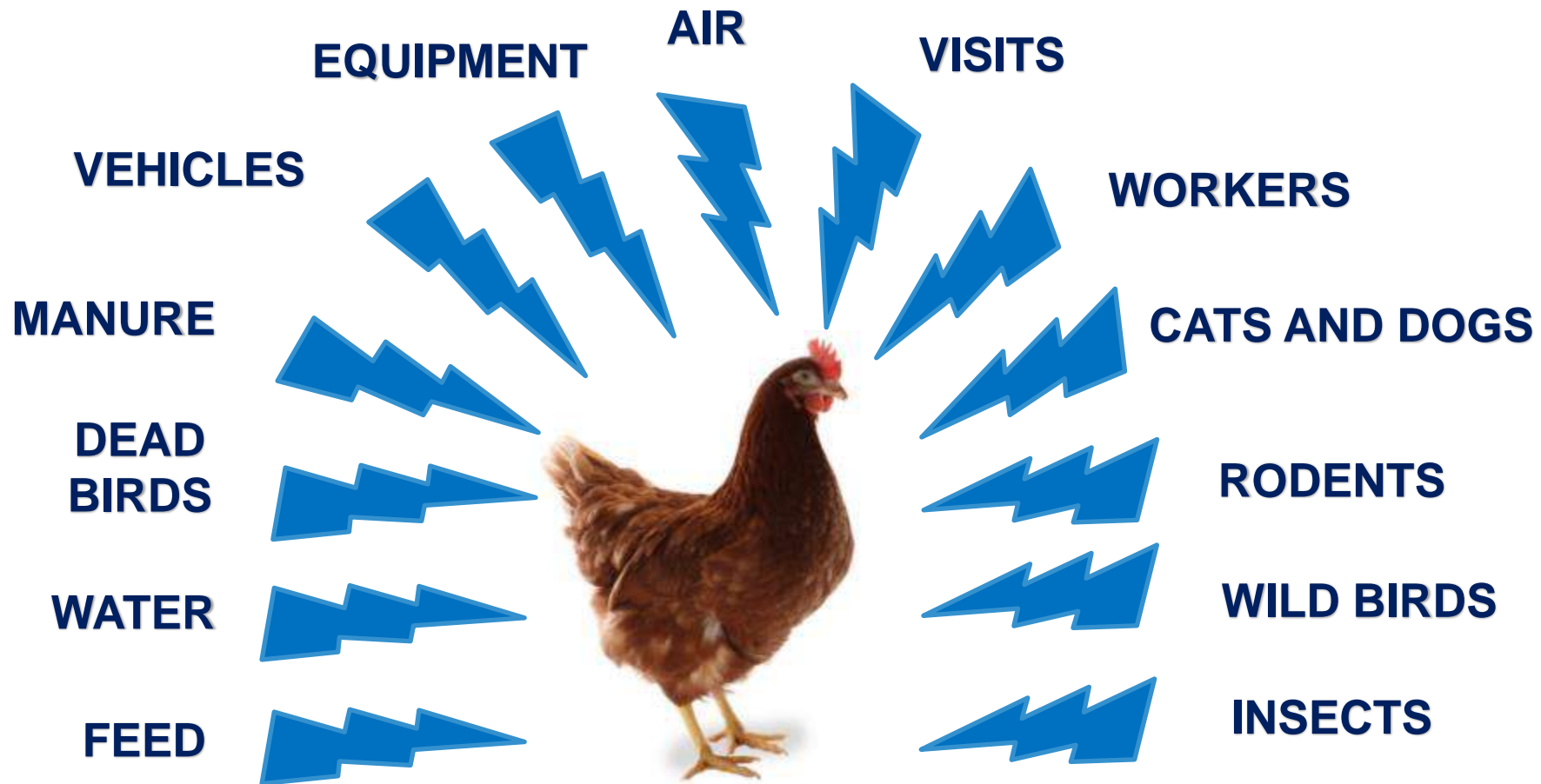
**HOW:  
DOCUMENTED &  
WRITTEN**

**WHERE:  
IN ALL THE  
FACILITIES**

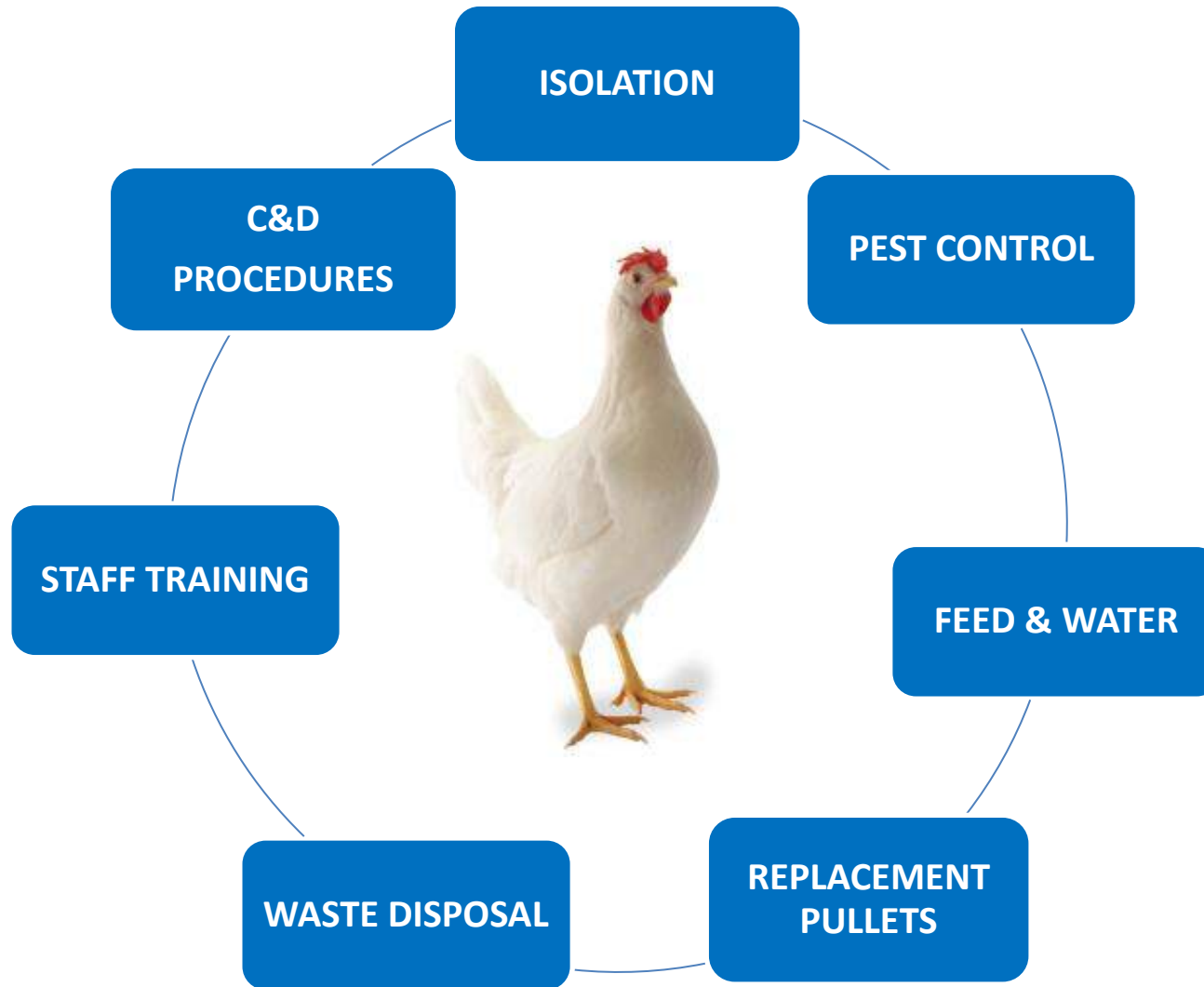
**WHEN:  
CONSTANTLY**

**WHO:  
BY ALL THE TEAM**

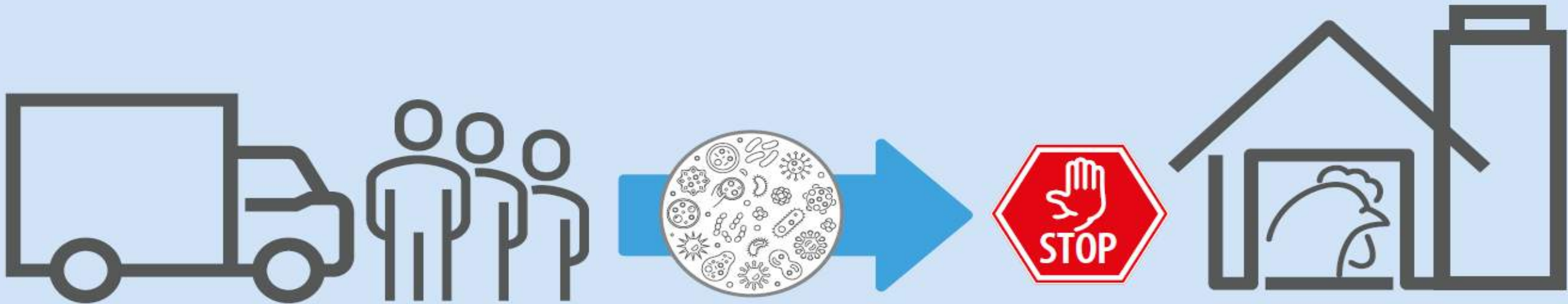
# Possible infection routes



# Biosecurity programs



# Isolation



Avoid the introduction of diseases through visits or tools



Visits



tools

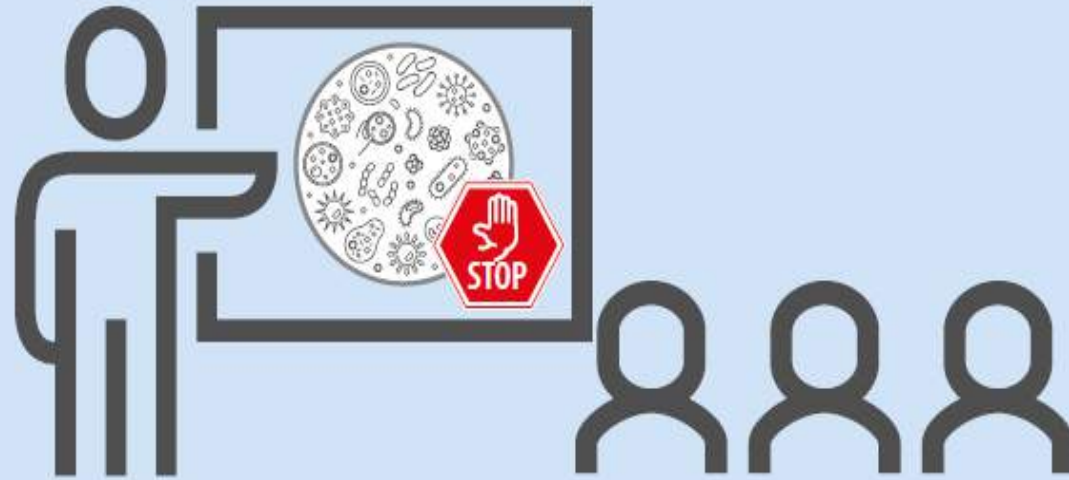


# Visit policy





# Staff training



Avoid the introduction of diseases through workers or their actions



Workers

# Restrictions on Workers



No visit to other farms.

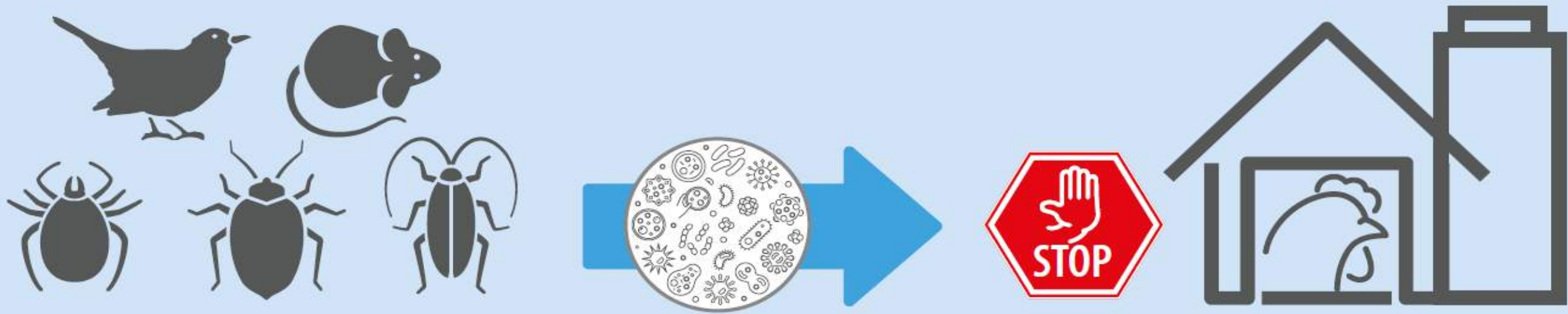


No keeping backyard poultry at home.



No bird related hobbies.

# Pest control



Avoid the introduction of diseases through rodents, birds or insects

 Rodents  Birds  Insects





**We cannot coexist**

# Feed & Water

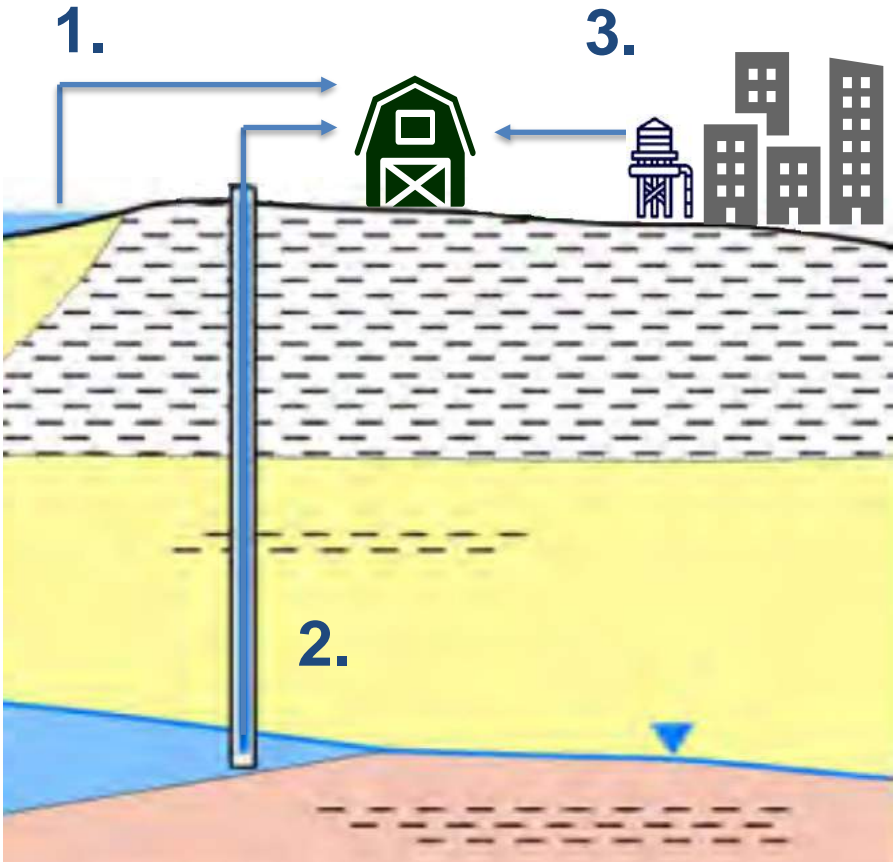


Avoid the introduction of diseases through feed and water

 Feed  Water



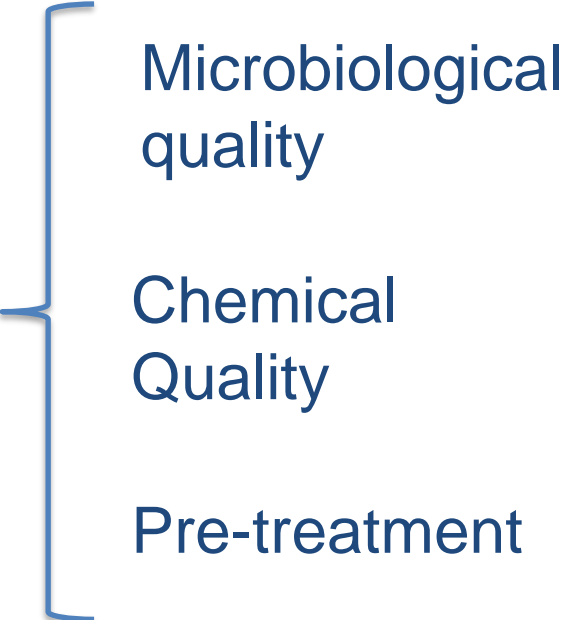
# Water source really matters



**1. Surface waters**

**2. Well**

**3. Public water network**



Microbiological quality

Chemical Quality

Pre-treatment



# Feed hygiene is also a must

Raw materials storage

Production

Final feed

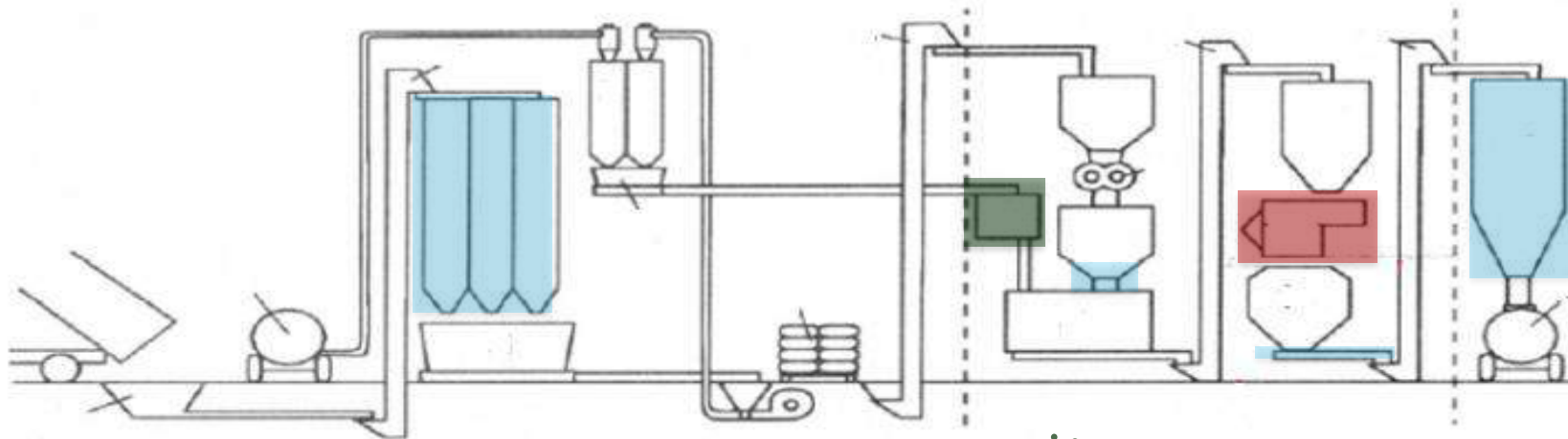


Sampling:

 Raw material(2/4)

 Hot spot (1/4)

 Feed (1/4)



Treatment:

 Additives

 Temperature

# Replacement pullets



Avoiding the introduction of diseases through replacement pullets



Replacement pullets

# A highly verticalized industry ...

Pure Line



x80

Grand Parent Stock



x80

Parent Stock



x100

Commercial Layer



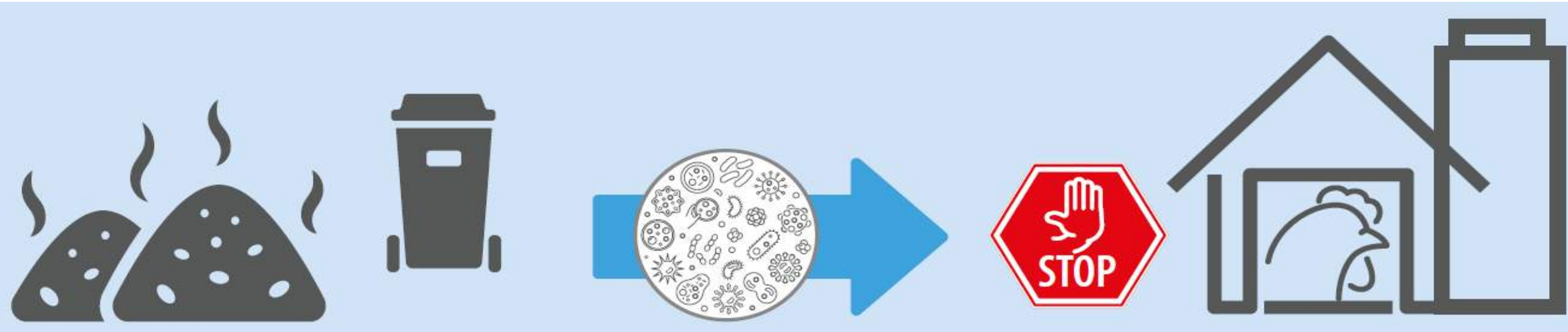
x400

Eggs



Get day old chicks only from reliable & trustworthy suppliers

# Waste disposal



Avoid the introduction of diseases during the processes of elimination of waste

-  Dead birds
-  Old flocks
-  Manure

# Dead birds are not a sub product They are a biological risk

Remove all dead birds  
from the house daily



Store them in a  
correct container



Destroy them totally  
as soon as possible





# Manure is a sub product but it is still a biological risk



Remove it from  
the house as  
soon as possible



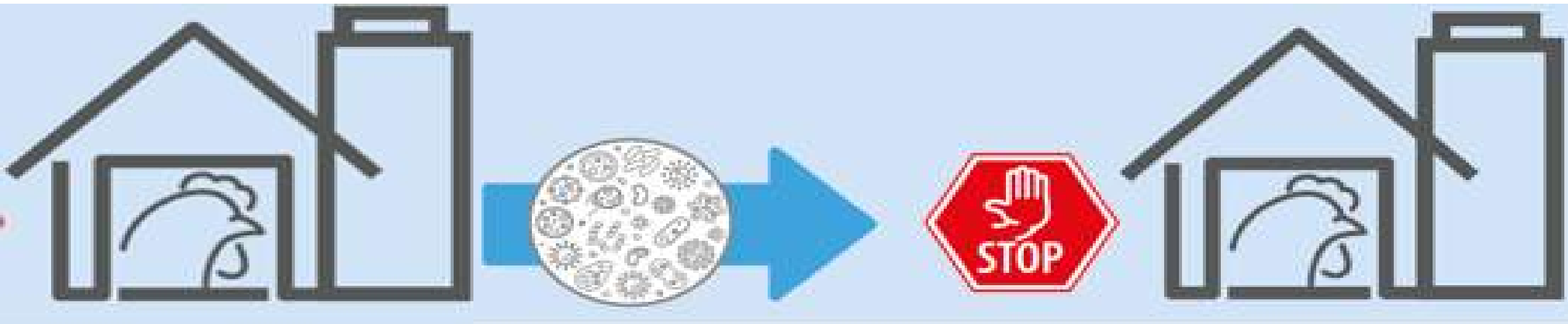
Treat the manure  
before spreading  
it on the fields.



Do not spread  
poultry manure  
around other  
poultry houses



# Clean & Disinfection procedures



Avoid the transmission of diseases from one flock of birds to the next



Cleaning



Disinfection



Sampling

# Disinfection is not magic. It is science.



**Chemical substance**



**Organic material**



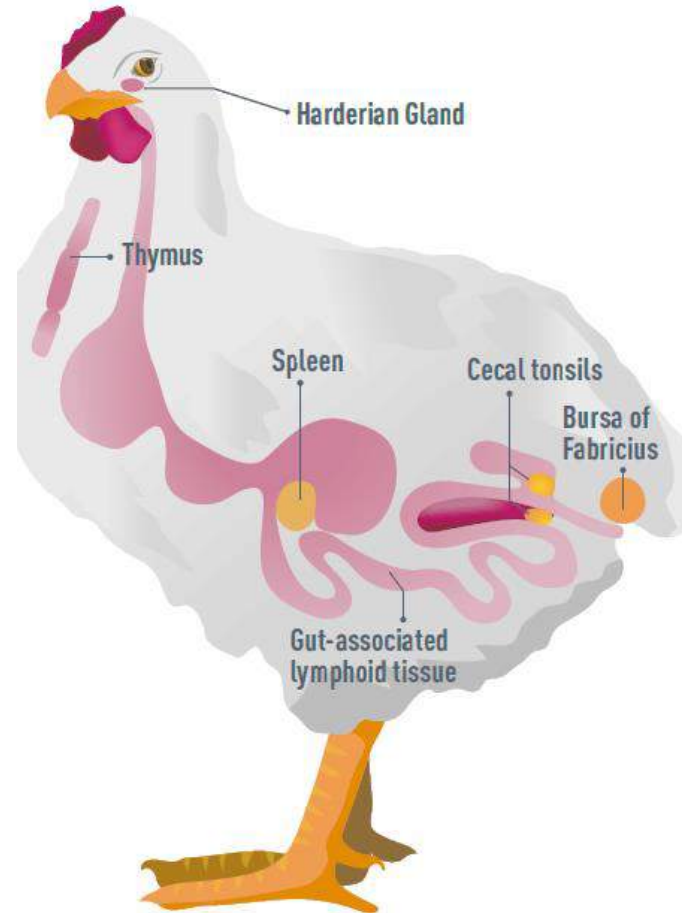
**Contact time**



**Temperature**

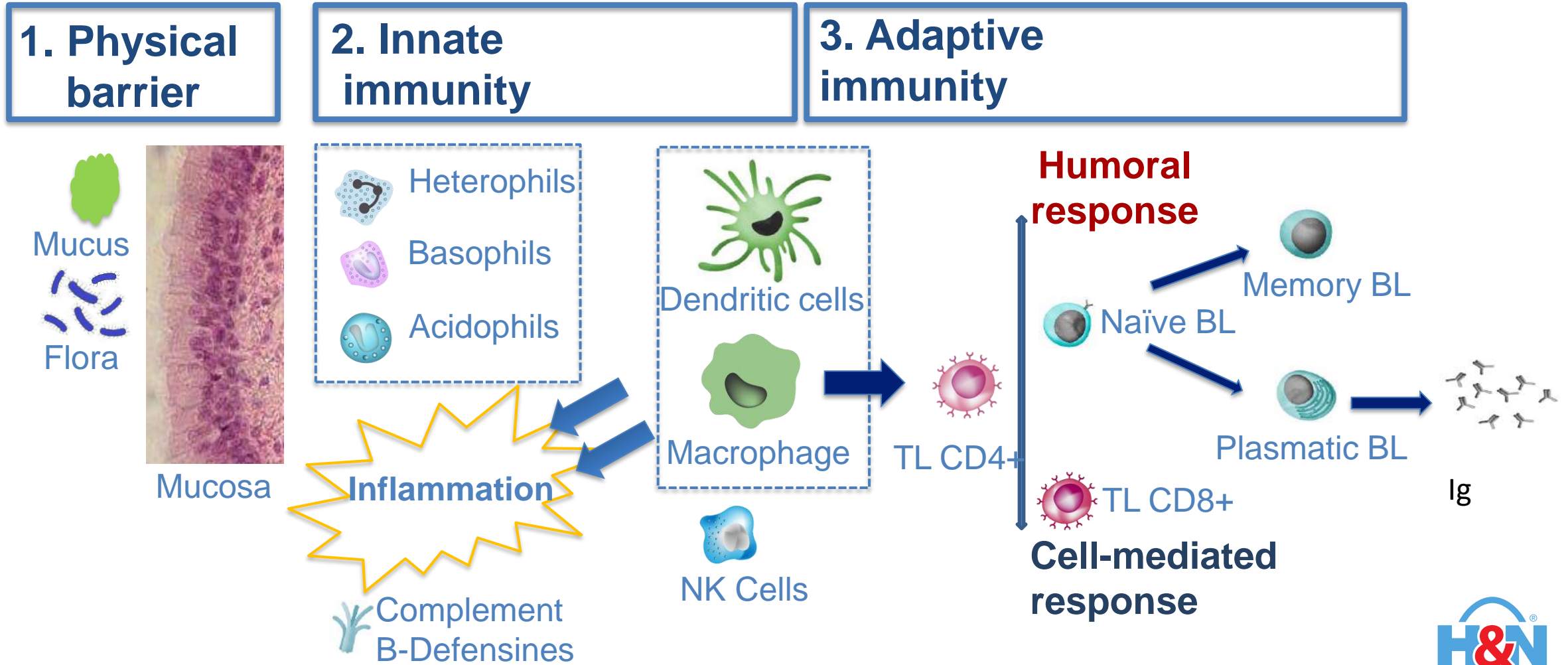
# The avian immune system

<b>PRIMARY</b>	Bursa of Fabricius Thymus
<b>SECONDARY</b>	Spleen Cecal tonsils Harderian gland GALT

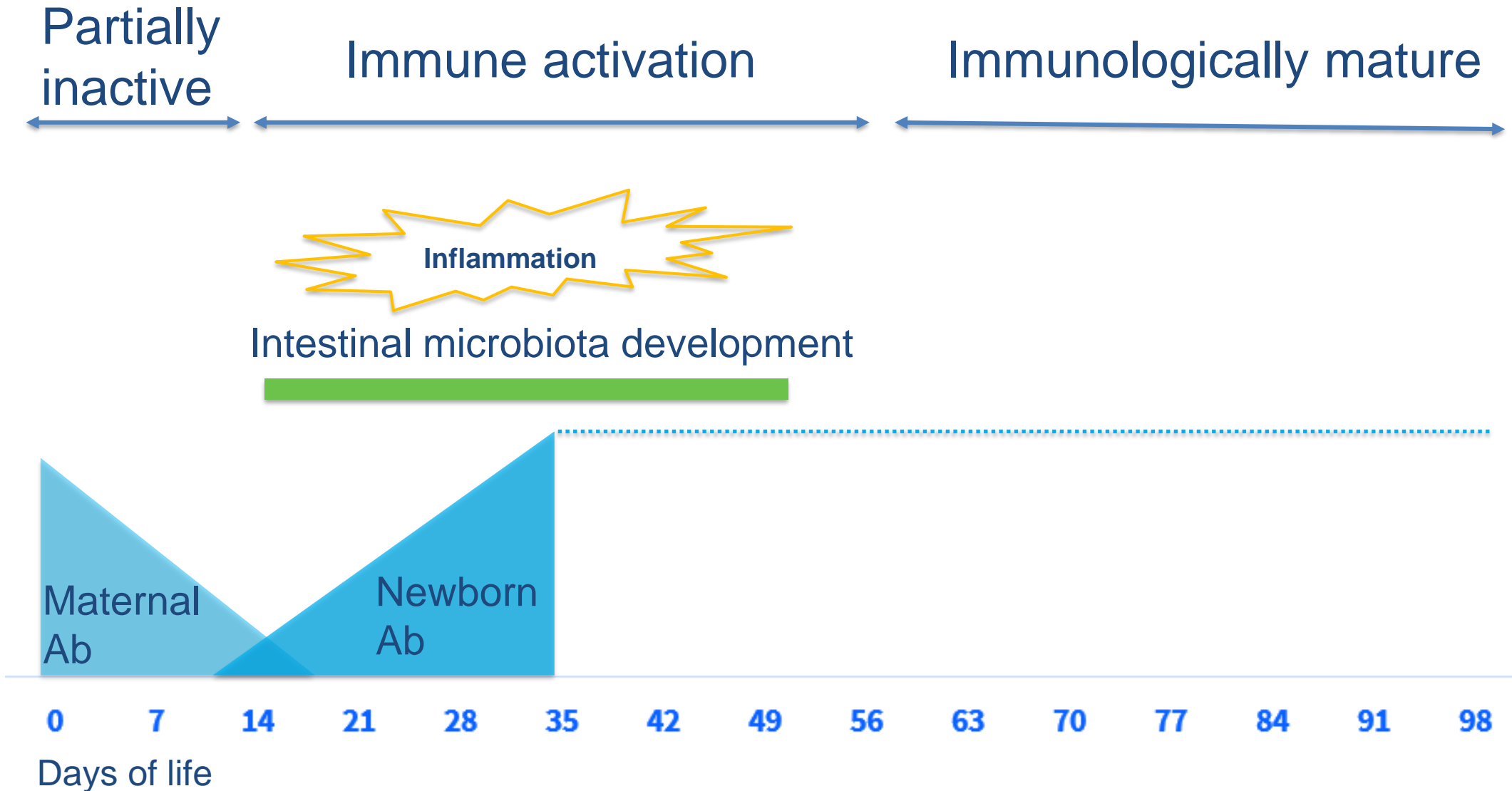


- Birds are not mammals, Layers are not broilers
- Lack of capsulated lymph nodes,
- 70% of white cells attached to the gut

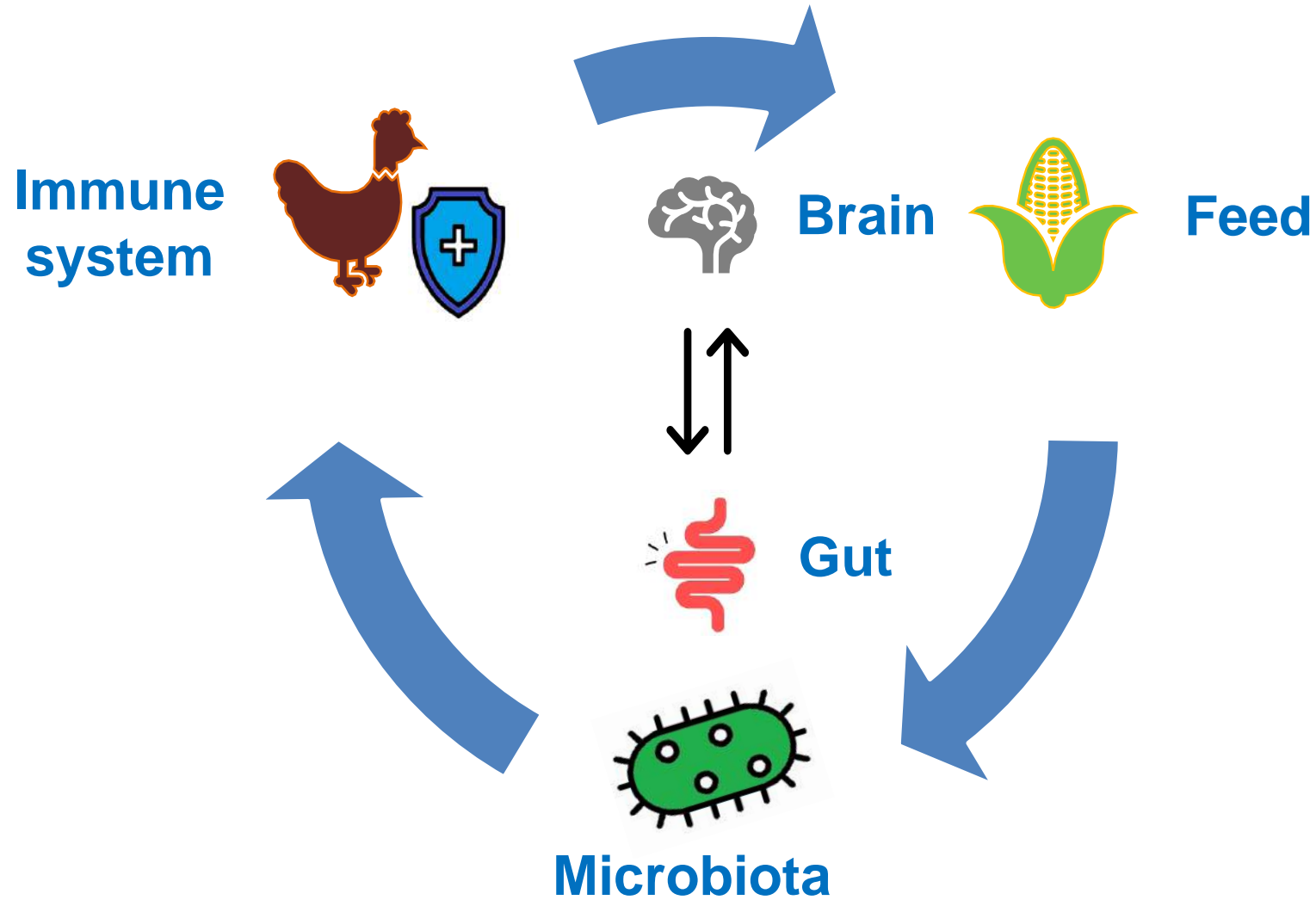
# The immune response: first contact



# The immune system development



# The immune system ( extended version)





# Factors leading to immunosuppression



## Diet -induced

- Unbalanced diet
- Long-term feed restriction

## Stress -induced

- Temperature
- Social
- Environmental

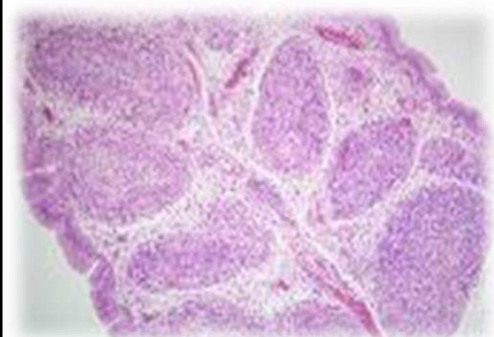


## Toxic- induced

- Mycotoxins
- Pesticides
- Organochlorine compounds

## Disease –induced

- Coccidia, IBD, CAV, REO, MD, ALV-REV



# A universal vaccination program ?

Age	Vaccine	Route	Type
1 day	Marek's disease	SC	Turkey herpesvirus and SB-1
14 -21 days	Newcastle/infectious bronchitis	Water	B1/Mass
14-21 days	Infectious bursal disease	Water	Intermediate
5 wk	Newcastle/infectious bronchitis	Water or coarse spray	B1/Mass
8-10 wk	Newcastle/infectious bronchitis	Water or coarse spray	B1 or LaSota/Mass
10-12 wk	Encephalomyelitis	Wing web	Live, chick-embryo origin
10-12 wk	Fowlpox	Wing web	Modified live
10-12 wk	Laryngotracheitis	Intraocular	Modified live
10-14 wk	<i>Mycoplasma gallisepticum</i> <sup>b</sup>	Intraocular or spray	Mild live strain
or 18 wk		Parenteral	Inactivated
12-14 wk	Newcastle/infectious bronchitis	Water or aerosol	B1 or LaSota/Mass
16-18 wk	Newcastle/infectious bronchitis	Water or aerosol	B1 or LaSota/Mass
Every 60-90 days or 18 wk	Newcastle/infectious bronchitis	Parenteral	Inactivated

Merck veterinary manual



Vaccination program should be tailor-made

# Basic for correct vaccine administration

S. No.	Age	Vaccine	Route of administration
1	First day	Marek's disease	Under skin
2	5 <sup>th</sup> day	Ranikot disease (F/B)	I/O or I/N
3	7 <sup>th</sup> day	Marek's disease booster	Under skin
4	10 <sup>th</sup> day	Debeaking	-
5	12-14 <sup>th</sup> day	Marek's disease - Intermediate	Eye
6	20-22 <sup>nd</sup> day	IBD Plus	I/O / water
7	27 <sup>th</sup> day	LaSota	water
8	30 <sup>th</sup> day	Infectious Bronchitis (IB)	water
9	42 <sup>nd</sup> day	Fowl Pox	wing
10	47 <sup>th</sup> day	Deworming	water
11	52 <sup>nd</sup> day	LaSota	water
12	64 <sup>th</sup> day	R: B	I/M
14	86 <sup>th</sup> day	Corvax / Fowl Cholera	Under skin
15	93 <sup>rd</sup> day	IB	water
16	100 day	Debeaking (second time)	-
17	110 <sup>th</sup> day	Deworming	water
18	112 <sup>th</sup> day	LaSota	water
19	126 <sup>th</sup> day	RD - Killed	Under skin
20	280 <sup>th</sup> day	Deworming / LaSota	water

Respect the timing according the vaccine program



Keep records on each vaccine administration



Administer vaccines only to healthy flocks

# More basic for correct vaccine administration



Transport & store  
correctly vaccines



NEVER cut doses



Use the appropriate  
vaccination equipment  
for each type of  
vaccine.



# Administration routes



Drinking water

Spray



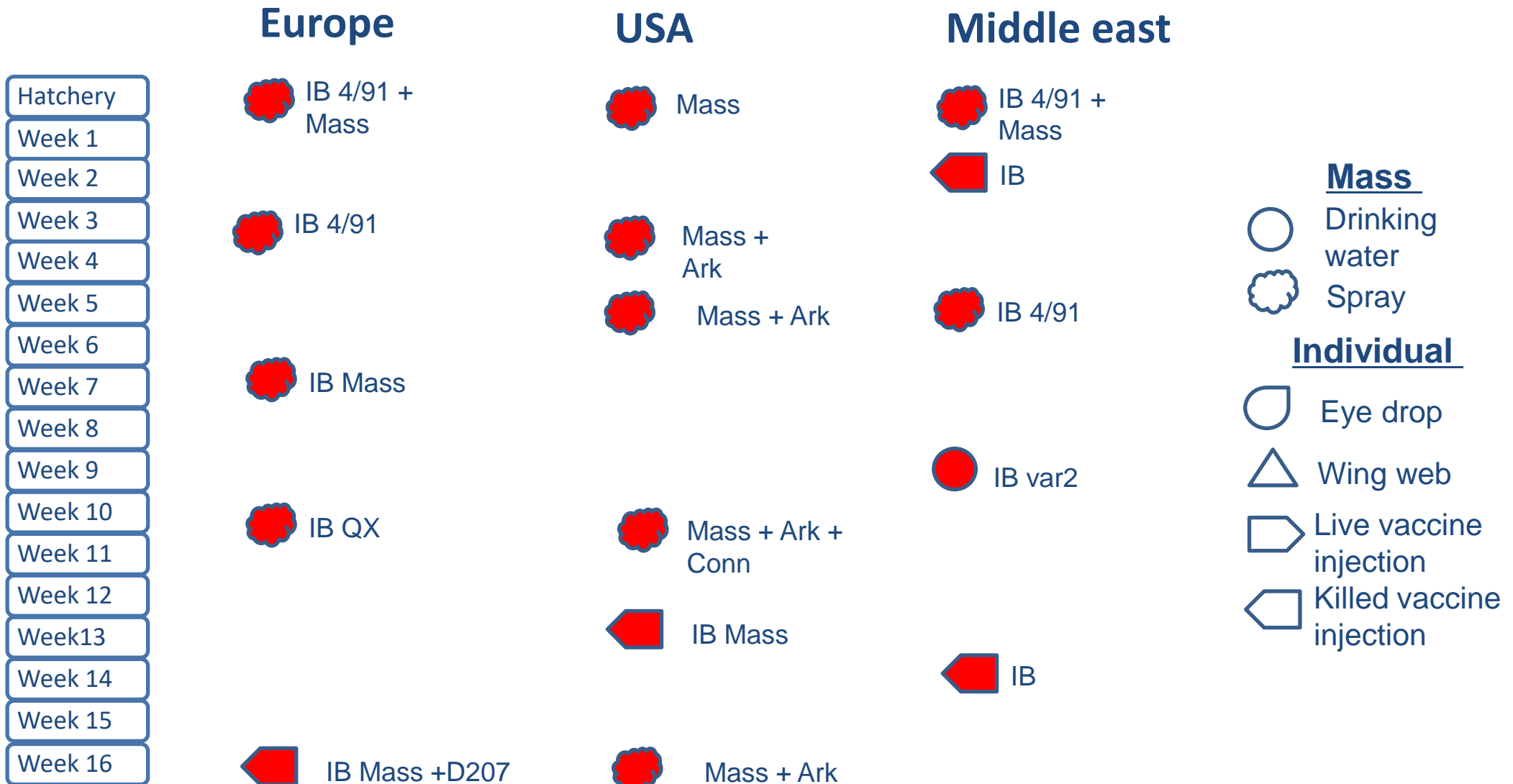
Eye Drop

Injection

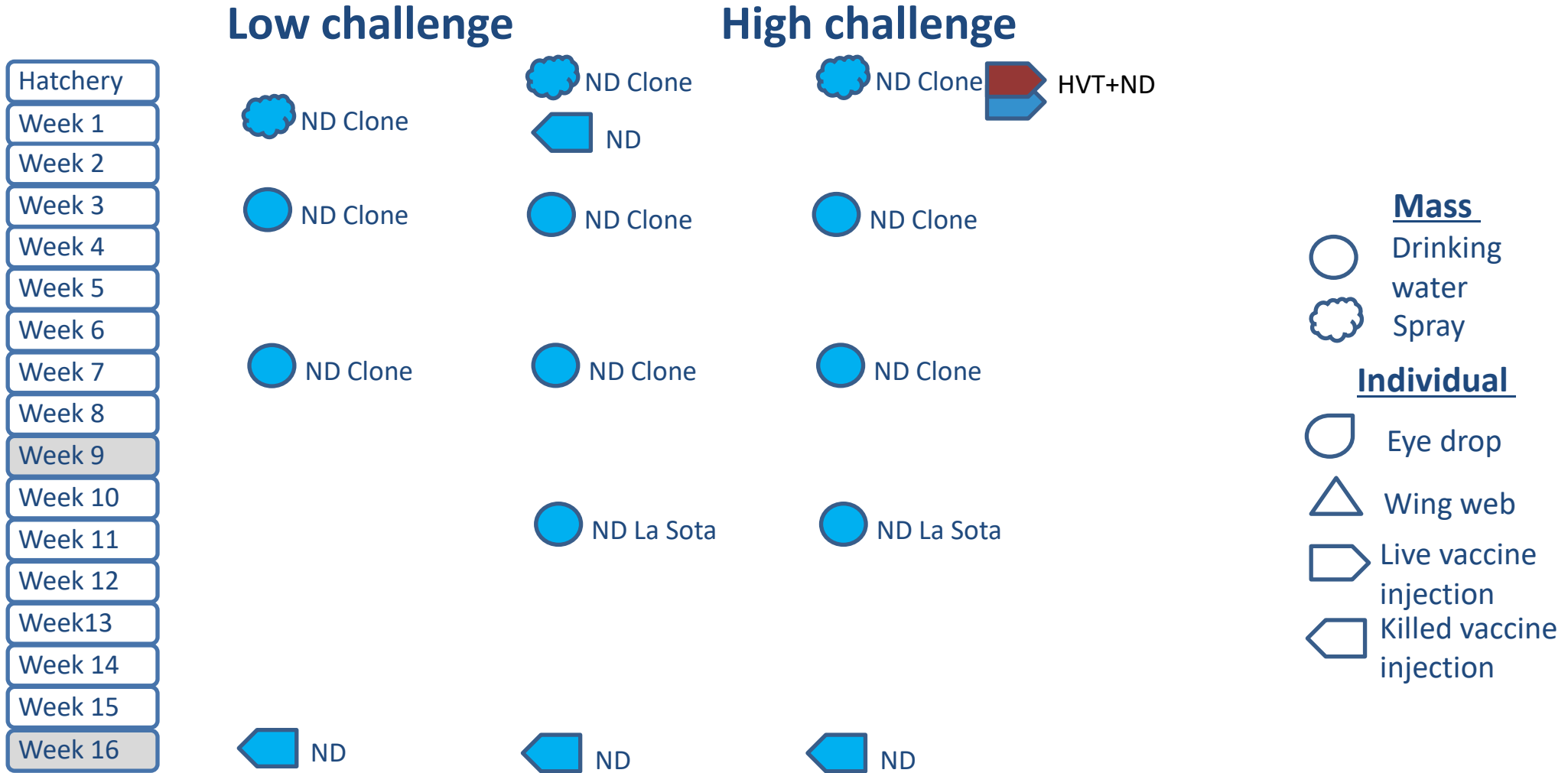
Wing inoculation



# Vaccine programs for IB

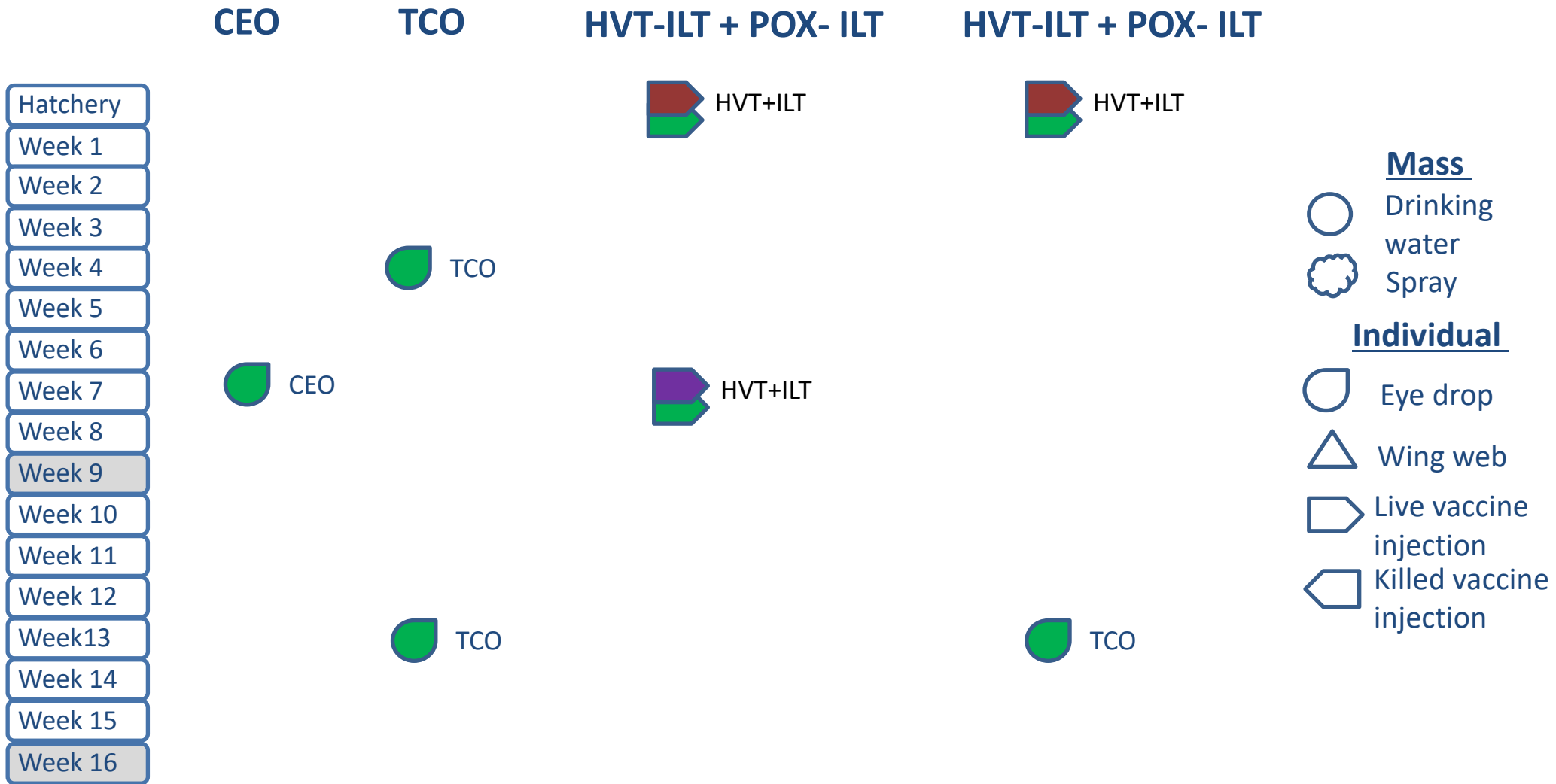


# Vaccine programs for ND



- Mass**
- Drinking water
  - ☁ Spray
- Individual**
- ◐ Eye drop
  - △ Wing web
  - ▤ Live vaccine injection
  - ◁ Killed vaccine injection

# Vaccine programs for ILT





H&N LAYER ACADEMY

**INTERACT WITH US!**

**Make use of our multiple-choice poll tool and pick what you think is correct.**

THANK YOU **FOR** YOUR INTEREST



Any  
question?