

A large, light blue egg is the central focus, set against a dark blue space background with a bright blue nebula at the bottom. Surrounding the egg are several smaller, reflective spheres. Some of these spheres contain images of white chickens with red combs, while others are empty or show reflections of the egg or the chickens. The word 'Biosecurity' is written in a large, bold, blue font to the right of the egg.

Biosecurity

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Understanding biosecurity ...

Biosecurity is a trendy topic these days ...



World Health Organization



Food and Agriculture Organization of the United Nations



International Food Safety Authorities Network (INFOSAN)

3 March 2010
INFOSAN Information Note No. 1/2010 - Biosecurity

Biosecurity: An integrated approach to manage risk to human, animal and plant life and health




The Poultry Site

Poultry Digital Events Shop

Home Genetics & breeding Meat poultry Egg layers Health & disease Processing Equipment & innovation

Biosecurity: Protecting our flocks to sustain the supply

BIOSECURITY TREATMENTS AND PREVENTION HEALTH & DISEASE




The Pig Site

Home Disease & welfare Farm economics Genetics & reproduction Husbandry Anatomy & physiology

Veterinarians serve as biosecurity champions


BIOSECURITY AND HYGIENE MANAGING DISEASE DISEASE AND WELFARE

12 poultry farm biosecurity principles you should know



UNIVERSITY OF GEORGIA
EXTENSION

BIOSECURITY BASICS FOR POULTRY GROWERS



fting a biosecurity plan and ensuring

Understanding biosecurity

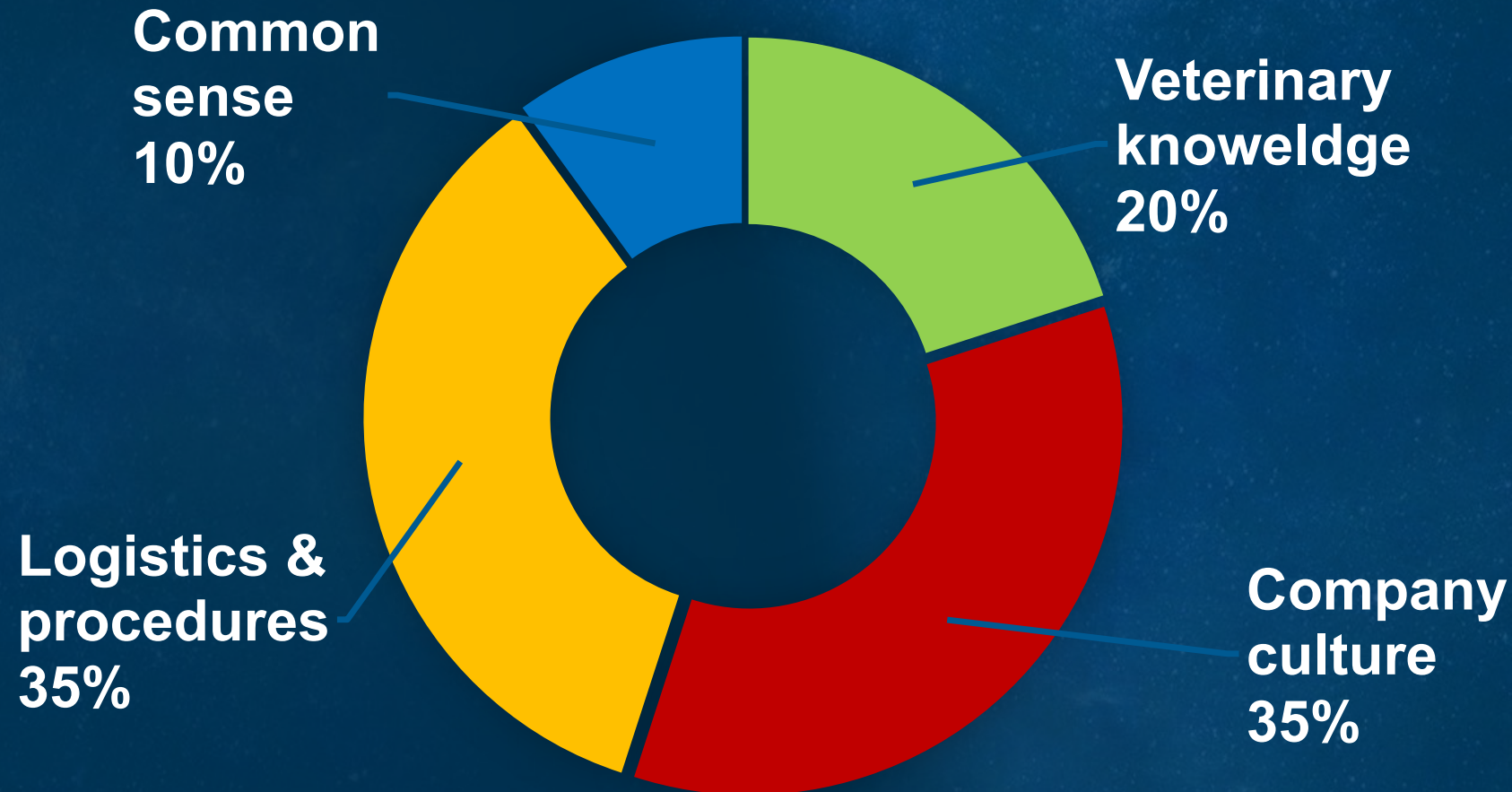
A clear definition

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.

OIE Terrestrial Animal Health Code

Understanding biosecurity ...

But this is about acts not about words



Understanding biosecurity ...

Biosecurity level



Country level



County level

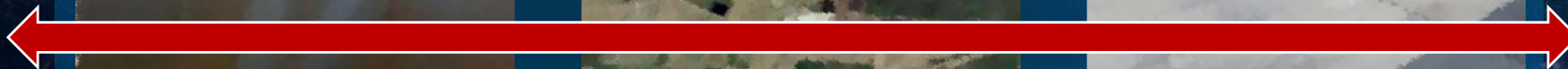


Farm level

Design

Structures

Operations



Design biosecurity

Farm location matters



200 m

Design biosecurity

Multi-age farms always make things more complicated.



50 m

Structural biosecurity

Biosecurity requires adequate equipment



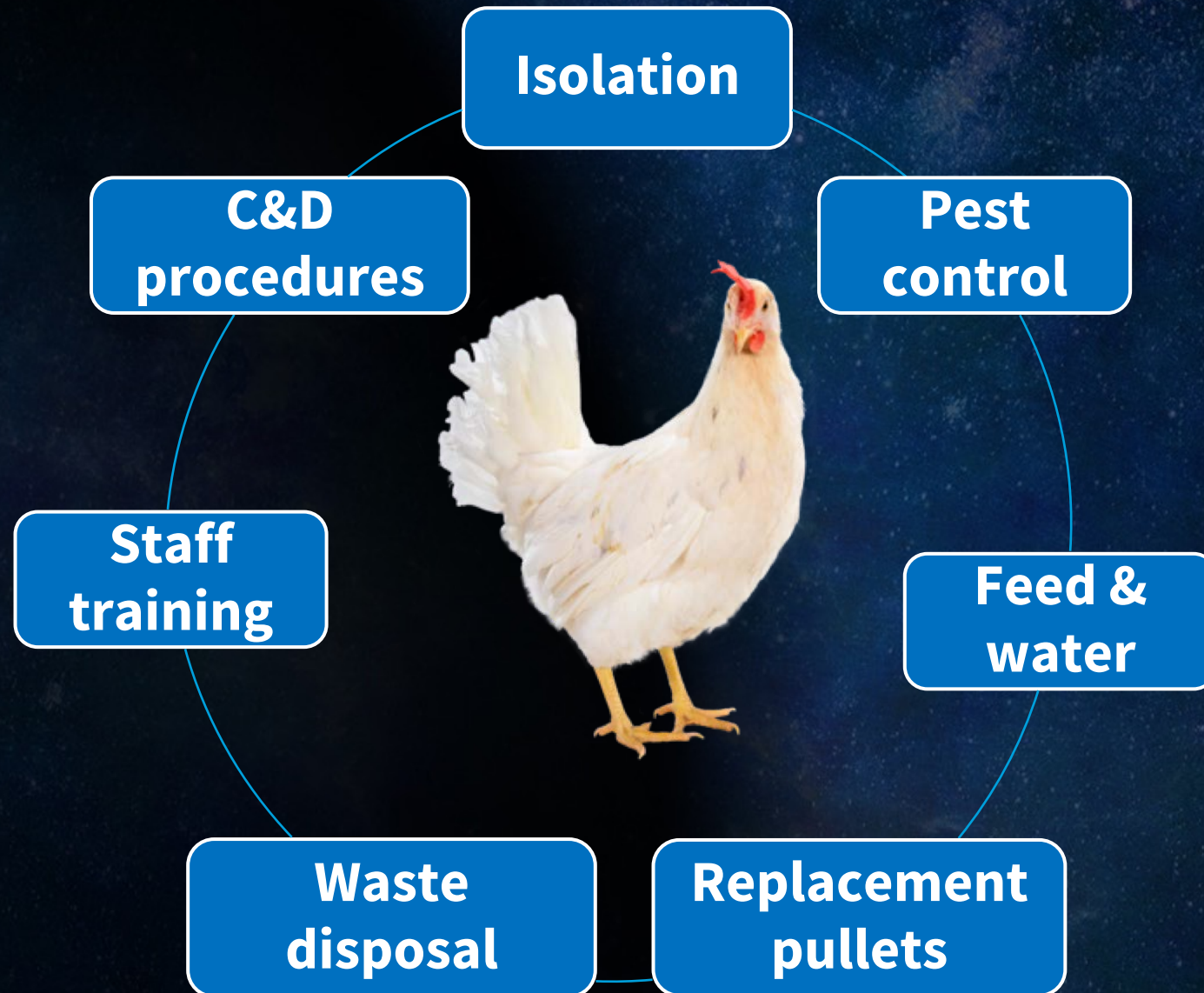
Operational biosecurity

But farmers DO make biosecurity happens

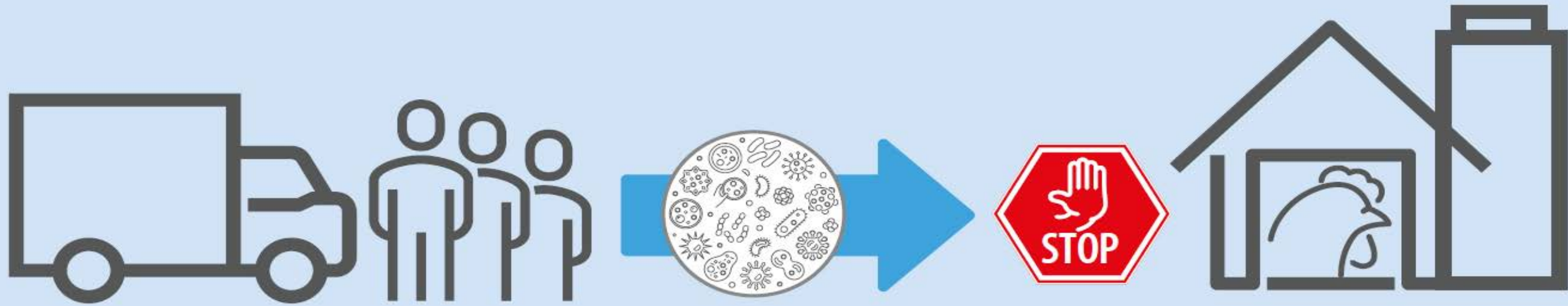


Trained
+
Committed
=
Good
Biosecurity
Practices

Biosecurity programs



Isolation program



Avoid the introduction of diseases
through visits or tools

 Visits

 Tools

Isolation program

MG survival in different materials

4 days



Cotton

3 days



Hair

2 days

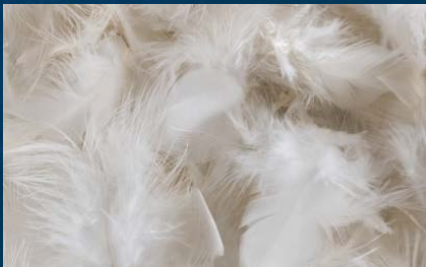


Straw

1 day



Wood



Feather



Rubber



Nose

Isolation program

Visits policy (Easiest and best to implement)



Isolation program

A decision tree for accepting visits



Isolation program

The vehicles are not for driving on the farm



External parking



No entrance to all
avoidable vehicles



Complete disinfection
for all entering
vehicles

Isolation program

Entrance to a farm (ideally)



Logbook

[illegible]

Locker



Shower



Farm Cloths



Hygiene block



Isolation program

After going through this foot bath my boots will be:



A) More contaminated?

B) Less contaminated?

(Hint: It's Answer A!)

Isolation program

Tools and personal belongings stay out



Leave your personal belongings outside...

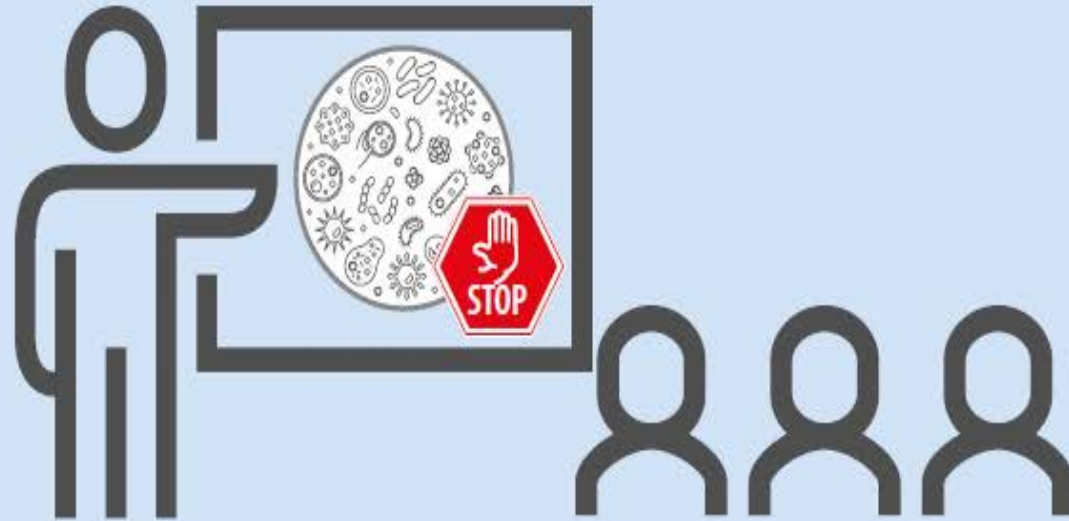


Disinfect any items before bringing them into the farm.



Stuff coming from other farms **MUST** be rejected

Staff training



Avoid the introduction of diseases
through workers or their actions



Workers

Staff training

NOT to DO for Poultry Workers



No visit to other farms.

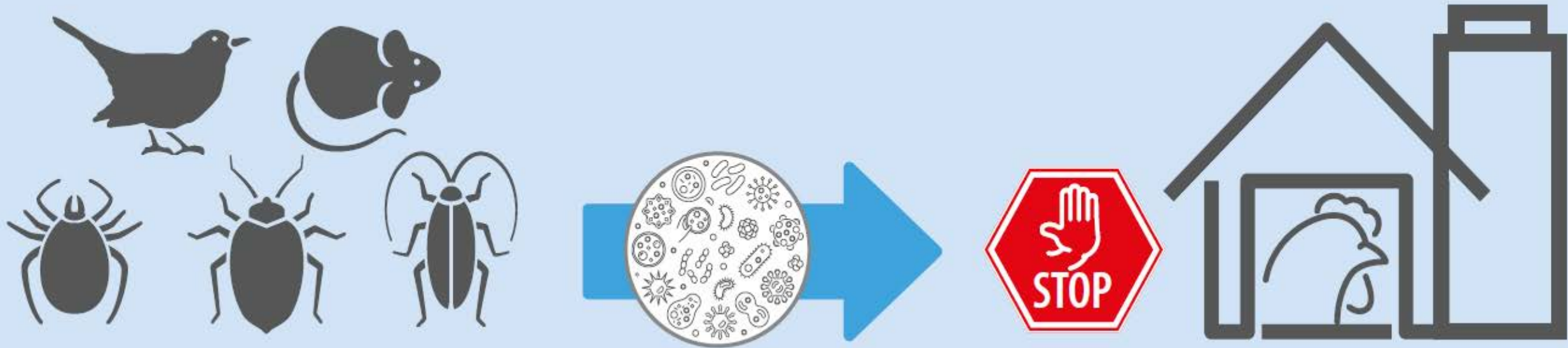


No keeping backyard poultry at home.



No bird related hobbies.

Pest control program



Avoid the introduction of diseases through rodents, birds or insects

-  Rodents
-  Birds
-  Insects

Pest control program

Rodents: We cannot coexist!



Erysipelas

(Meerburg 2012)

Salmonellosis

(Meerburg 2012)

Fowl Cholera

(Meerburg 2012)

...



Mechanical
transmission

Pest control program

Getting rid of rodents

Passive control

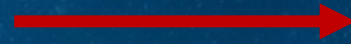


Active control



Pest control program

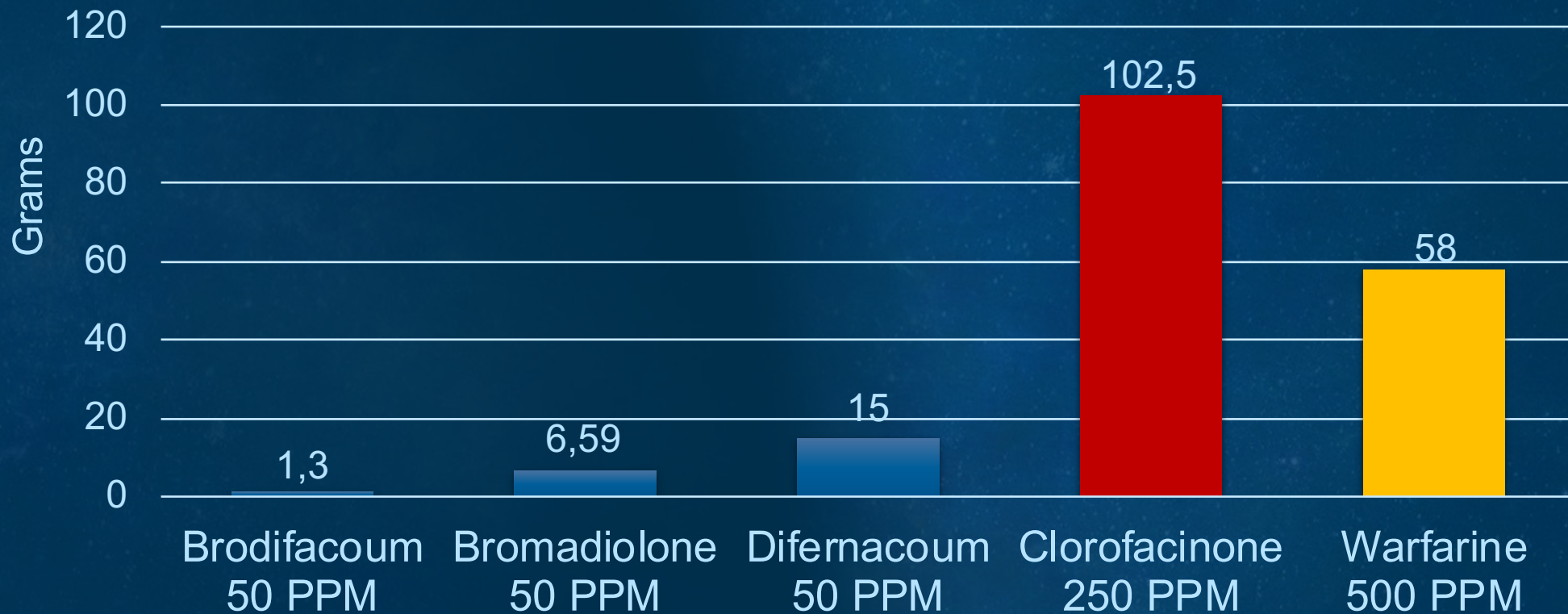
Passive control: step-by-step progress



Pest control program

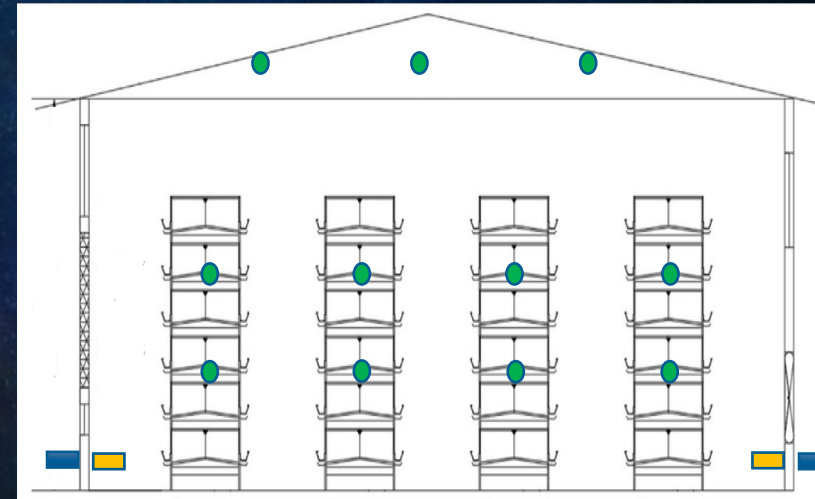
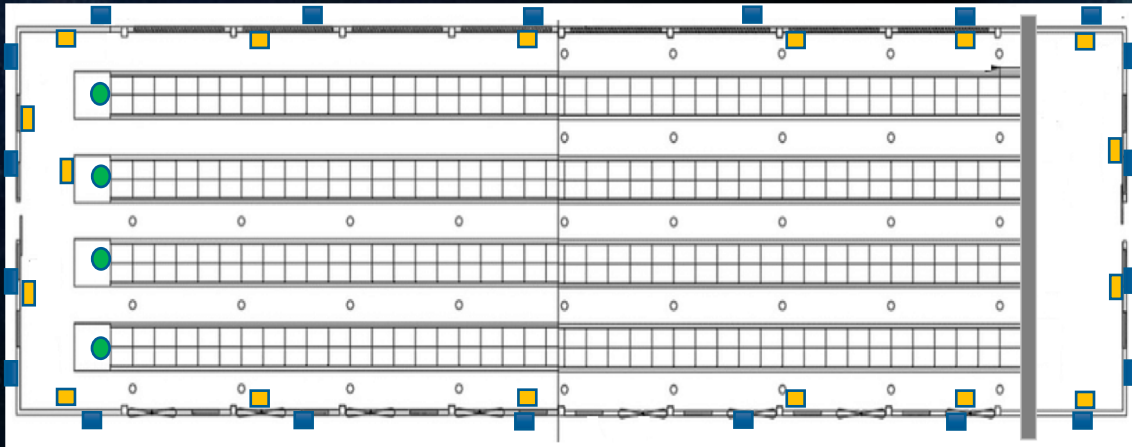
Does rodent poison really kill?

DL 50 for bait for a standard rat



Pest control program

Active control: Strategy first!



Internal bait station

External bait station

Hand placement

Pest control program

What if we just let a couple of cats out and leave it to them to sort it out?



A) Of course. They are excellent hunters and can eat thousands of rats per week

B) No. They cannot control rodent population in a poultry farm

(Hint: It's Answer B!)

Pest control program

Wild birds: The flying rodents (even worse)



Poultry houses
MUST be bird-proof



Do not attract birds
by feed spillage or
others



Do not allow birds to
nest in your premises

Pest control program

Insects (and mites) do more than suck



**Dermanyssus
gallinae**

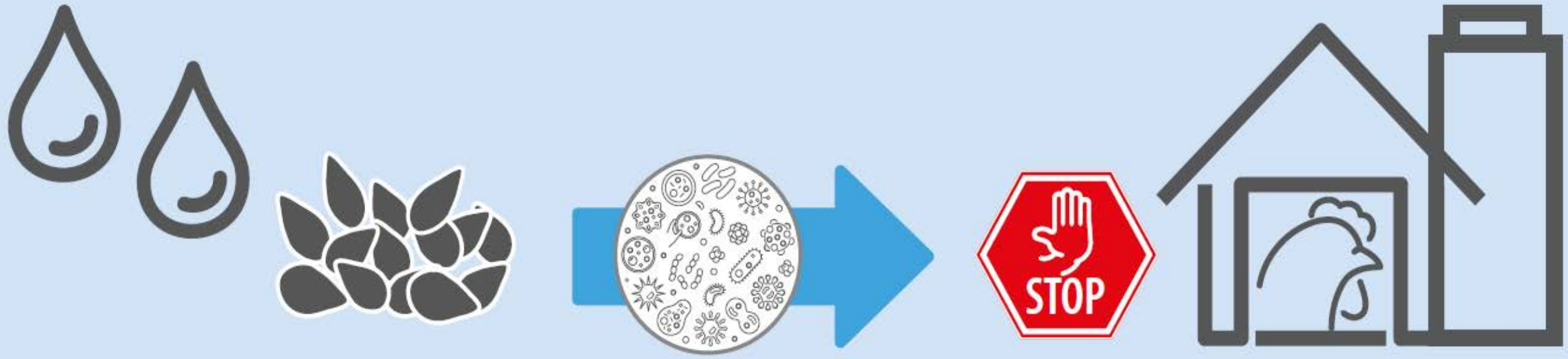
Salmonella (Valiente Moro, 2009)
Escherichia coli (Valiente Moro, 2009)
Erisipela rashiopatie (Chirico et al, 2003)
Pasteurella (Petrov, 1975)



**Alphitobius
diaperis**

Salmonella (Roche, 2009)
Campylobacter (Crippen, 2012)
Tapeworms (Goodwin, 1996)
IBD (Goodwin, 1996)

Feed & Water program



Avoid the introduction of diseases
through feed and water



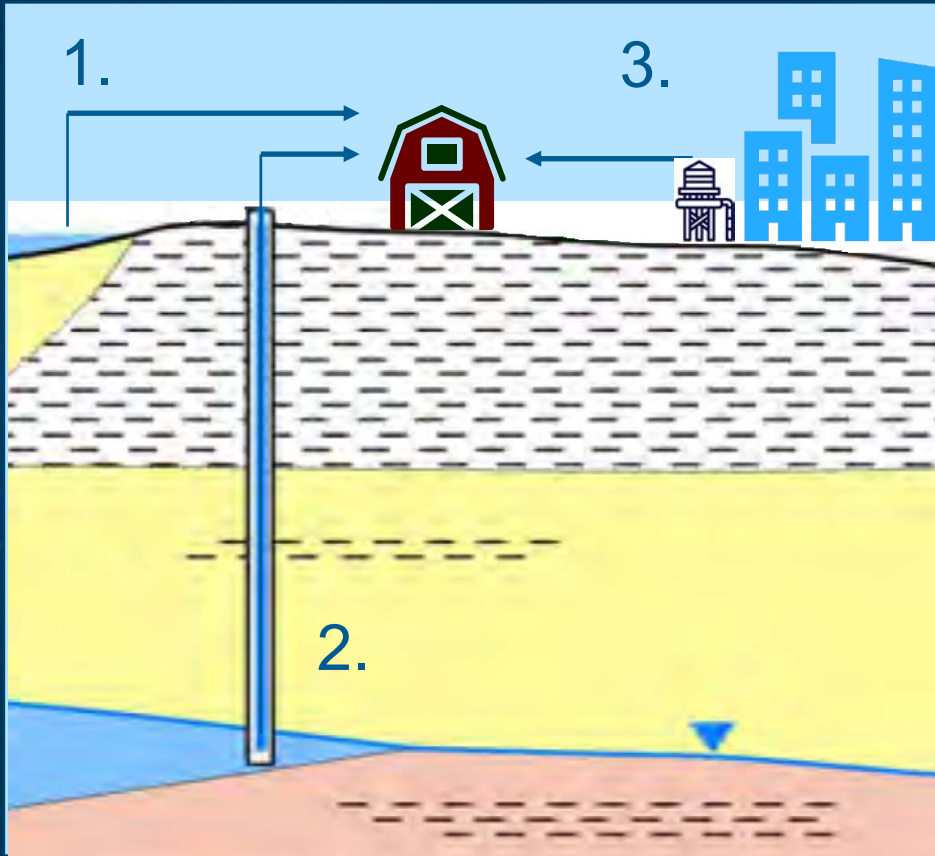
Feed



Water

Feed & Water program

Water source really matters



1. Surface waters

Microbiological quality

2. Well

Chemical Quality

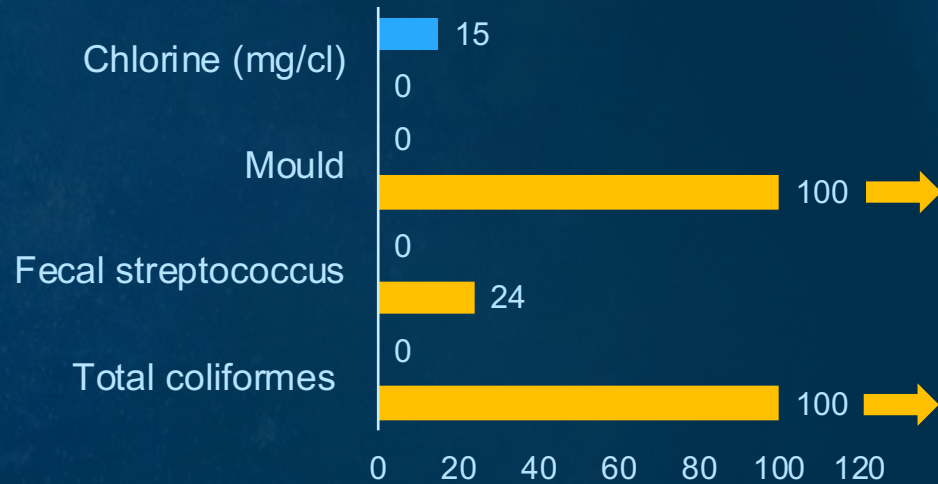
3. Public water network

Pre-treatment

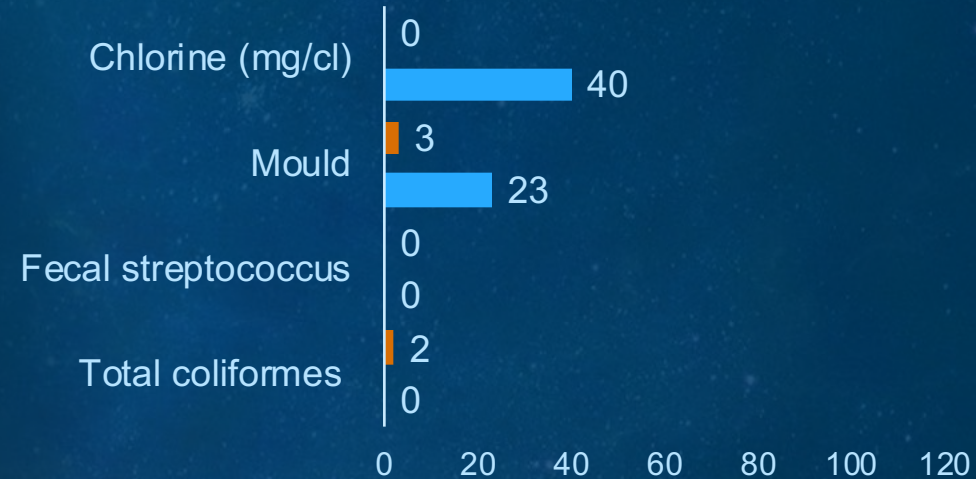
Feed & Water program

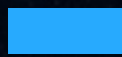
Water sanitation is a must in any case


Farm 1 Public network water No treatment @ farm



Farm 2 Well water Chlorine @ farm



 Collection point

 End of the pipeline

Feed & Water program

Feed hygiene is also a must


Raw materials storage

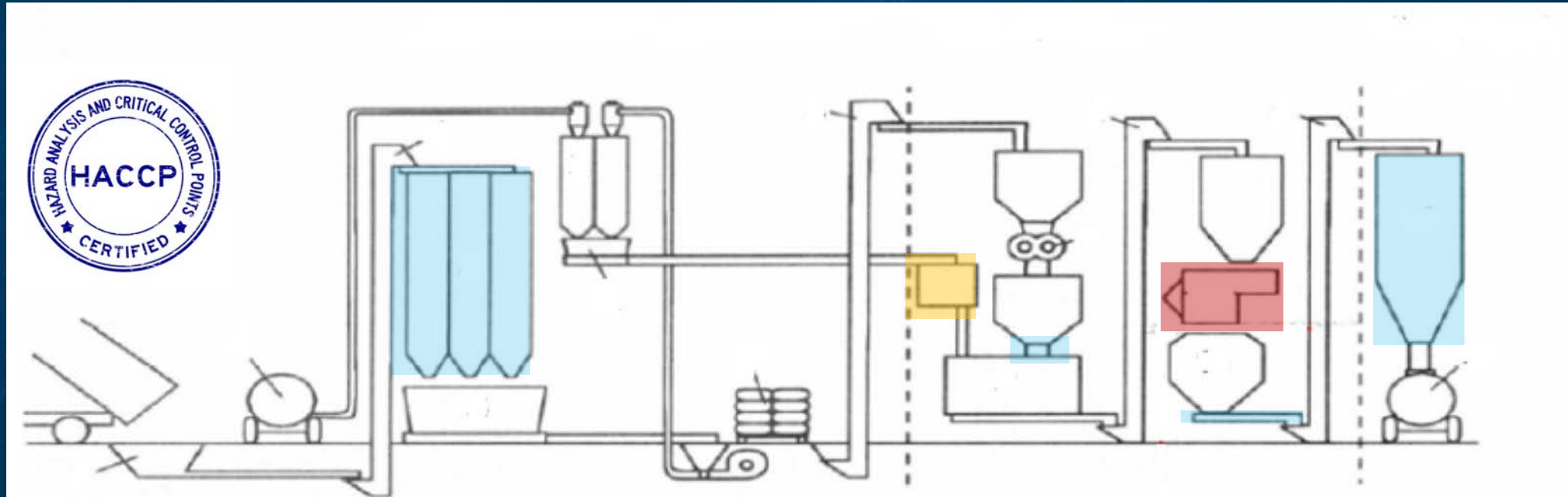
Production

Final feed

1 .Sampling:  Raw material(2/4)

 Hot spot (1/4)

 Feed (1/4)



2. Treatment:



Additives



Temperature

Replacement pullets program



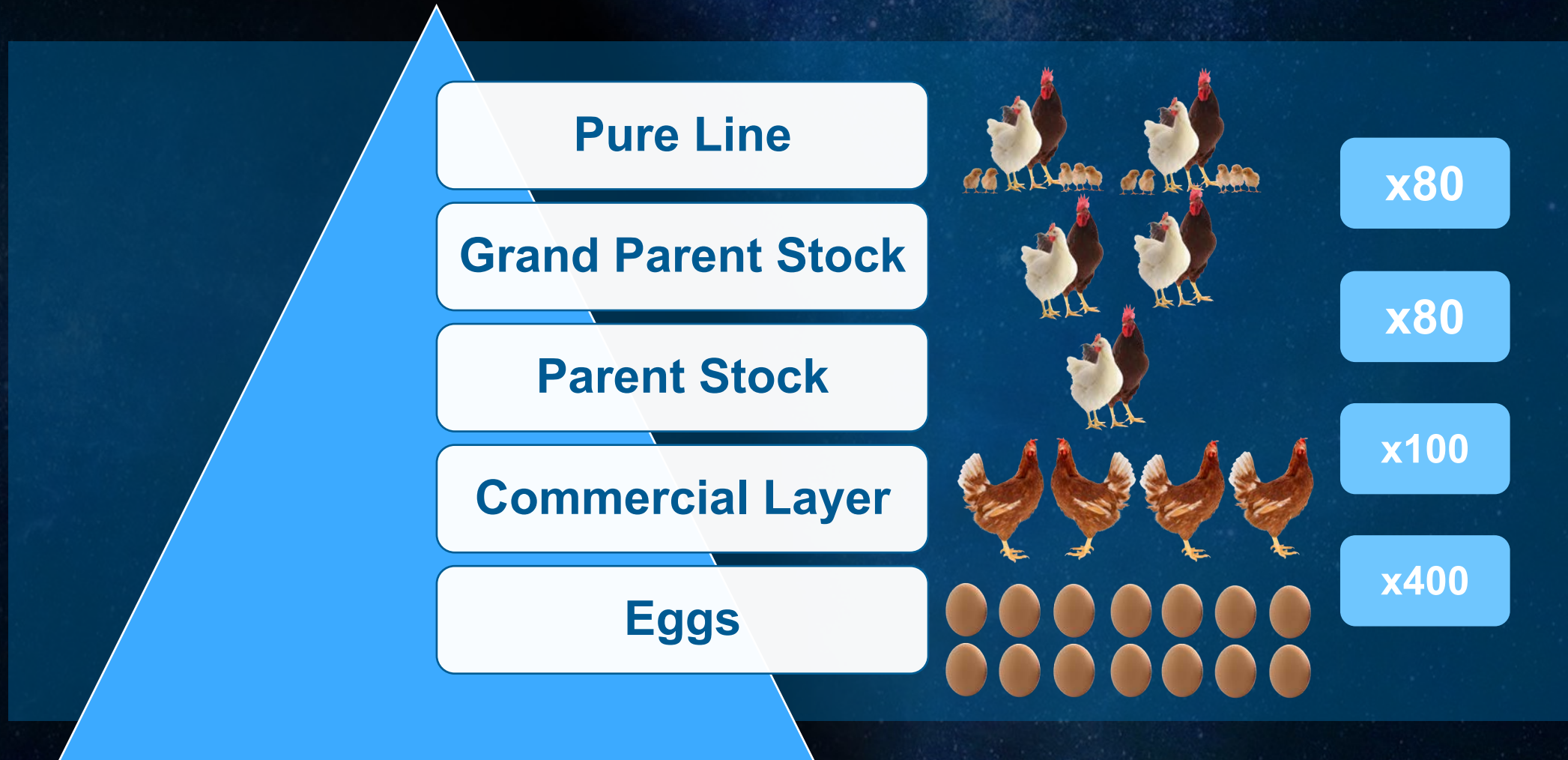
Avoiding the introduction of diseases through replacement pullets



Replacement pullets

Replacement pullets program

A highly verticalized industry ...



Replacement pullets program

...Thus, very vulnerable to vertically transmitted diseases

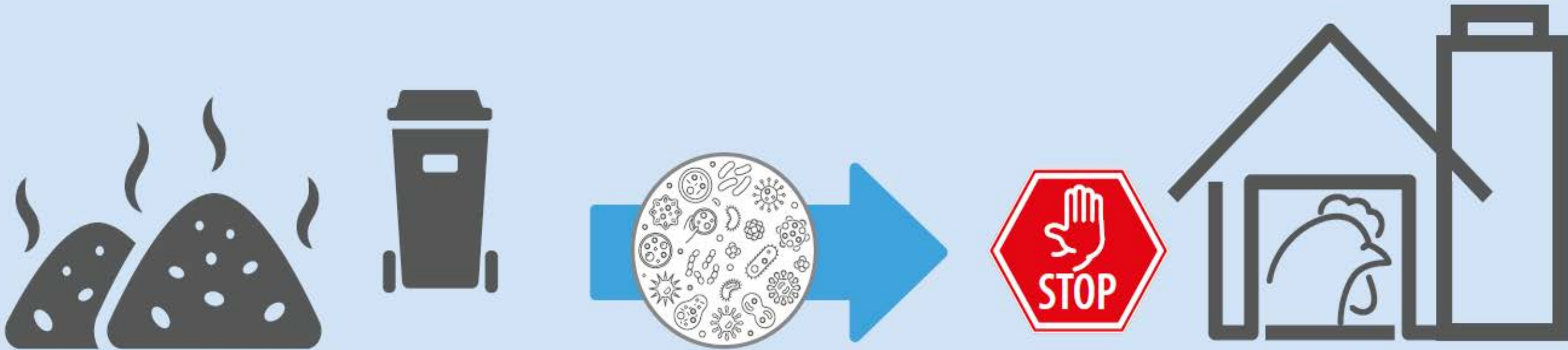


- *Mycoplasma gallisepticum*
- *Mycoplasma sinoviae*
- *Salmonella* spp.
- REV
- ALV
- IBH
- EDS
- REO
- ...



Get day old chicks
only from reliable &
trustworthy suppliers

Waste disposal program



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



Dead birds



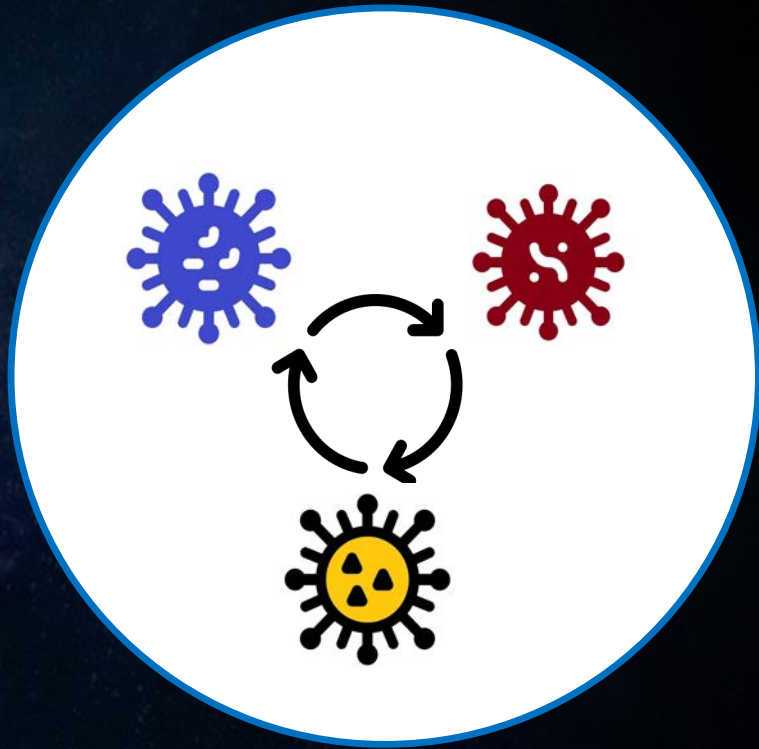
Manure



Depleted flock

Waste disposal program

What do Newcastle disease, Avian influenza, Laryngotracheitis have in common?



1. They kill a lot and they kill fast
2. Manure and dead birds play a key role in its spreading

Waste disposal program

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



Waste disposal program

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

Waste disposal program

How many farms does a catching crew visit in a day before yours?



- A) None
- B) 1
- C) 2
- D) 3
- E) 4
- F) I have no idea ...

Hint: F is the worst possible answer

Clean & Disinfection procedures



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



Cleaning



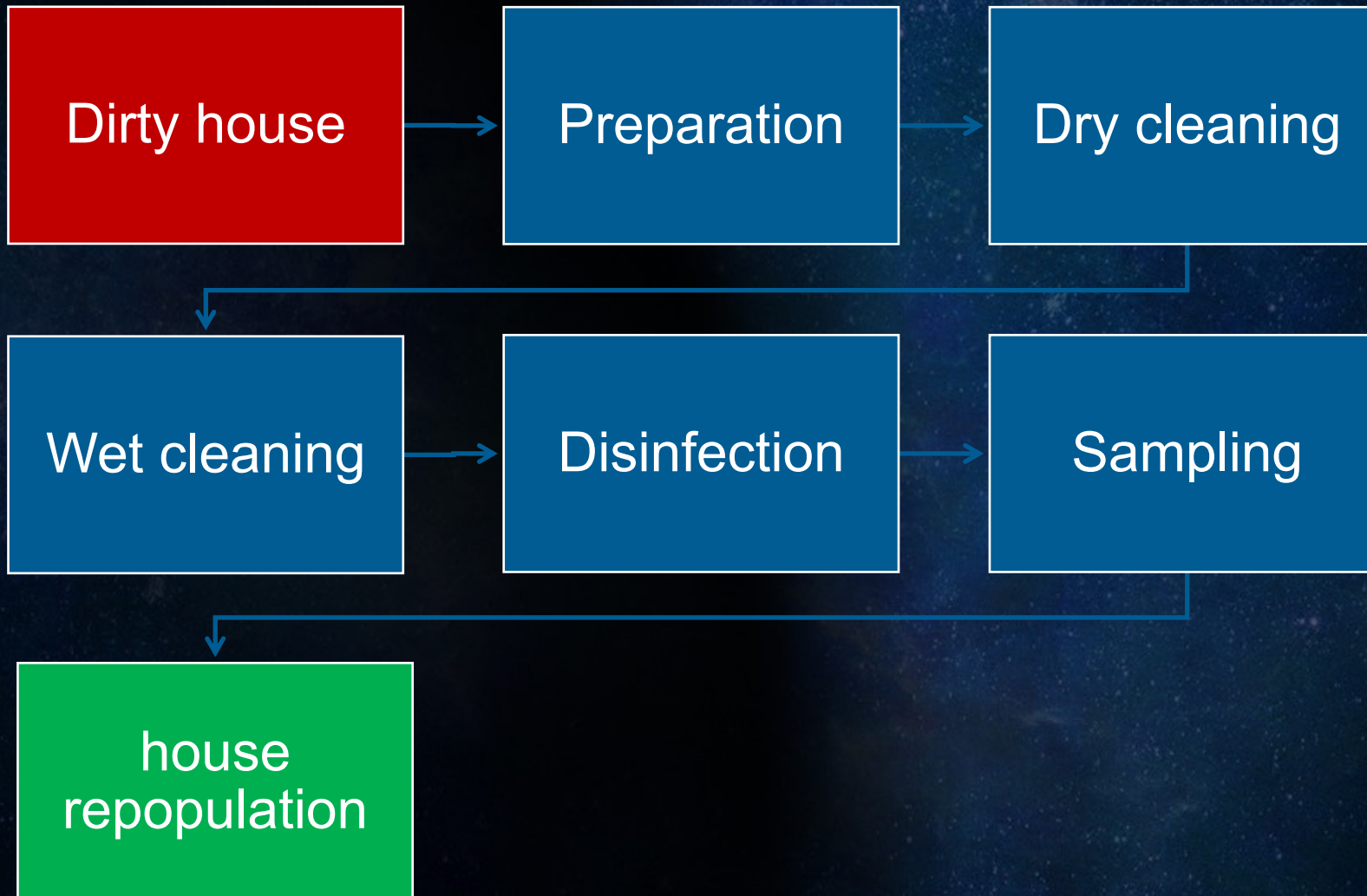
Disinfection



Sampling

Cleaning & Disinfection procedures

Cleaning & Disinfection procedures



Clean & Disinfection procedures

Disinfection is not magic. It is science.



Chemical substance



Organic material



Contact time



Temperature

Conclusions

A

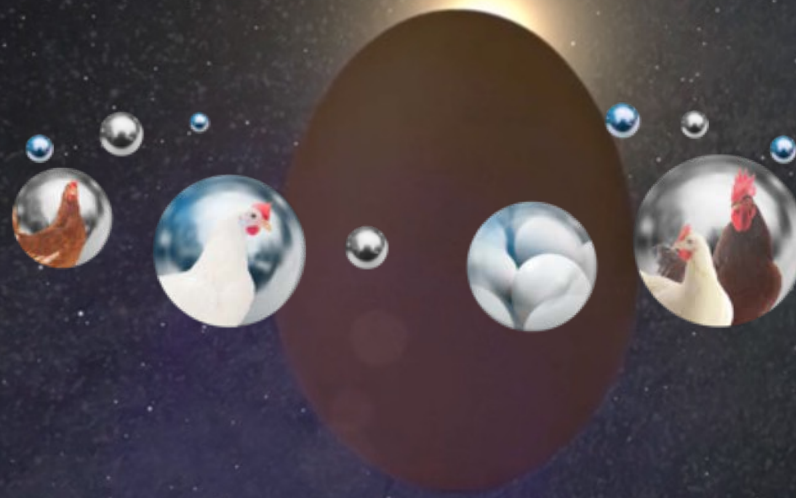
Biosecurity needs the **involvement of the whole company** (from the CEO to the farmers).

B

Biosecurity requires a wide range of areas of **knowledge**, but above all it requires **common sense**.

C

Biosecurity **works much better** if we convince our neighbors to work **together** according to its principles as well.



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