

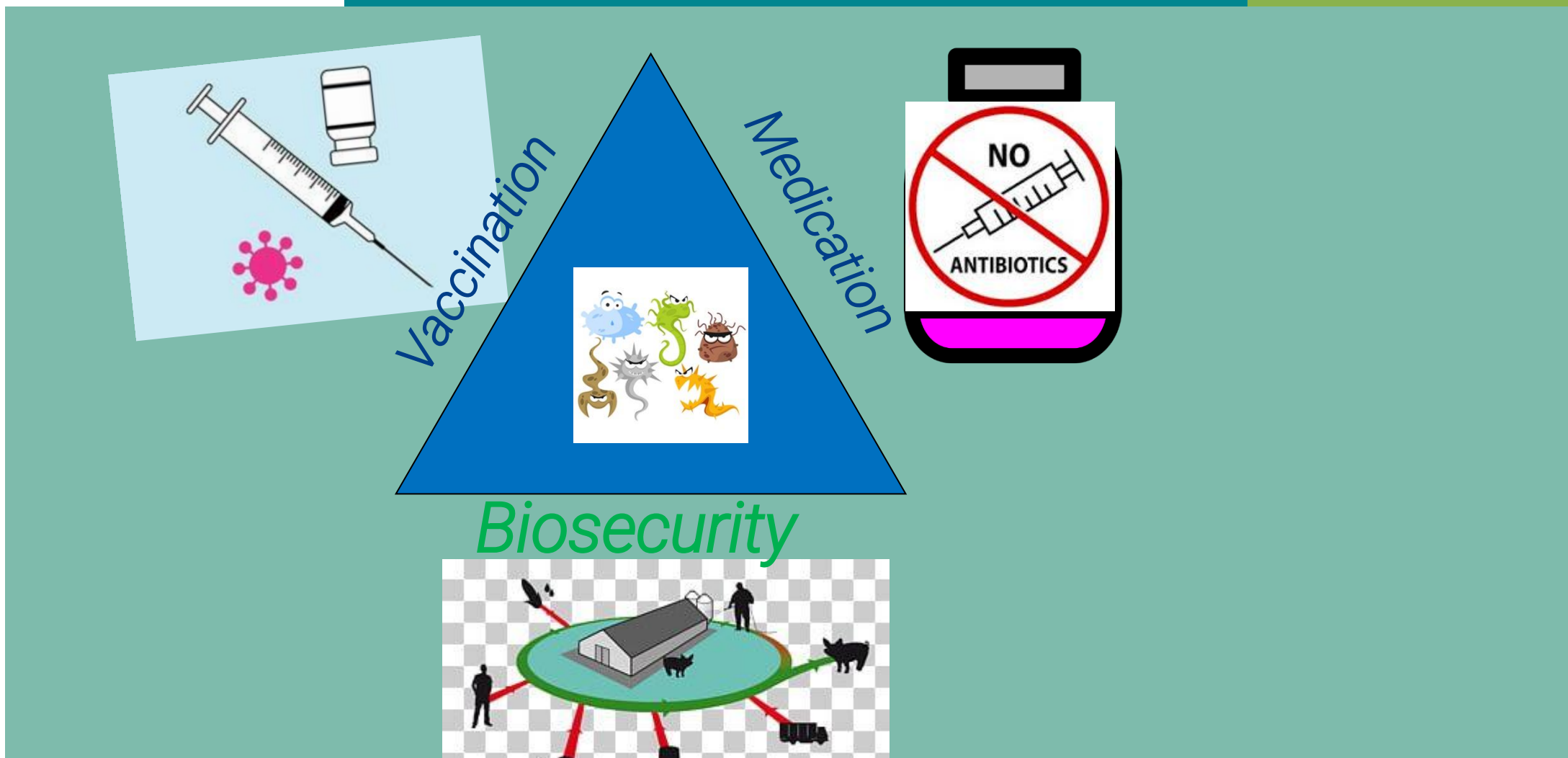


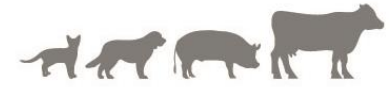
Biosecurity

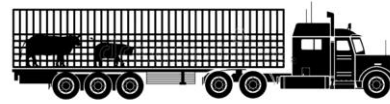
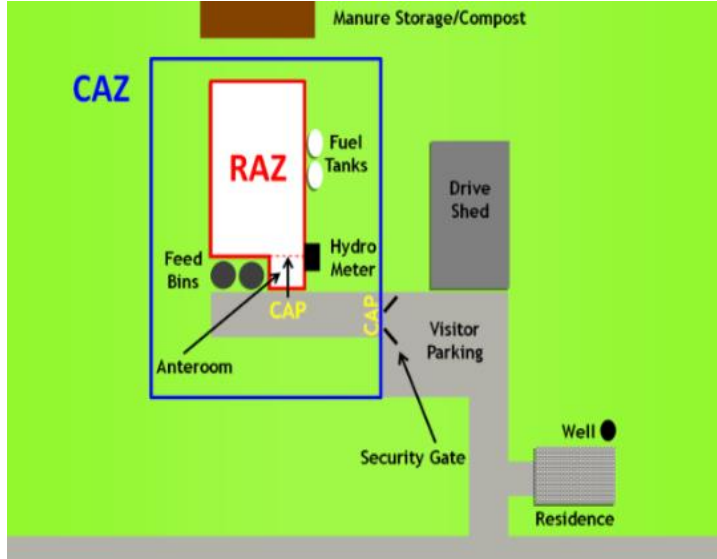


Vetoquinol.ca





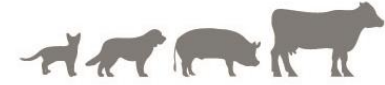




ANIMAL TRANSPORTATION



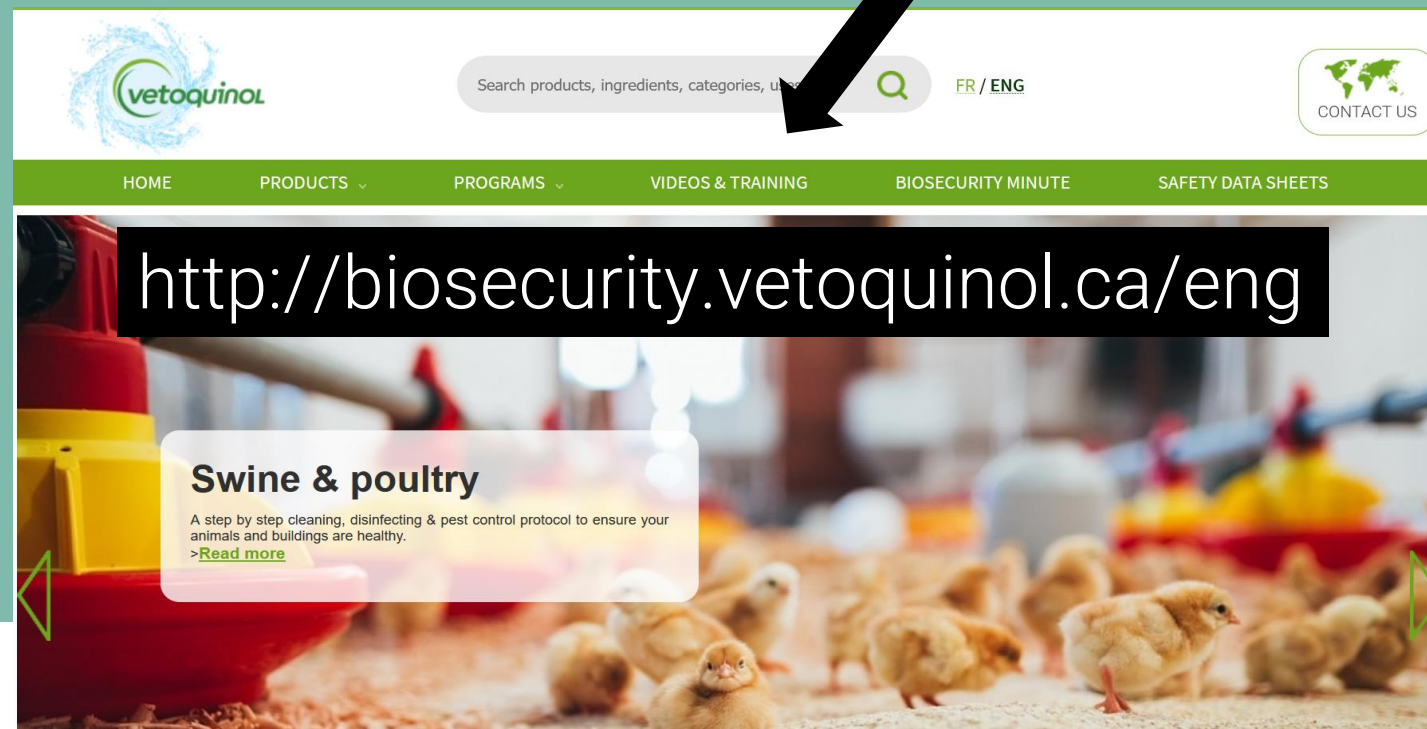
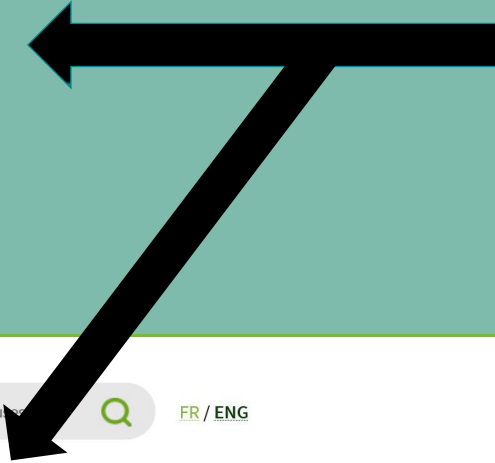
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Vetoquinol Products / programs



- Cleaning and Disinfecting
- Rodent Control
- Insect Control



Search products, ingredients, categories, u...  FR / ENG  CONTACT US

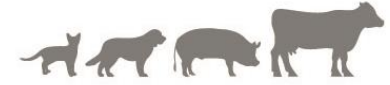
HOME PRODUCTS PROGRAMS VIDEOS & TRAINING BIOSECURITY MINUTE SAFETY DATA SHEETS

<http://biosecurity.vetoquinol.ca/eng>

Swine & poultry

A step by step cleaning, disinfecting & pest control protocol to ensure your animals and buildings are healthy.
>[Read more](#)

Cleaning and Disinfecting

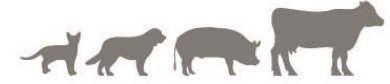


1

2

✓ Reduce time and water required for
the cleaning process **30-50%**

Cleaning and Disinfecting



Disease	Cost (\$/bird)
Fowl cholera (turkeys)	0.59
Reovirus (breeders)	6.89
Avian influenza (chickens)	19.00
M. gallisepticum (layers)	1.72
Coronavirus (turkeys)	0.05

Table 2. Cost of endemic disease.

Diminished immunosuppressive response from subclinically challenged birds, a **15% suppression in growth** was seen after exposure of commercial poultry to microflora under conventional conditions.

A **14% improvement in income per 1,000 birds** was seen in unaffected flocks compared to farms with evidence of chronic Gumboro infection.

1:24

Cleaning and Disinfecting

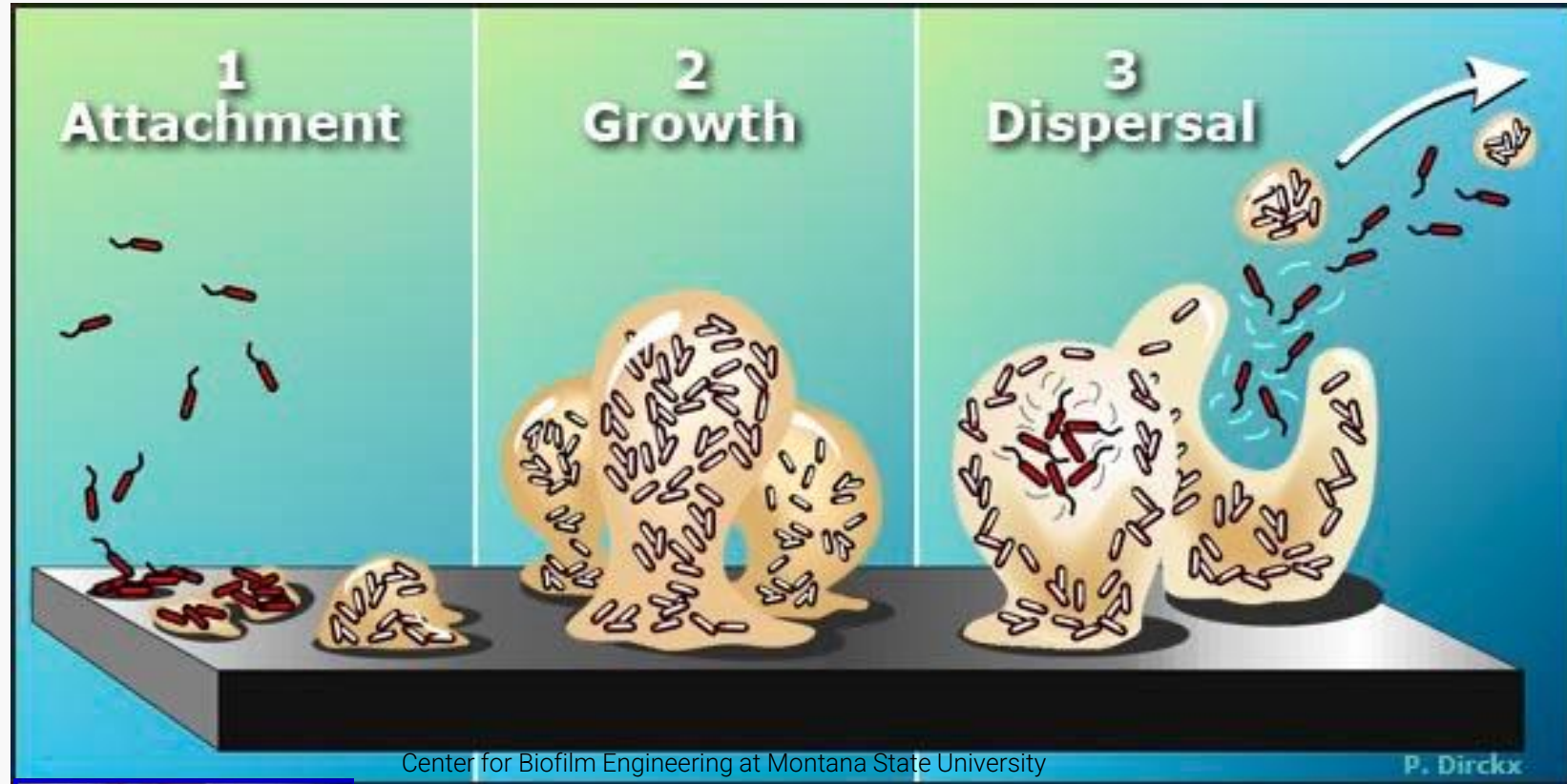
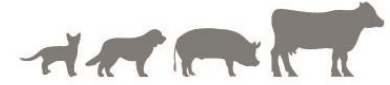


1

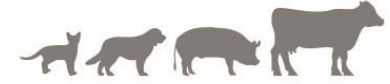
2

- ✓ Reduce time and water required for the cleaning process
- ✓ Help remove **biofilms** and minerals

Biofilms



Cleaning and Disinfecting

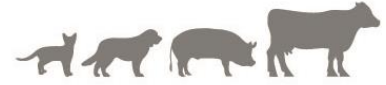


1

2

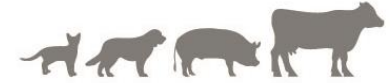
- ✓ Reduce time and water required for the cleaning process
- ✓ Help remove **biofilms** and minerals
- ✓ Help maximize the efficacy of disinfectants

Waterline Cleaning



- Why?
 - Animals drink approximately 2X what they eat
- Improperly cleaned waterlines may harbor
 - Biofilms containing a variety of microbes
 - Left over medications from previous batches
 - Excess minerals
 - Probiotics, Prebiotics, Vitamins ..

Waterline Cleaning



➤ Maintenance vs. Cleaning

➤ Maintenance – Restricting / Maintaining

➤ Chlorine

➤ Hypochlorous acid

➤ Acidified sodium chlorites

➤ Chlorine dioxide

➤ Hydrogen peroxide

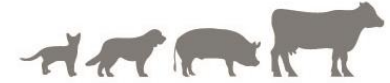
➤ Hydrogen peroxide and peracetic acid

➤ Iodine or iodophors

➤ UV light

➤ Acidification

Waterline Cleaning



➤ Maintenance vs. Cleaning.

➤ **Cleaning** – Without animals present or not allowed to consume water

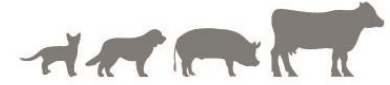
➤ Biofilms, Microbes, Medications..

➤ Choose an appropriate **detergent** depending on issues: **organic** matter or **mineral** deposits

** Ensure treated waterline is not supplying water to livestock in another room / building!



Waterline Cleaning



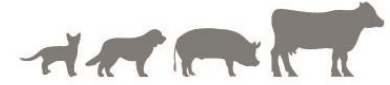
Alkaline
Degreaser



Acidic
Descaler

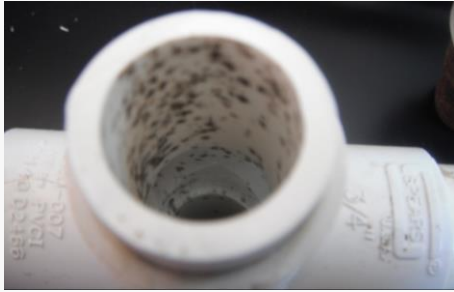


Waterline Cleaning

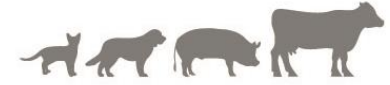


➤ Testing

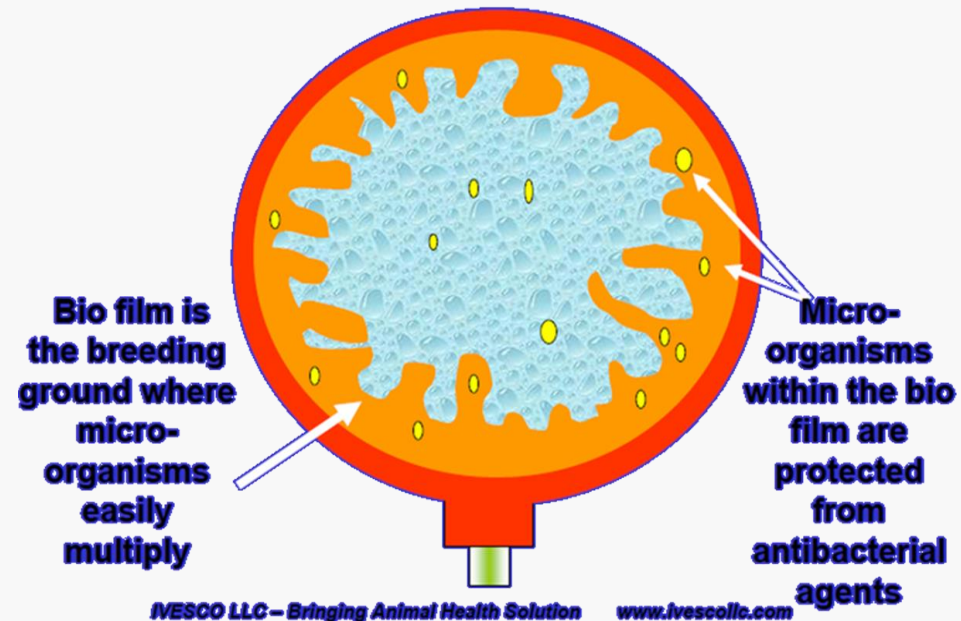
➤ Splitting lines – look or feel



Waterline Cleaning



- Testing
 - Splitting lines – look or feel
 - Water samples – levels of loads

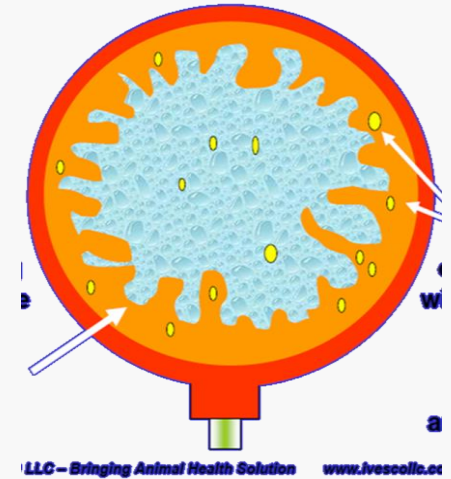


Waterline Cleaning



➤ Testing

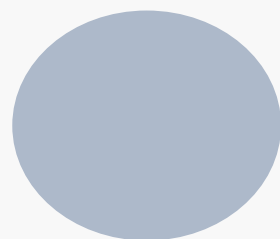
- Splitting lines – look or feel
- Water samples – levels of loads
- Swab samples – growing media
- Active chemical testing – specifying agents



Waterline Cleaning



- Prepare stock solution to ensure proper dilution rate and volume, depending on delivery system
- Inject solution in waterline
- Ensure product is present everywhere



Biosolve Plus



Biosolve AFC

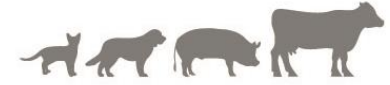
Waterline Cleaning



- **Let stand** (soaking time depends on condition of the waterline)
 - Soak while surface washing!
- **Rinse / flush** the line
- Preferably repeat steps using an appropriate **disinfectant**



Surface Cleaning



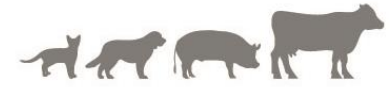
Rotation



Alkaline
Degreaser

Acidic
Descaler

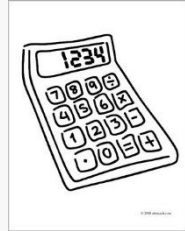
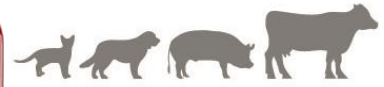
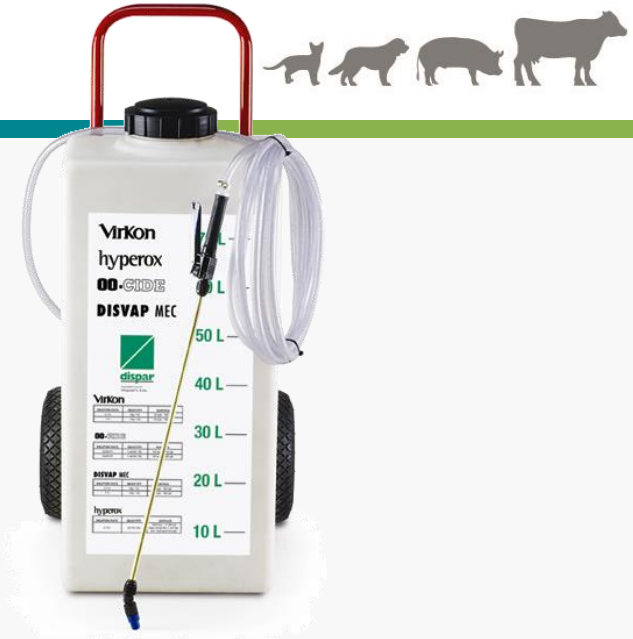
Rule 1
Dilute according to label



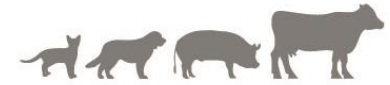
<http://biosecurity.vetoquinol.ca/eng>

1 litre = 1000ml

Labels	%	g or ml/L	oz/gallon
1:100	1	10	1.3
1:128	0.8	8	1
1:256	0.4	4	0.5
1:40	2.5	25	3.2

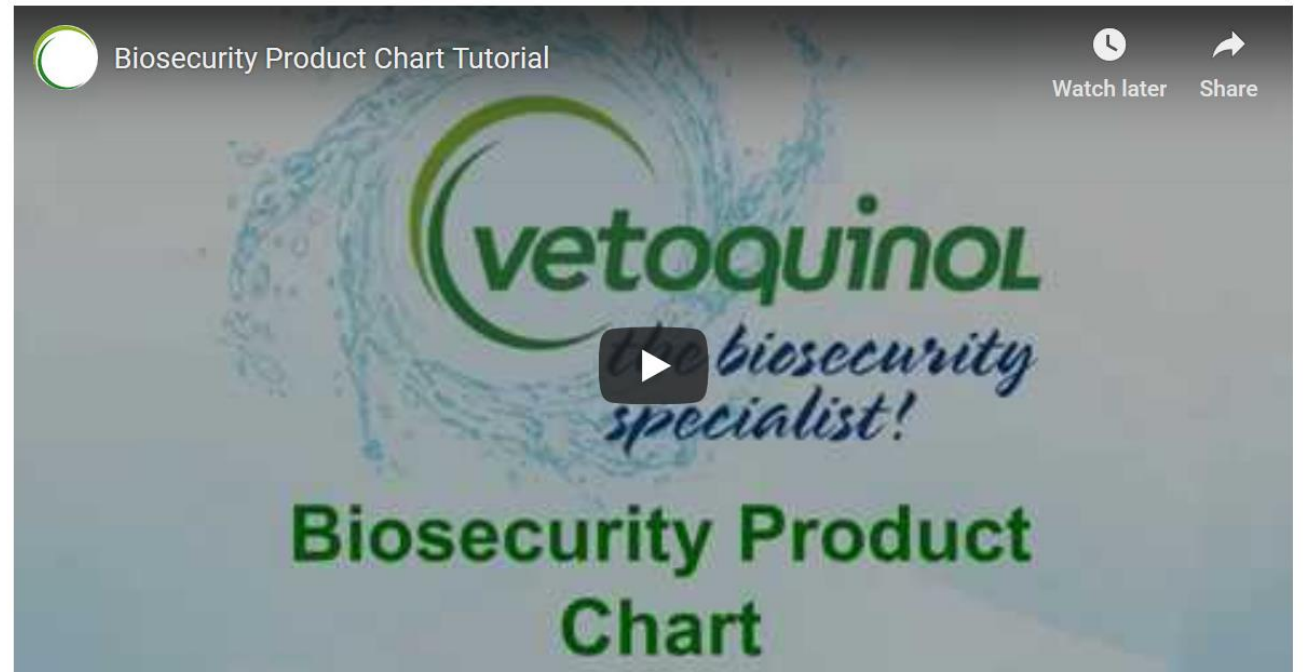


How to Calibrate Application Equipment

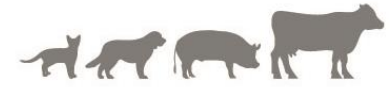


How to use our product calculator

[Download the calculator here](#)



Rule 2
Apply with low pressure

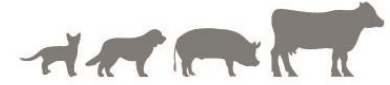


Cleaner

Deposit

Surface

Surface Cleaning



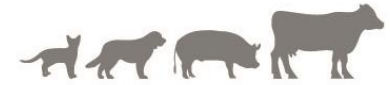
Foaming



Spraying



Rule 3
Give it time work

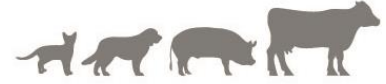


Cleaner

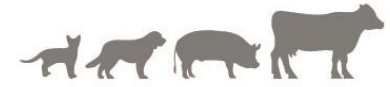
Deposit

Surface

Surface Cleaning



Rule 4
Rinse off before solution
dries

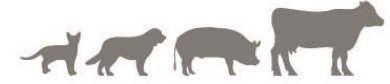


Cleaner

Deposit

Surface

Cleaning and Disinfecting



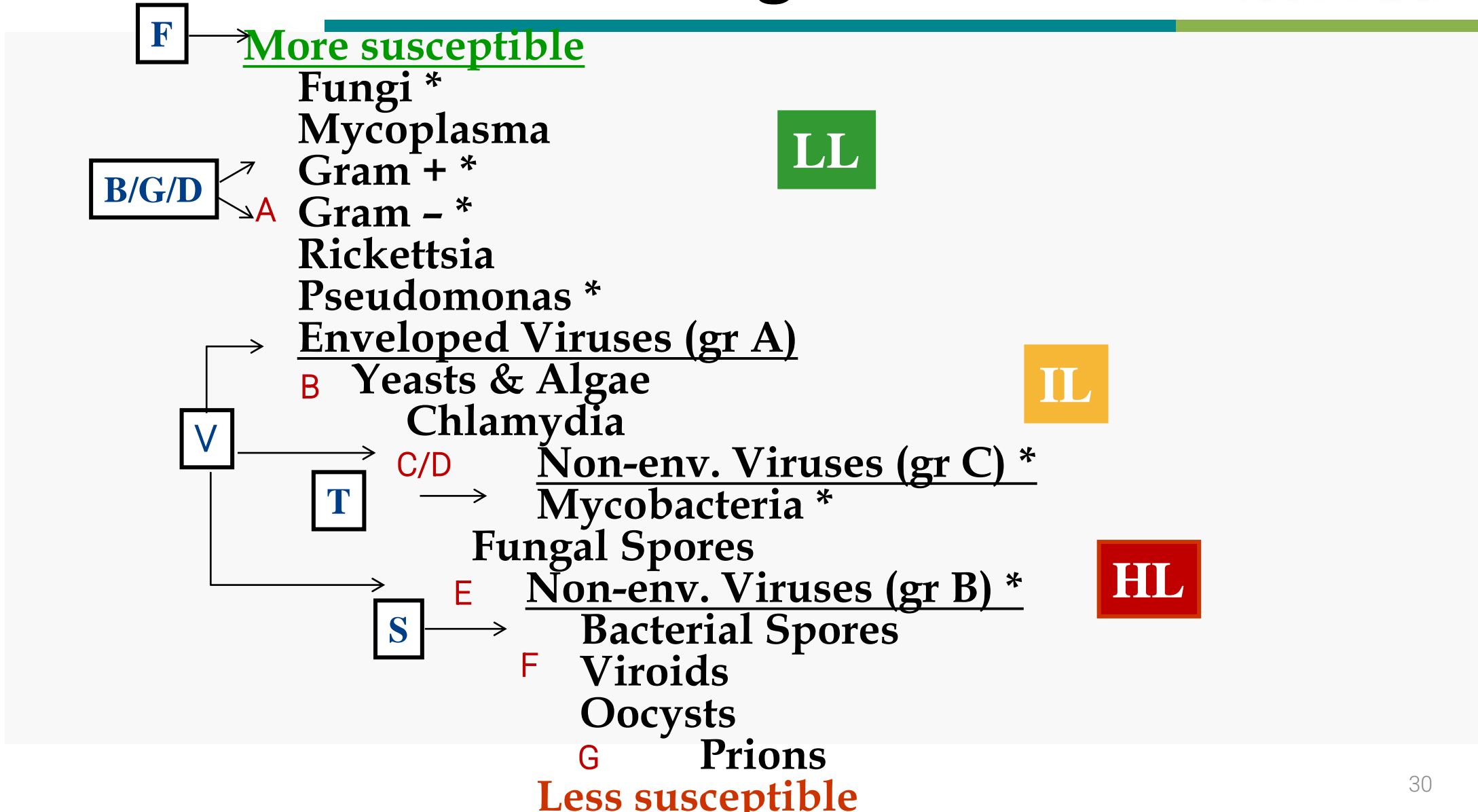
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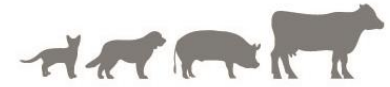
2

❖ Overall result of disinfection depends on:

- ✓ Type & cleanliness of **surfaces**
- ✓ Type & resistance of **microbes**

Disinfecting





Sensitivity to Disinfectants: poultry

More susceptible

Fungi *

Mycoplasma

Gram + *

A Gram - *

Rickettsia

Pseudomonas *

Enveloped Viruses (gr A)

B Yeasts & Algae

Chlamydia

C/D

Non-env. Viruses (gr C) *

Mycobacteri *

Fungal Spores

E

Non-env. Viruses (gr B) *

Bacterial Spores

F

Viroids

Oocysts

G

Prions

Less susceptible

*Clostridium,
Listeria
Strept., Staph.**

*Enterobacter
E coli,
Pasteurella,
Salmonella**

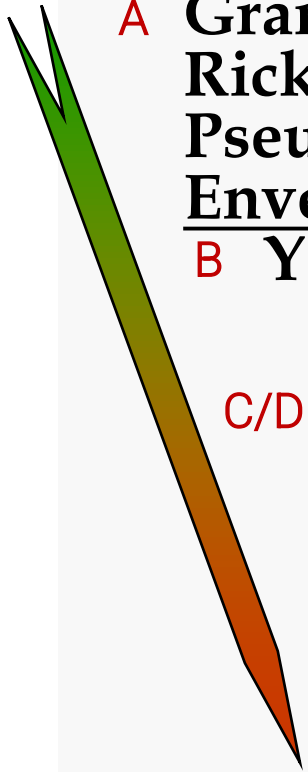
*Corona: IB
Herpes: Marek, ILT
Orthomyxo: AI
Paramyxo: ND
Toga: WN
Retro: Leucosis*

Aspergillus

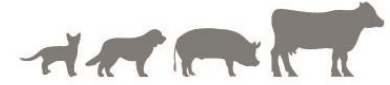
*Pox: Fowl pox
Adeno*: EDS, IBH
Reo*: Synovitis*

Clostridium

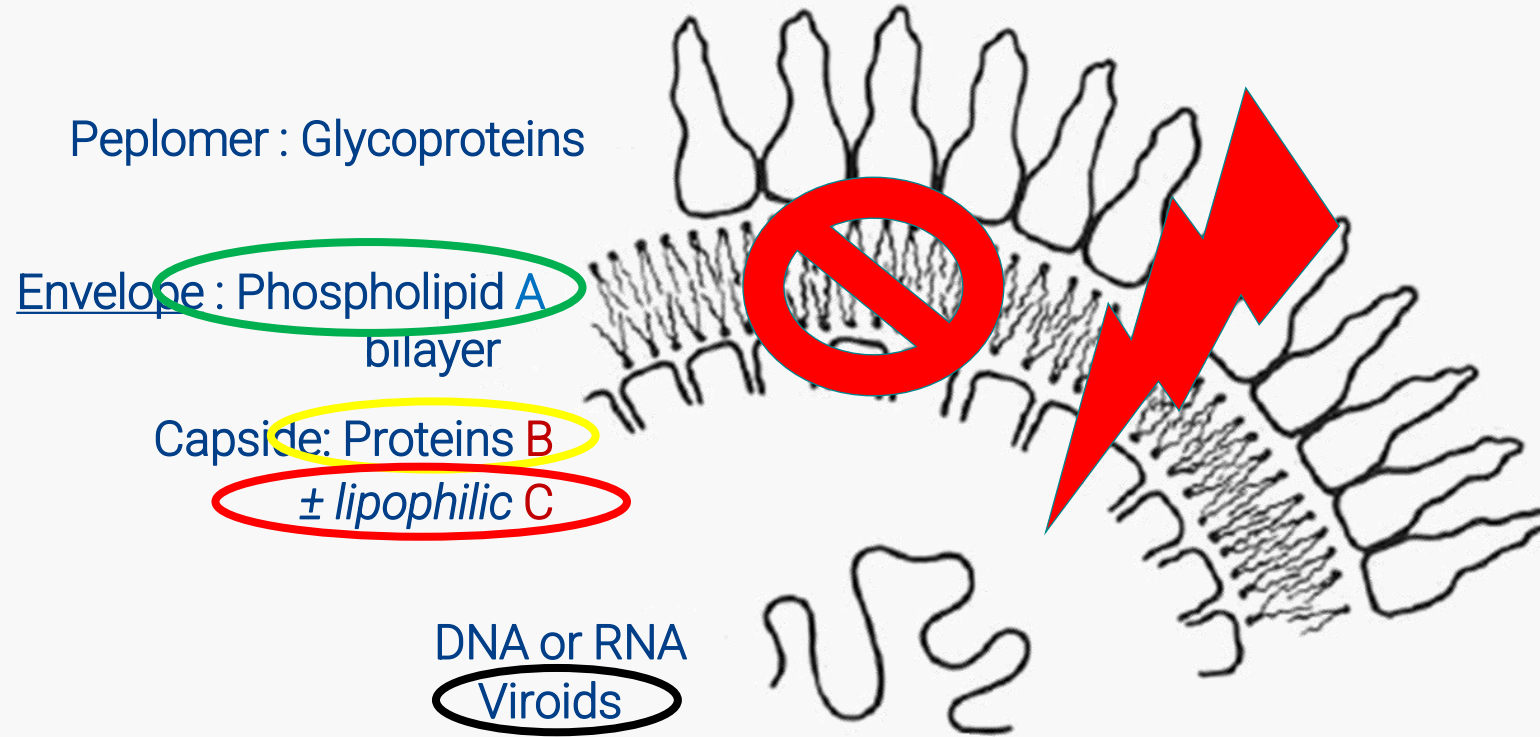
*Astro: PEMS
Birna: IBD
Circo: CA, PBFD
Aphto*: FMD
Entero, Parvo**



Disinfecting



Viruses



Cleaning and Disinfecting

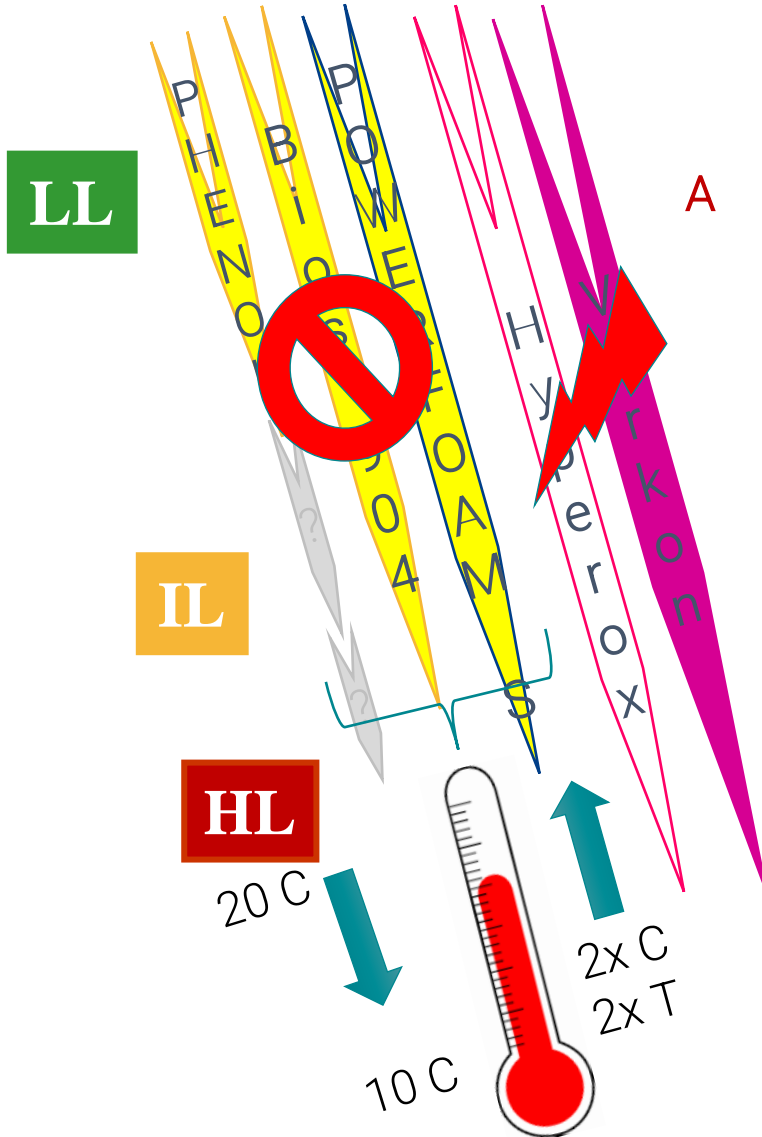
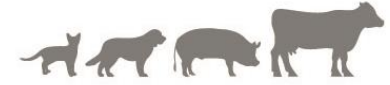


1

2

- ❖ Overall result of disinfection depends on:
 - ✓ Type & cleanliness of **surfaces**
 - ✓ Type & resistance of **microbes**
 - ✓ Water and surface **temperature**
 - ✓ Choice & efficacy of **disinfectants**

Disinfecting

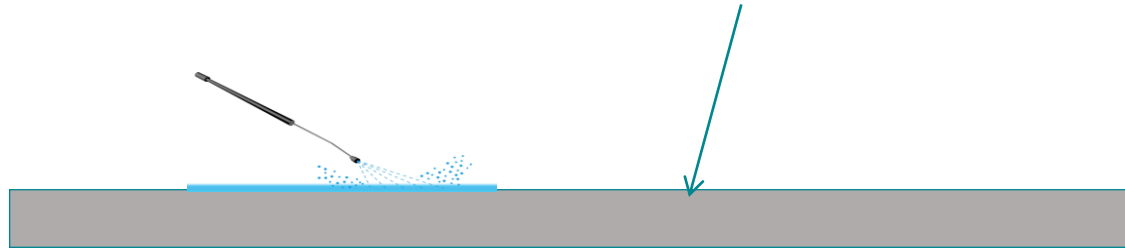


- Fungi *
- Mycoplasma
- Gram + *
- Gram - *
- Rickettsia
- Pseudomonas *
- Enveloped Viruses (gr A)
- Yeasts & Algae
- Chlamydia
- Non-env. Viruses (gr C) *
- Mycobacteria *
- Fungal Spores
- Non-env. Viruses (gr B) *
- Bacterial Spores
- Viroids
- Oocysts
- Prions
- Less susceptible

Residual Chemistries

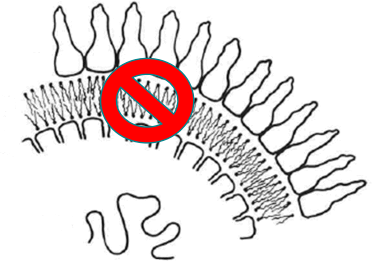


Rehydration = Reactivation

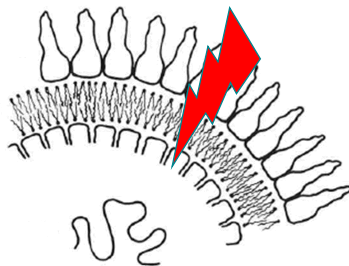


Lower than normal concentration therefore decreased activities due to less chemical reactive.

Intrinsic Resistance



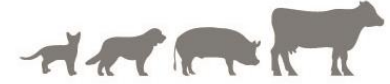
Residual = slower biodegradation



Oxidative Chemistry

- Biodegradable
- Fast reactor
- Corrosive
- Cost
- No resistance seen

Cleaning and Disinfecting



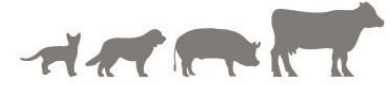
1

2

❖ Before applying Disinfectants make sure surfaces that are dry as possible:

- ✓ Prevent **over-dilution**
- ✓ Prevent chemical **incompatibilities**
- ✓ Improve **penetration** of the disinfectant

Cleaning and Disinfecting



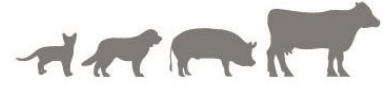
1

2

- **Apply** – right rate according to situation
- **Let stand** at least 10 minutes
 - Minimal contact time for disinfectants in general
- **Dry** as quickly as possible afterward
- ❖ Too long a contact time is not necessarily preferable nor desirable!
- ❖ Some disinfectants need to be rinsed off!

Residual Chemistries

Misting/Fogging

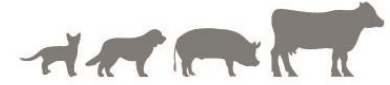


Misting / fogging is recommended to disinfect **inaccessible areas**, or simply to **complete disinfection**, after mobile equipment and litter are returned

Sometimes called « **double disinfection** »

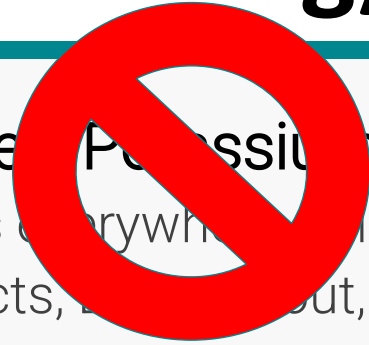
❖ **Misting / fogging do not replace disinfection by spraying!!!**

Misting/Fogging



Gas- OPP candle (Permethrin/Formalin)

Very Fast, gets everywhere quickly
Limited products, expensive, but, Dangerous



Thermal Fogging

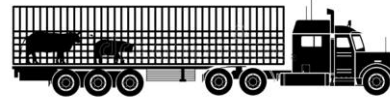
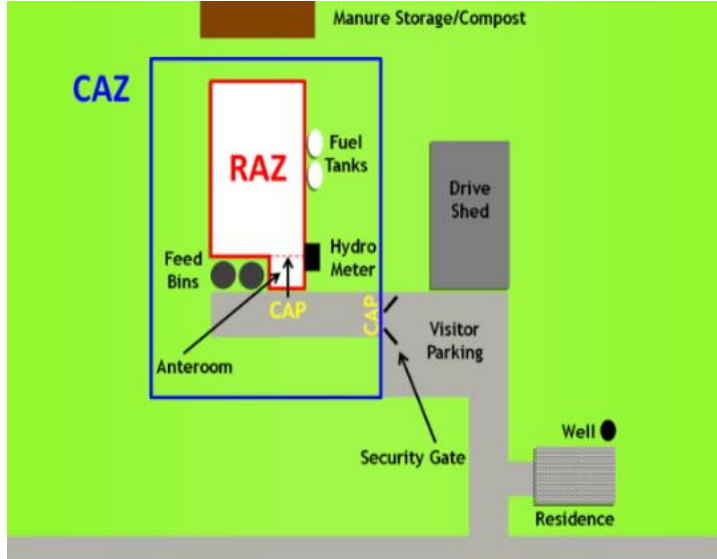
Fast, Gets everywhere
Less limited Products, Expensive Machine



Cold Misting

All products, Cheaper to apply
Needs assistance, longer to apply





ANIMAL TRANSPORTATION



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