

سُبْحَانَكَ اللَّهُمَّ رَبِّ السَّمَاوَاتِ السَّبْعِ وَرَبُّ الْعَرْشِ الْمَجِيدِ



المؤتمر الدولي الأول لعلوم الجاموس



INSECTICIDES

New trends in veterinary insecticides



المؤتمر الدولي الأول لعلم
الجاموس

By

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Which product should I use







IPM

Chemical

Biological

Cultural

Plant resistance

Insecticides are one of the four building blocks of IPM



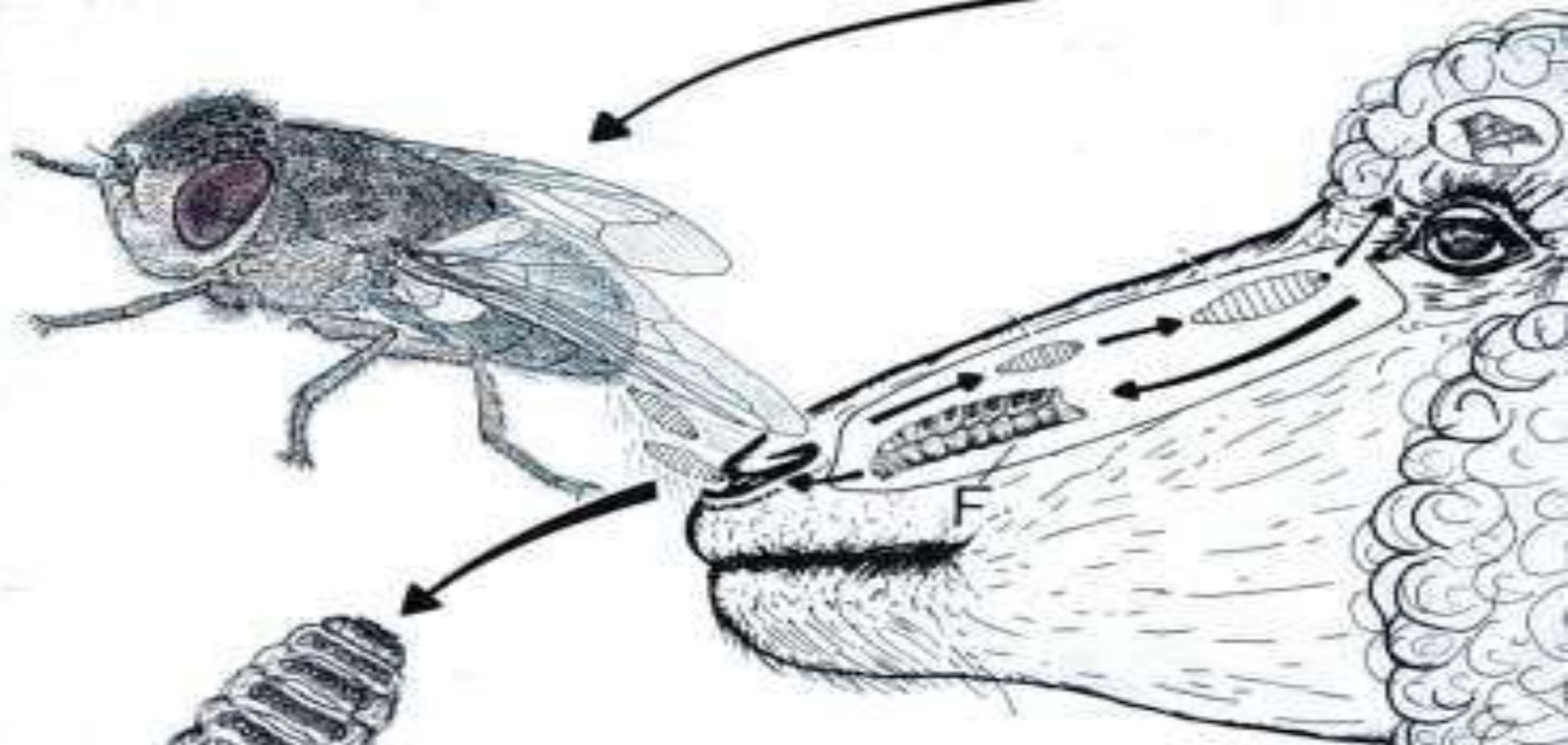




Flystrike

Myiasis





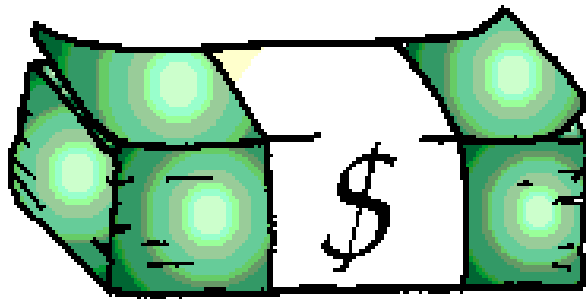
Insecticide

Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating insects.

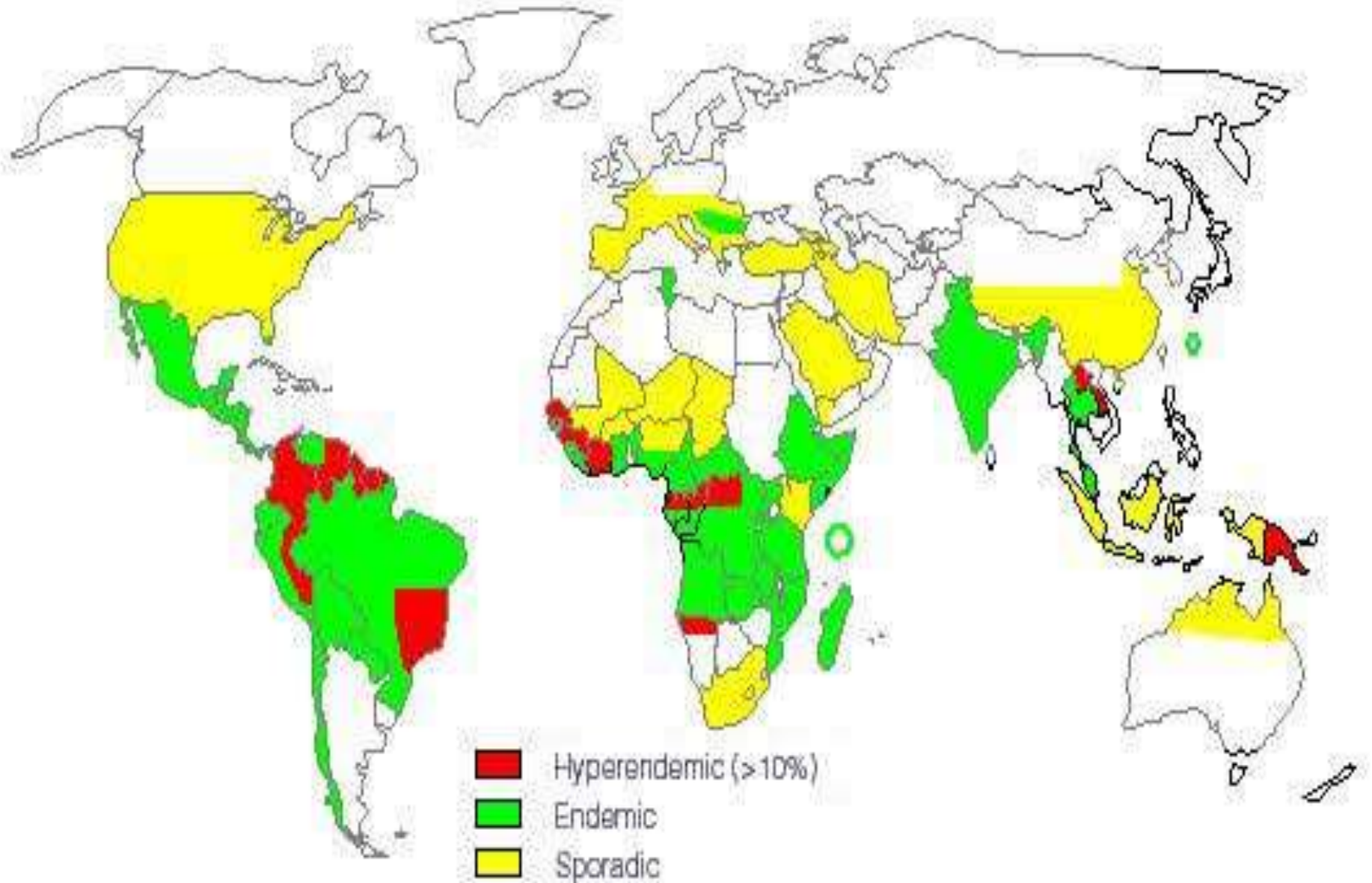


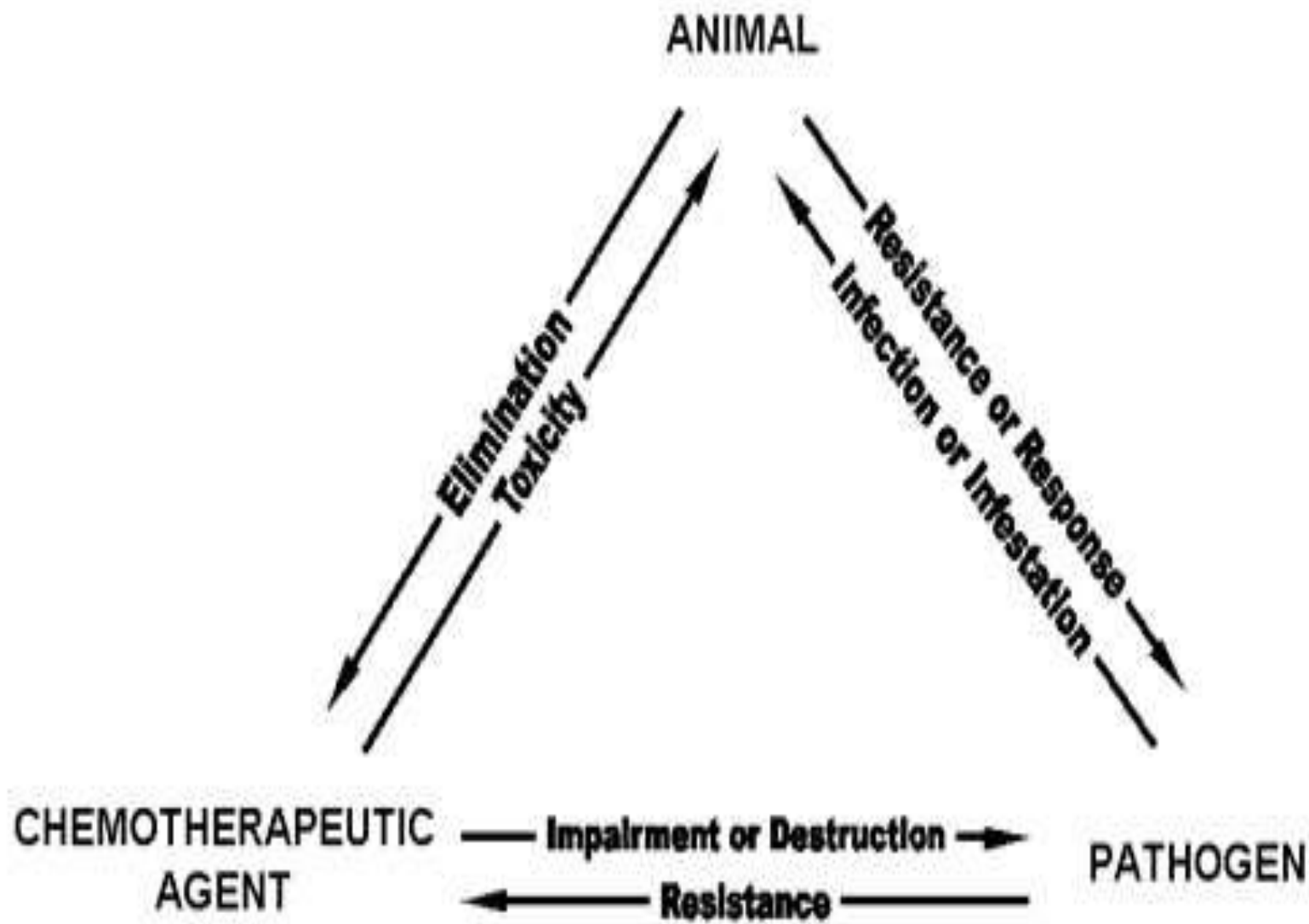


Insecticides represent an \$ 8 billion industry

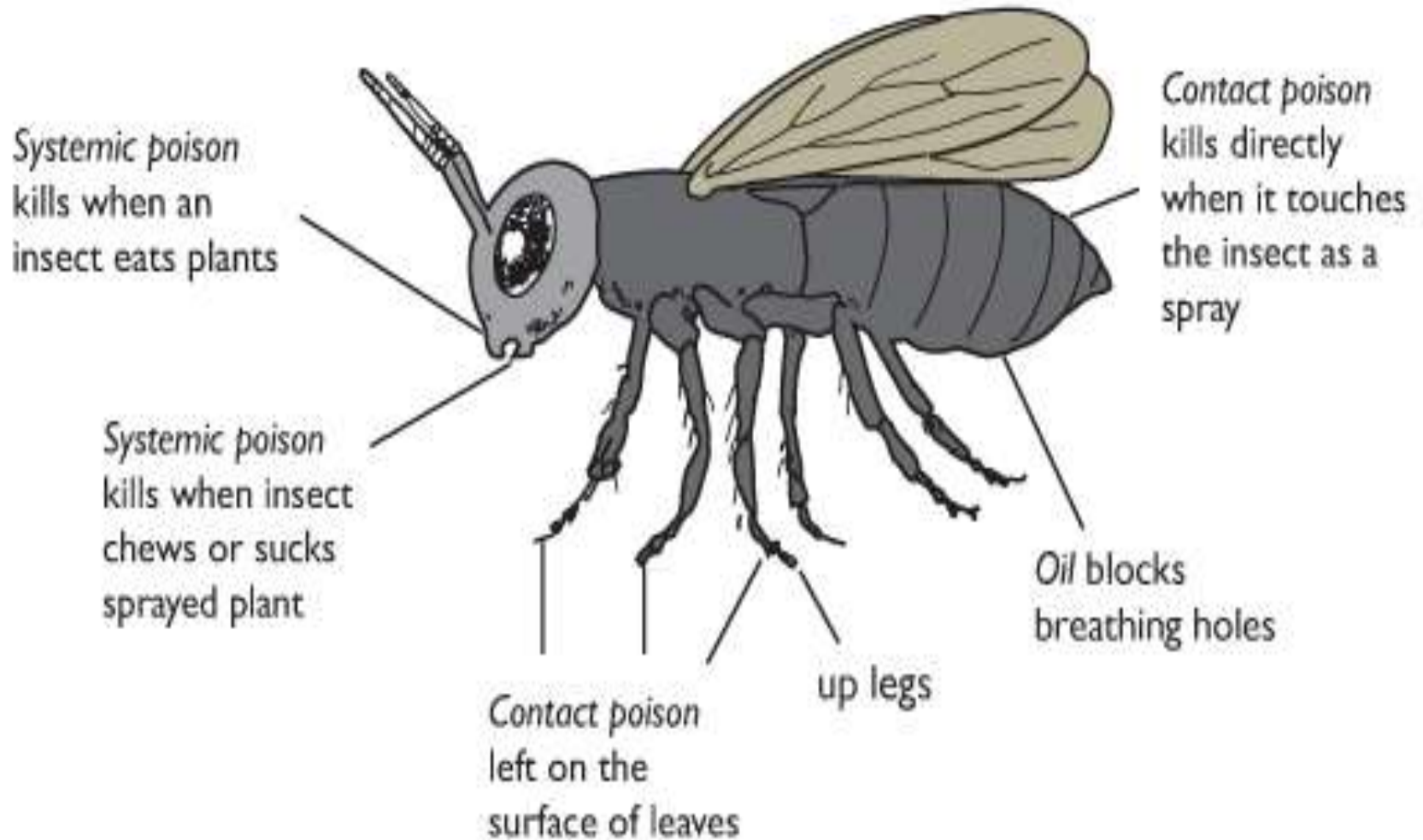


Epidemiology



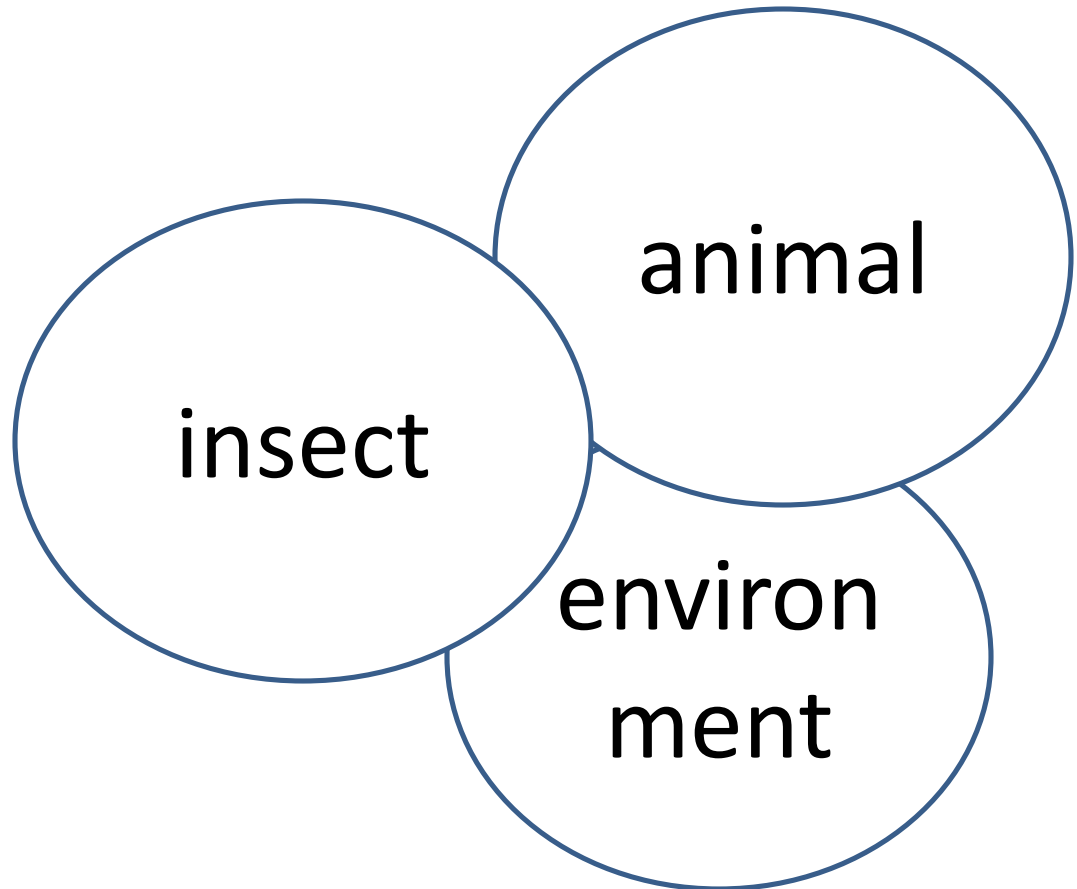
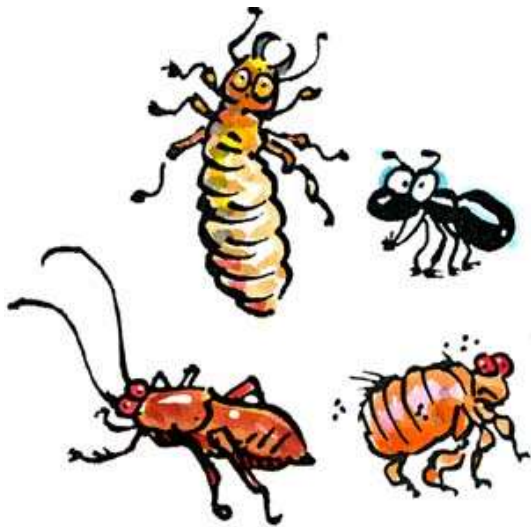


Insects

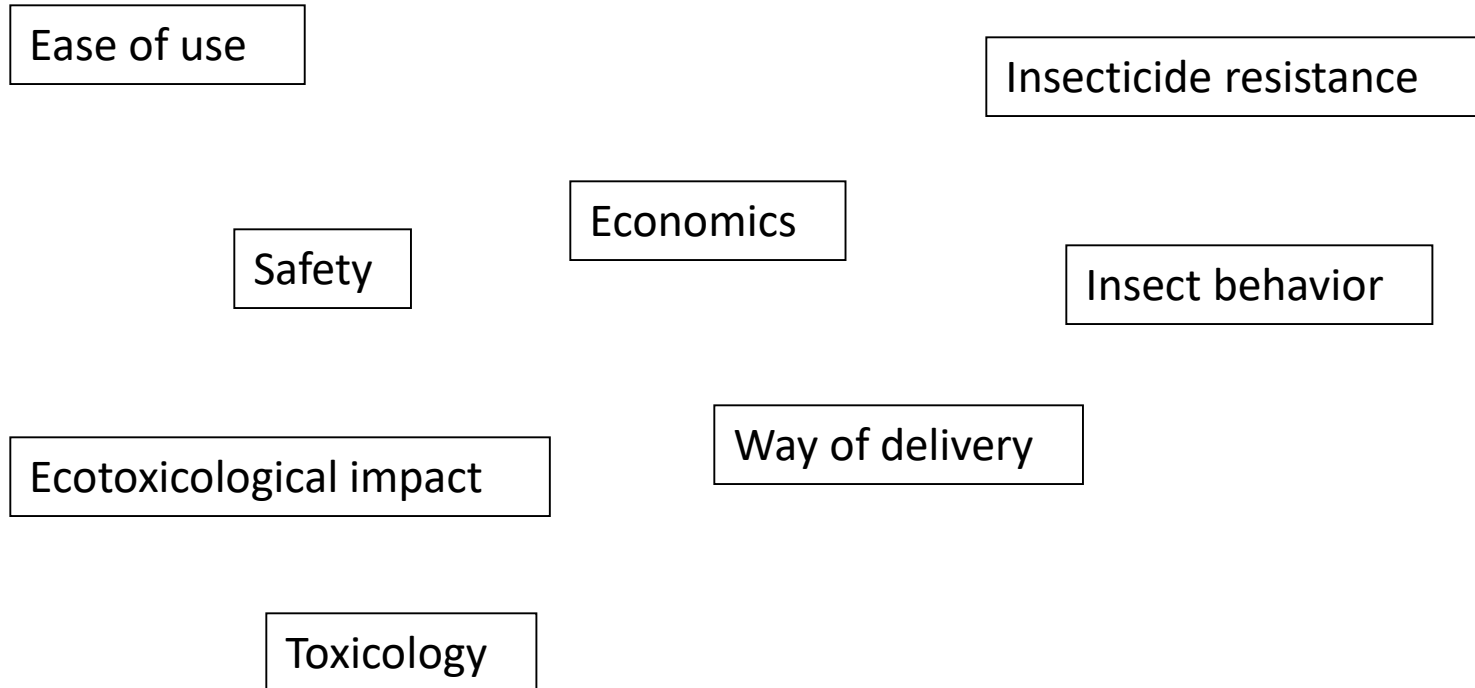




Considerations in use of insecticides

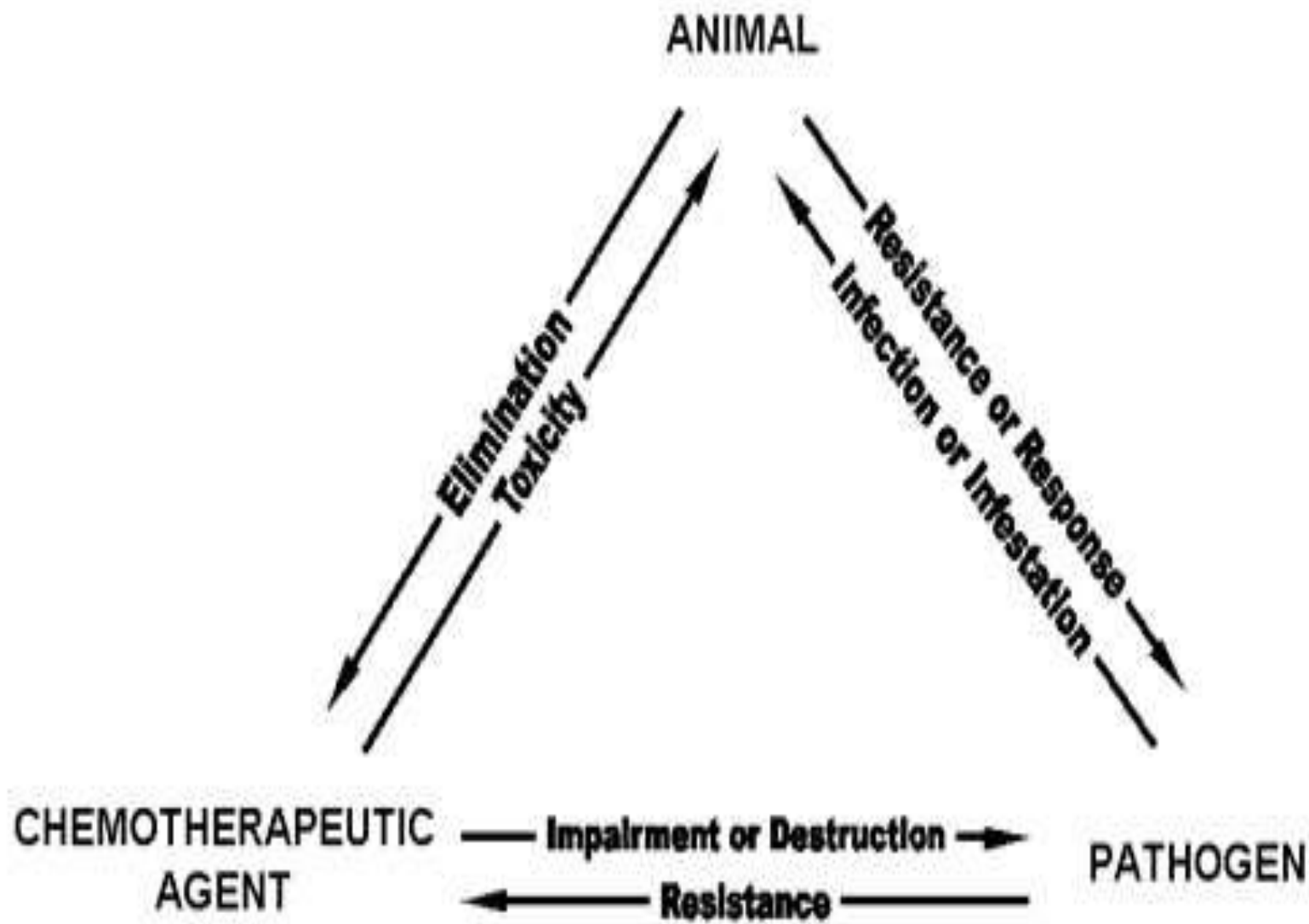


For the Correct use of insecticides, we need to consider:



Which product should I use



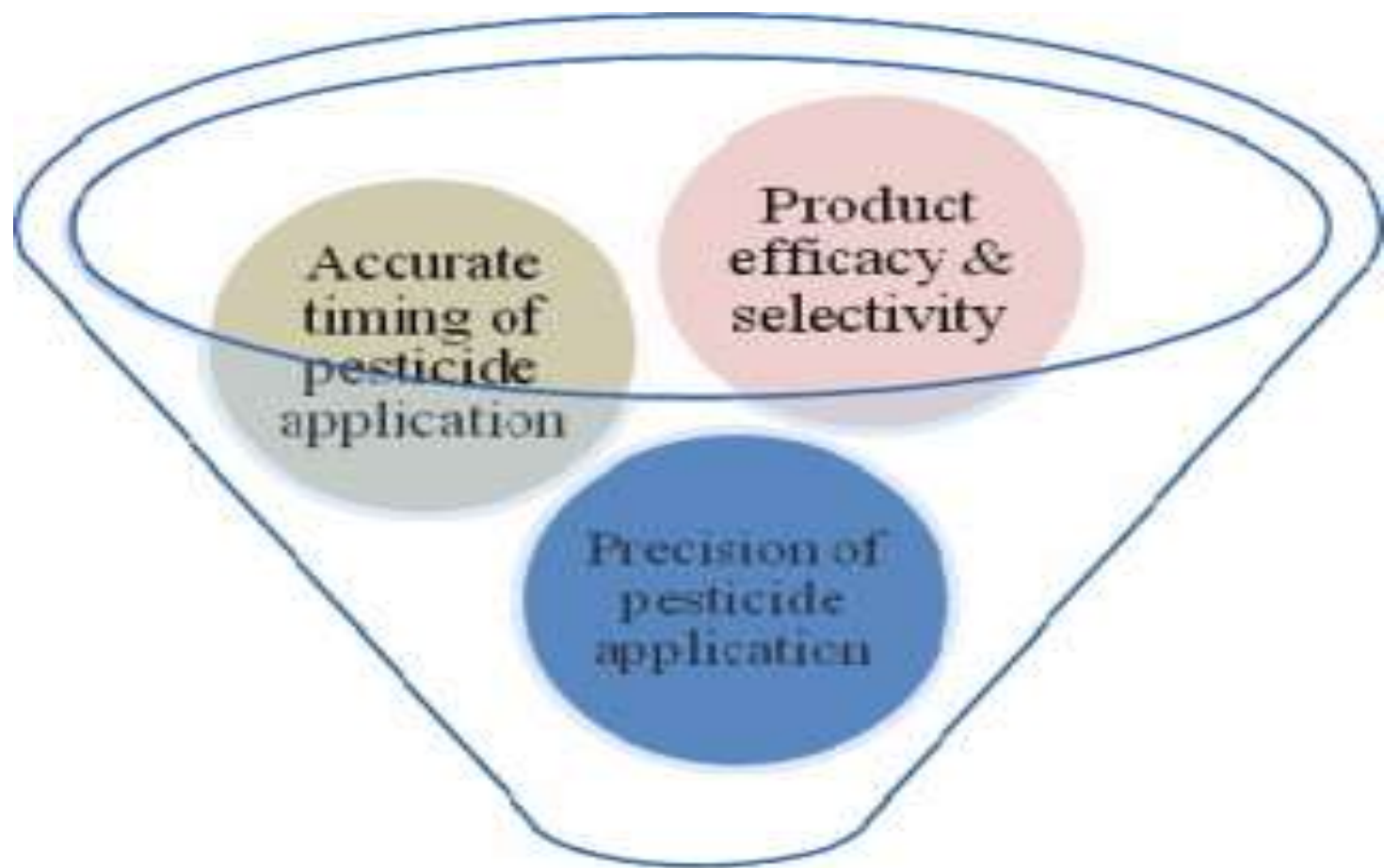




insecticide...??

“choice of insecticide”





Rational Pesticide Use (RPU)

Which product should I use





World Health Organization (WHO)

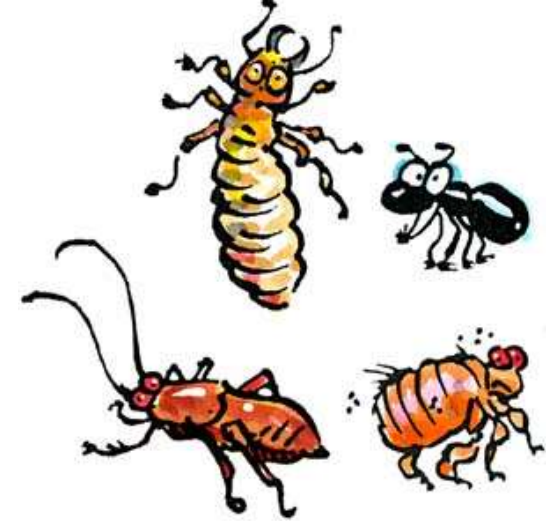
Classification of Pesticides by Hazard

	LD ₅₀ for the rat (mg/kg body weight)			
Class	Oral		Dermal	
	Solids	Liquids	Solids	Liquids
Ia Extremely hazardous	5 or less	20 or less	10 or less	40 or less
Ib Highly hazardous	5 - 50	20 - 200	10 - 100	40 - 400
II Moderately hazardous	50 - 500	200 - 2000	100 - 1000	400 - 4000
III Slightly hazardous	Over 500	Over 2000	Over 1000	Over 4000



Insecticides

- Inorganics
 - Ex. Bora-Care, Disodium Octaborate Tetrahydrate
- Botanicals
 - Ex. Pyrethrum
- Synthetic Organics
 - Ex. Pyrethroids
- “Natural”
 - Ex. Avermectins



Insecticides

Anticholinesterases

- Organophosphates
- Parathion, Chlorpyrifos*
- Carbamates
- Aldicarb, Methomyl*

Avermectins

- Ivermectin

Botanicals

- Nicotine
- Rotenoids
- Rotenone*, Deguelin

Organochlorines

- Cyclodienes
- Dieldrin*, Heptachlor
- Dichlorodiphenylethanes
- DDT*, methoxychlor
- Cyclohexanes
- Lindane, β -HCH

Pyrethroids

- Type I
- Permethrin*
- Type II
- Cypermethrin, Deltamethrin*

Other

- Nitromethylene
- Chloronicotinyl
- Phenylpyrazole

Botanical Insecticides



Secondary compounds

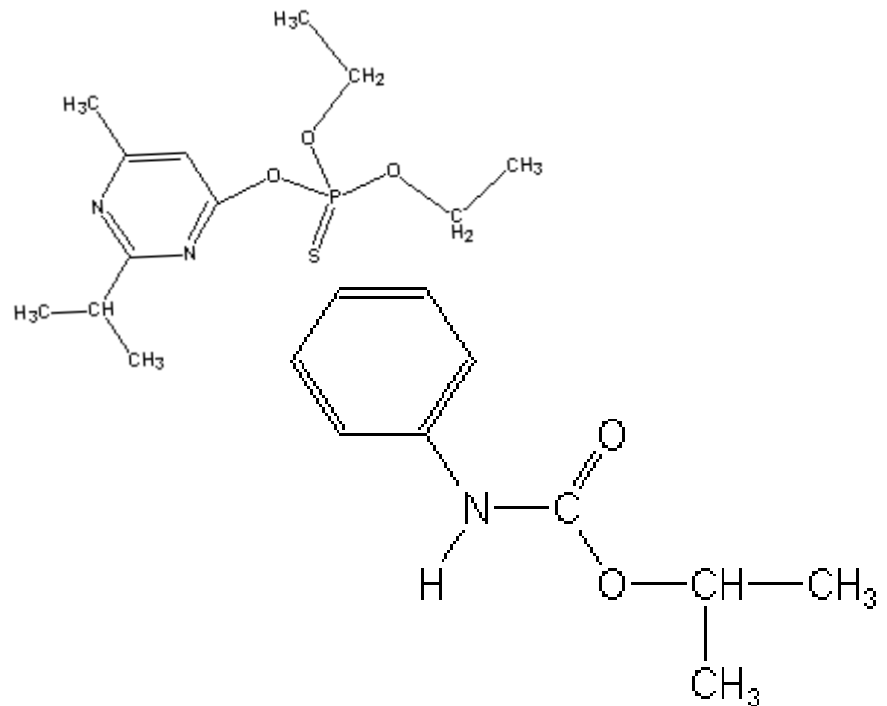
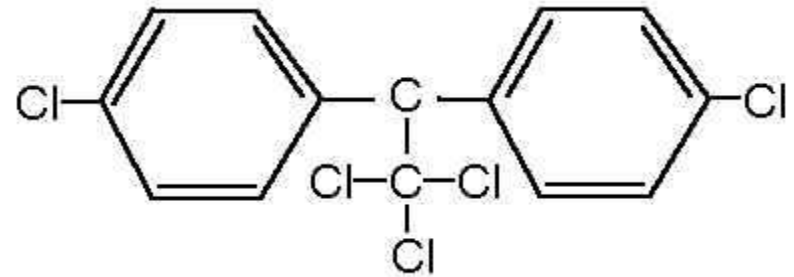
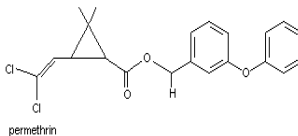
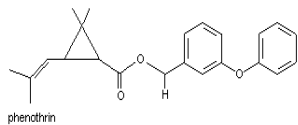
- Alkaloids
- Terpenoids
- Phenolics
- Glucosinolates
- Etc.



Synthetic Insecticides

Synthetic Insecticides

- Organochlorines
- Organophosphates
- Carbamates
- Pyrethroids
- Neonicotinoids



Classes of Insecticides



Botanical Insecticides

- Sabadilla
- Nicotine
- Quassia
- Unsaturated isobutylamides
- Ryanodine
- Naphtoquinones
- Rotenone
- Sweet flag
- Marigolds
- Pyrethrum
- Azadirachtin
- Essential oils
- Botanical insecticides

Synthetic Insecticides

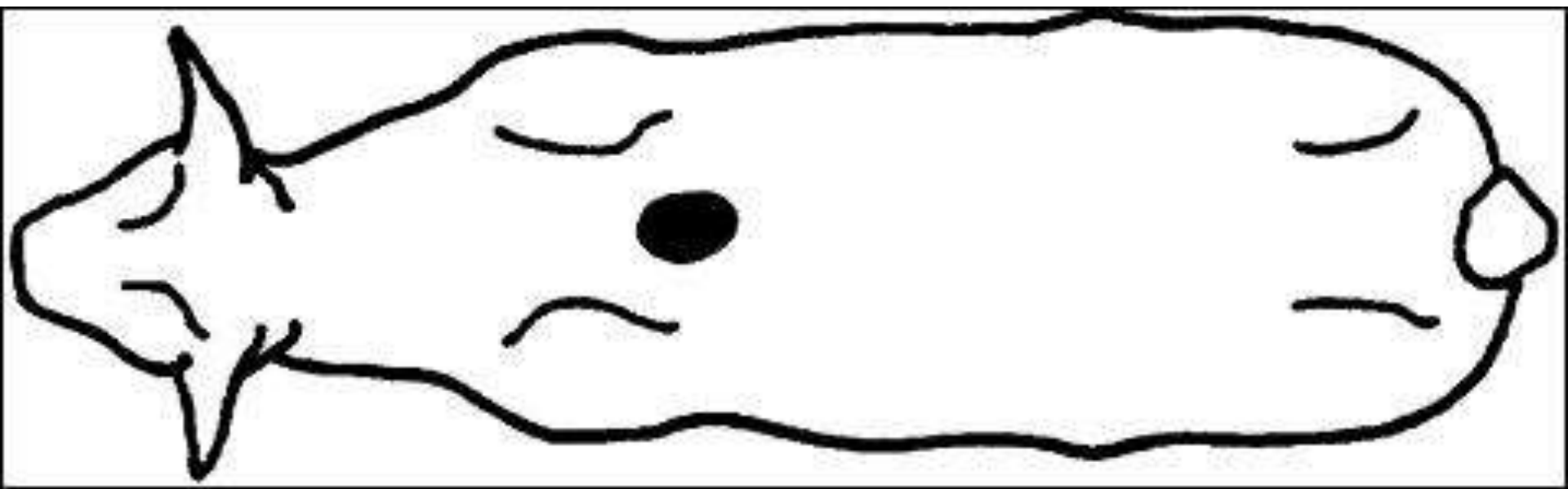
- Organochlorines
- Organophosphates
- Carbamates
- Pyrethroids
- Neonicotinoids

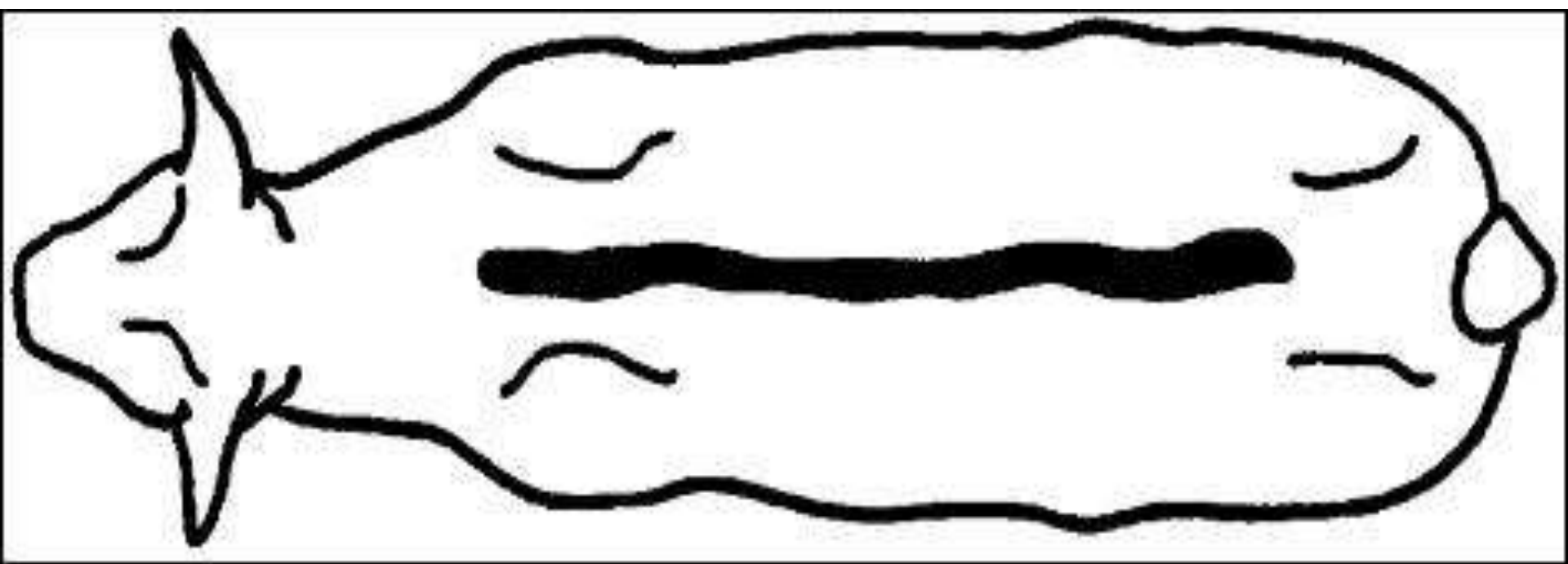
Biorational Formulations

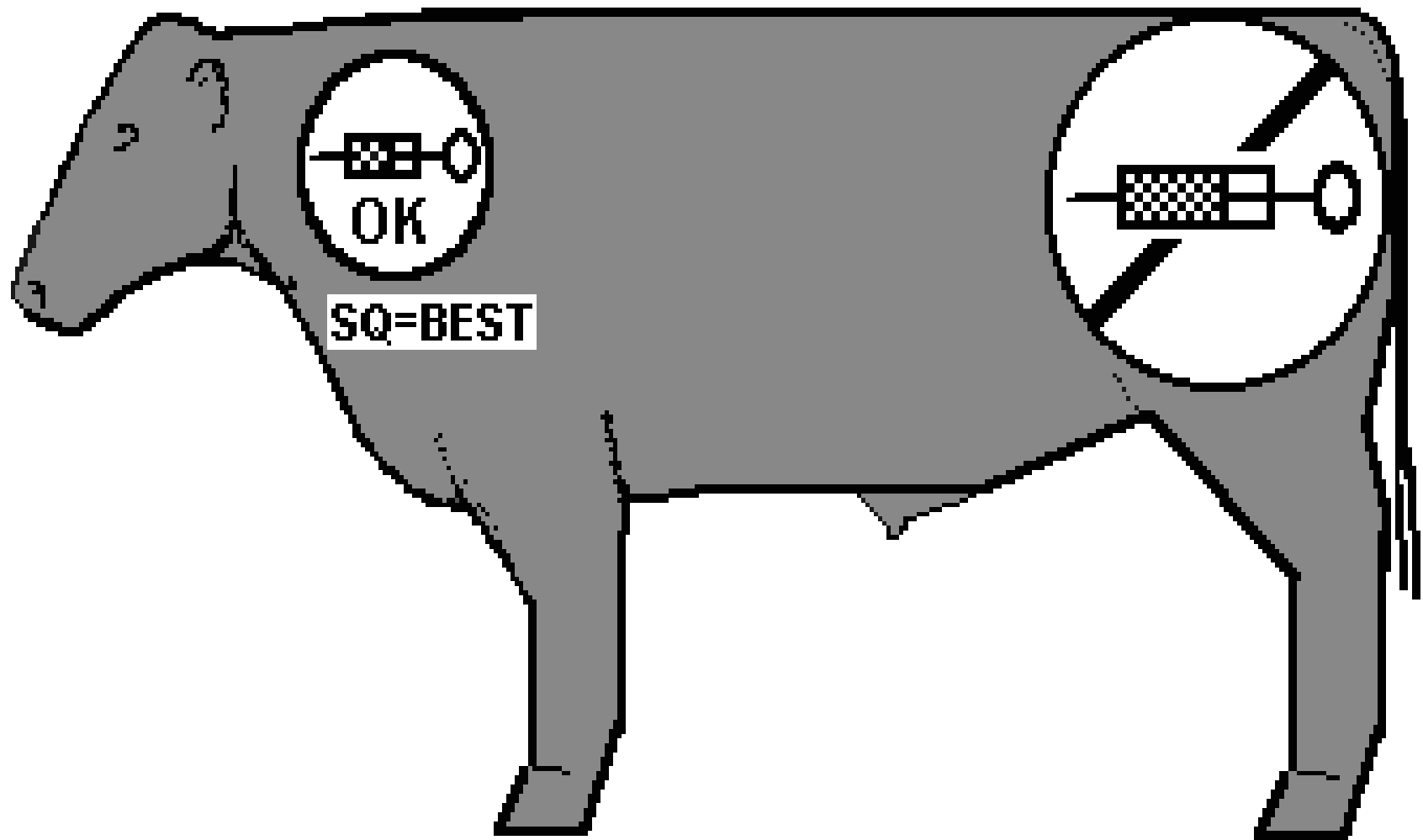
- Growth regulators
- Pheromones
- Microbial formulations

Pharmaceutical classification









Never inject the rear. Don't Over Dose
Avoid I.M. injections if possible
Select sub-Q products when possible

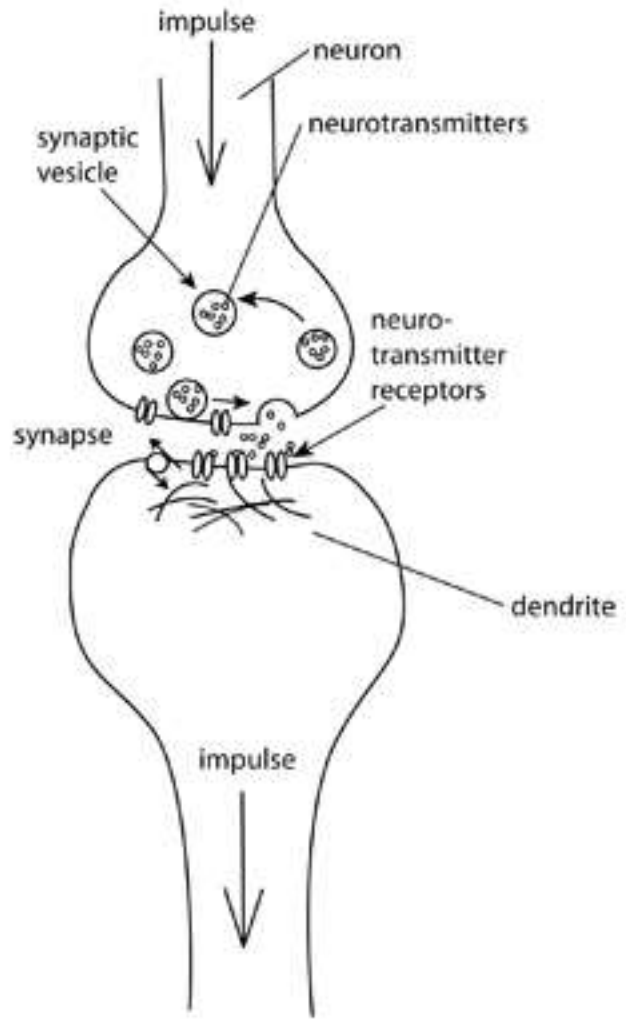


Affect synaptic transmission



1 Vesicles of acetylcholine
2 Imidacloprid

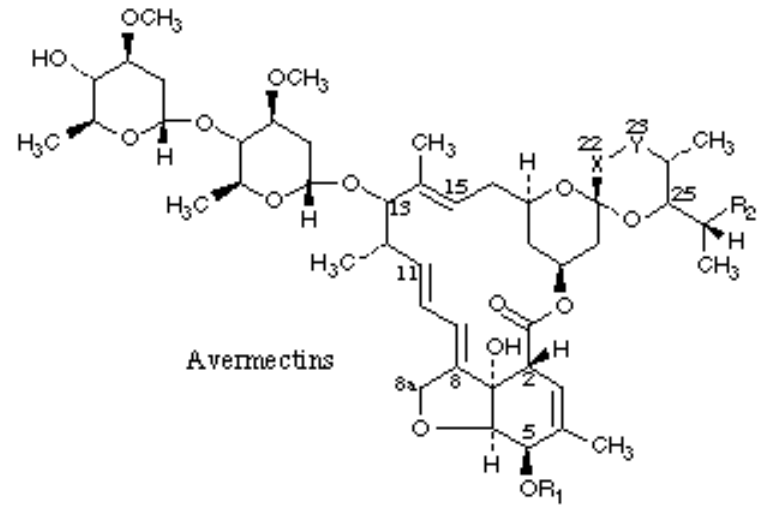
3 Nicotinic receptors blocked open
4 Constant neuromuscular stimulation



impulse
neuron
synaptic vesicle
neurotransmitters
neuro-transmitter receptors
synapse
dendrite
impulse

Avermectins

- Abamectin
 - Avert -- cockroaches
 - Advance -- ants



Produced from soil microbials. Stomach poison for ants and cockroaches

slow acting

low toxicity to mammals

Pyrethrins and Pyrethroids

- Pyrethrum -- dust derived from ground chrysanthemum flowers
- Pyrethrins -- chemicals within pyrethrum that have insecticidal properties

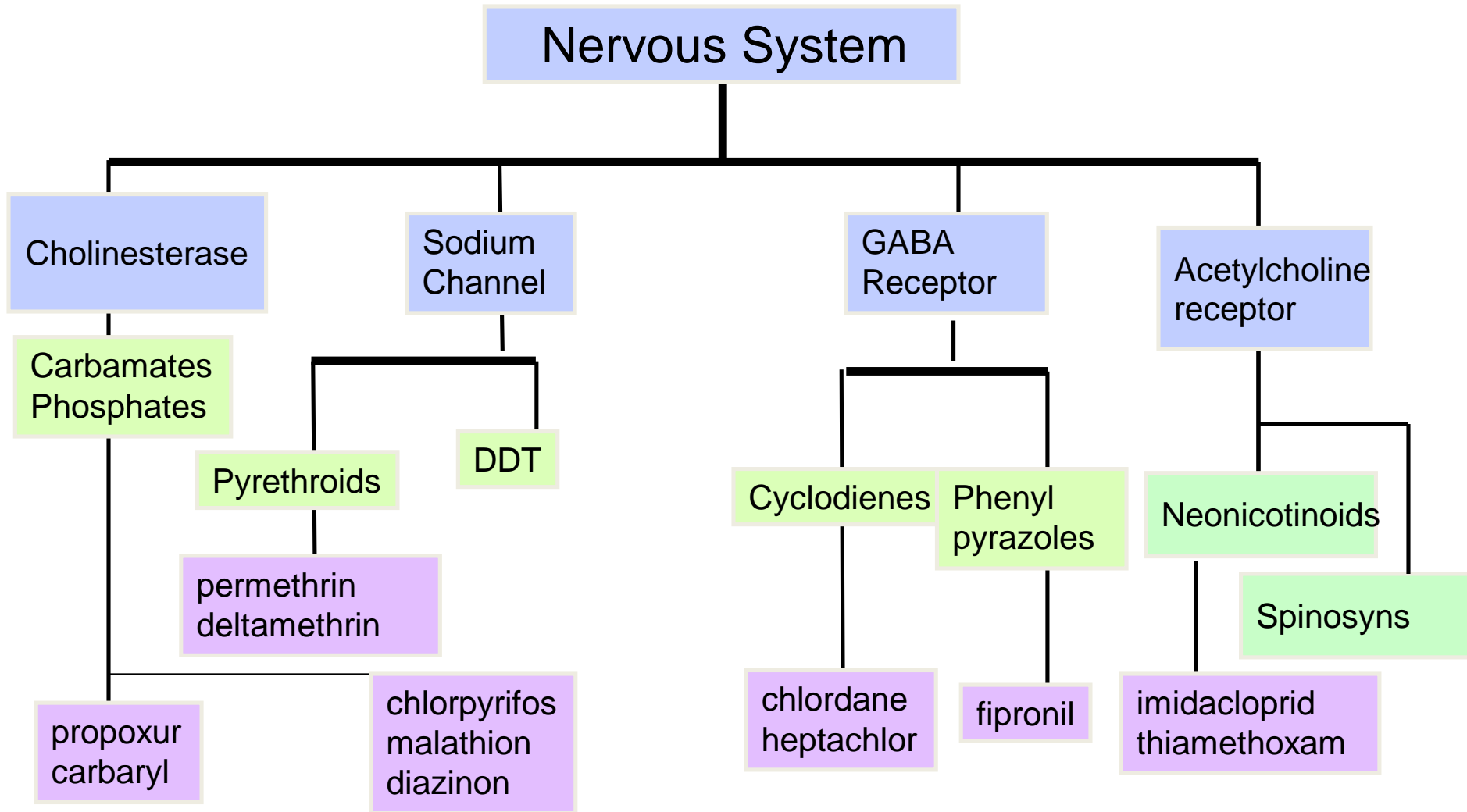
MOA: Carbamates and OPs

- Synaptic poisons
- Carbamates and organophosphorus insecticides bind to an enzyme called acetylcholinesterase (AChE)
- AChE is found at the nerve synapse
- AChE is designed to stop a nerve impulse after it has crossed the synapse

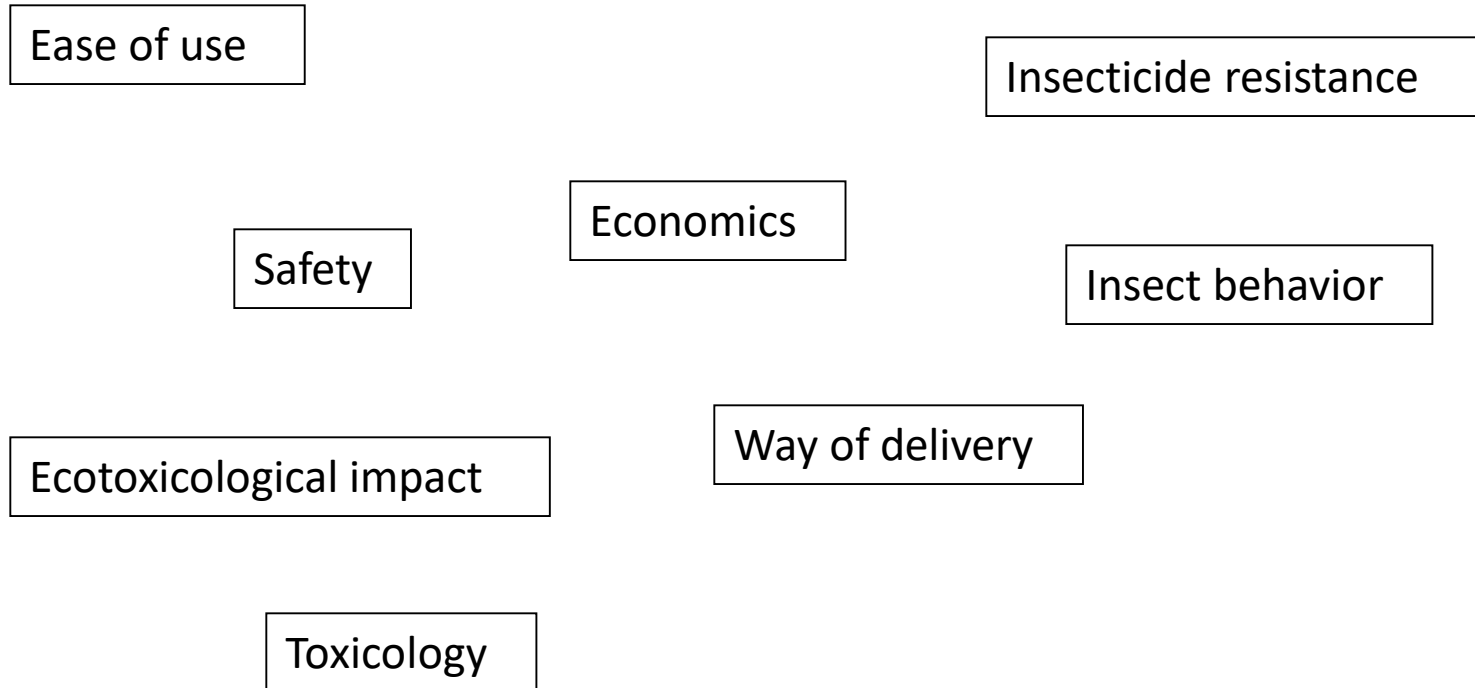
Neonicotinoids

- Imidacloprid (subgroup: pyridylmethyamine)
 - Advantage – pet treatment
 - Merit -- turf ornamentals
 - Water soluble
 - Systemic in plants
 - Premise – termites
 - Affects insects first by paralyzing mouthparts
 - Bayer Advantage OTC
- Thiamethoxam (subgroup: nitroguanidine)
 - Used in crops
 - Working on urban and landscape/turf/ornamentals label
- (Subgroup: nitromethylene)

Insecticides that Affect the Nervous System



For the Correct use of insecticides, we need to consider:





موسوعة الطب البيطري الالكترونيه

فارم – كارينج FARM CARING



www.farmcaring.com



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التعريف بموقع farm caring

هو موقع متخصص في كل ما يخص الثروة الحيوانية , و يقدم الموقع خدمات مجانية في المعرفة العامة و العلمية للمتخصصين في المجال الحيواني تحت اشراف نخبة من اساتذة الطب البيطري بقيادة الدكتور مصطفى فايز استاذ الطب البيطري بجامعة قناة السويس.

و يتميز الموقع بشموليته في تقديم الاستشارات المتخصصة في علم الحيوان.

يُعتبر الدكتور مصطفى فايز من أحد رواد علم الحيوان في منطقة الشرق الأوسط و يتشرف سيادته باستقبال الاستفسارات و الاقتراحات من المهتمين و الهواة الشاغفين بتنمية الثروة الحيوانية.

و قد أصر سيادته على تقديم المواد العلمية المتخصصة من خلال موقع فارم كارينج بصورة مجانية لمقالاته العلمية الغنية بمعلومات دقيقة و هادفة لكي تنهض صناعة الثروة الحيوانية في مصر و الشرق الأوسط.

يستطيع متابعوا الموقع التواصل مباشرة مع فريق البحث العلمي و الاشراف من خلال صفحة التواصل المباشر من موقع فارم كارينج أو من خلال مواقع التواصل الاجتماعي

الجاموس



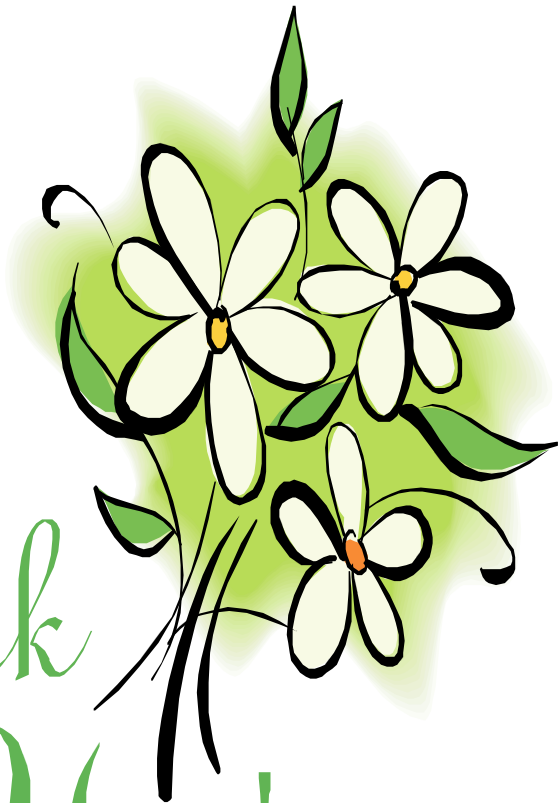
- التربيـه
- الرعايـه
- التـغذيـه
- انتاج الالبان
- الامراض
- الادويه
- السلالات
- الوقايـه
- الفكسينات





شكراً لحسن الإستماع

Thank
You!



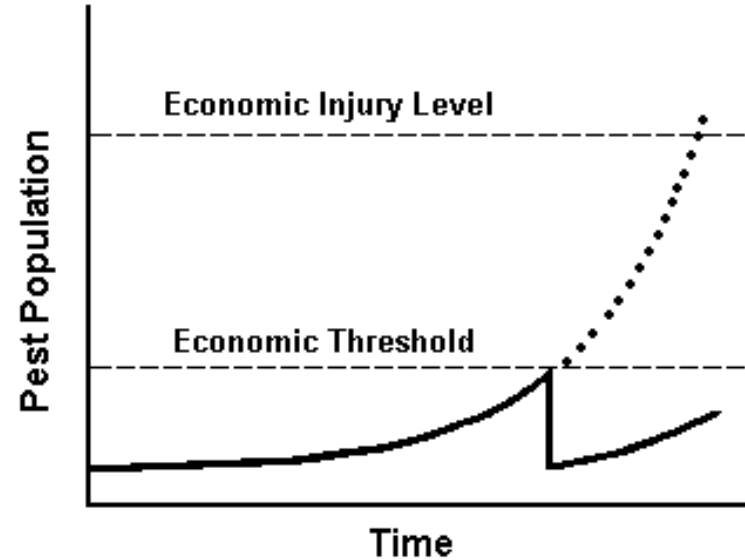
Avert Kill

- 22 hours to nerve effects
- 40 hours to kill



When to apply?

- Thresholds



- Calendar applications



Reasons for lack of Commercial Development

- Perceived as old fashioned
- Lack of representation on official lists
- Not as dramatic effects as synthetic insecticides
- Inactivation by exposure to air and light
- Problems due to seasonal availability
- Lack of quantitative information regarding dosages
- Lack of quantitative information regarding toxicity



Pesticides

Fumigants

Phosphine

Ethylene dibromide/
dibromochloropropane

Fungicides

Hexachlorobenze

Pentachlorophenol

Phthalamides

-Captan, Folpet

Dithiocarbamates

-Maneb*, Ziram

Herbicides

Bipyridyls

-Paraquat*, Diquat

Phosphomethyl amino acids

-Glyphosate

Chloroacetanilides

-Alachlor

Chlorophenoxy Compounds

-2,4-dichlorophenoxyacetate

Rodenticides

Zinc Phosphide

Fluoroacetate Derivatives

α -naphthyl thiourea

Anticoagulants

-Diphacinone,
Bromdialone

Insecticides

Anticholinesterases

-Organophosphates
-Parathion,
Chlorpyrifos*
-Carbamates
-Aldicarb, Methomyl*

Avermectins

-Ivermectin

Botanicals

-Nicotine
-Rotenoids
-Rotenone*,
Deguelin

Organochlorines

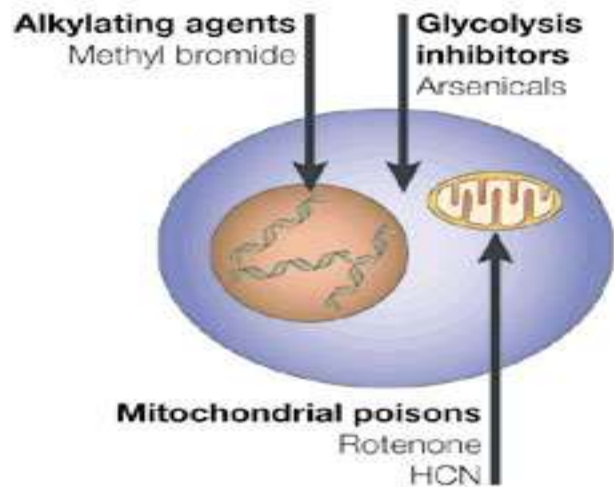
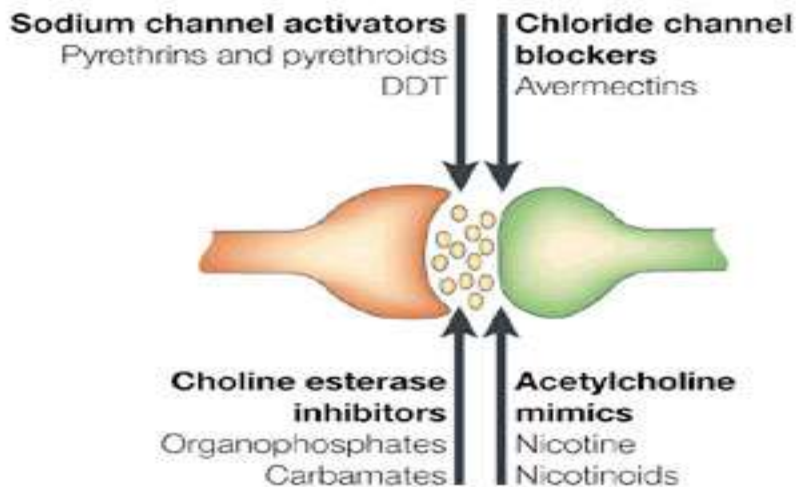
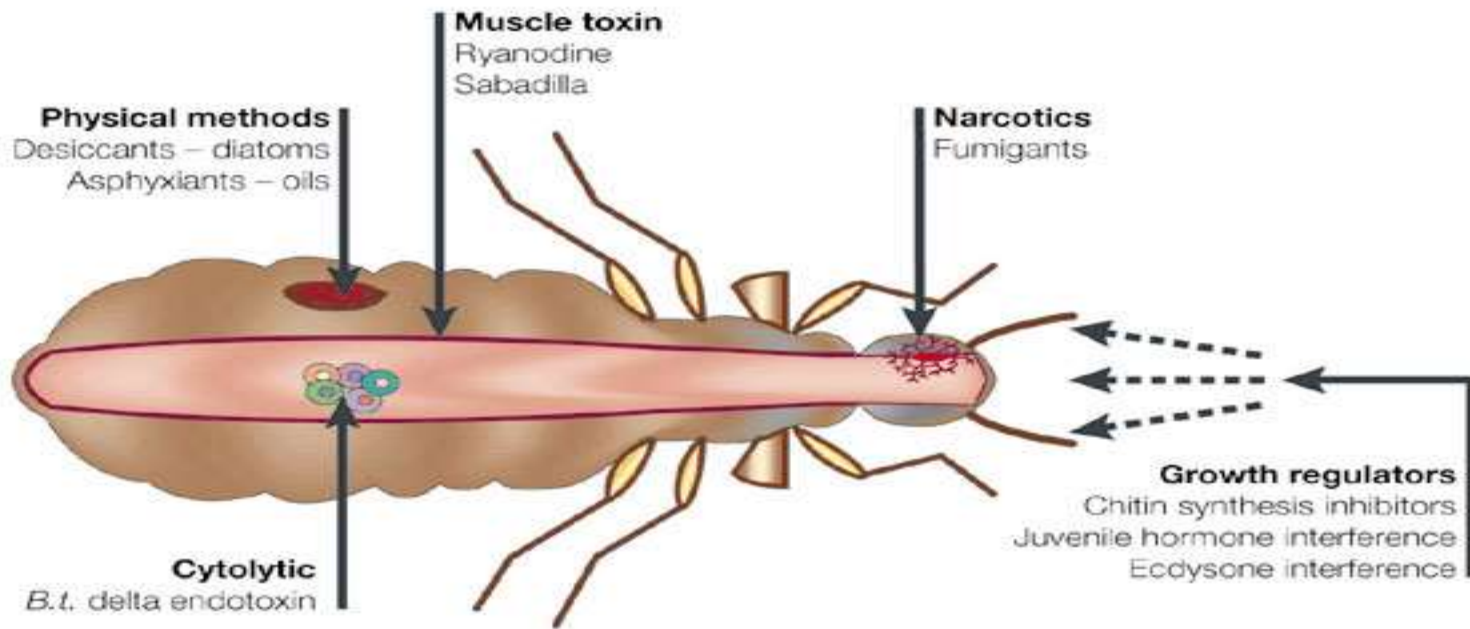
-Cyclodienes
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