

سُبْحَانَ اللَّهِ عَمَّا يُشْرِكُونَ



وَعَلَّمَ آدَمَ الْأَسْمَاءَ كُلَّهَا ثُمَّ عَرَضَهُمْ

عَلَى الْمَلَأِكَةِ فَقَالَ أَنْبِئُونِي بِأَسْمَاءِ

هَٰؤُلَاءِ إِنْ كُنْتُمْ صَادِقِينَ ﴿٣٦﴾ قَالُوا

سُبْحٰنَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا إِنَّكَ

أَنْتَ الْعَلِيمُ الْحَكِيمُ ﴿٣٧﴾

Principles of Drug Use In Poultry

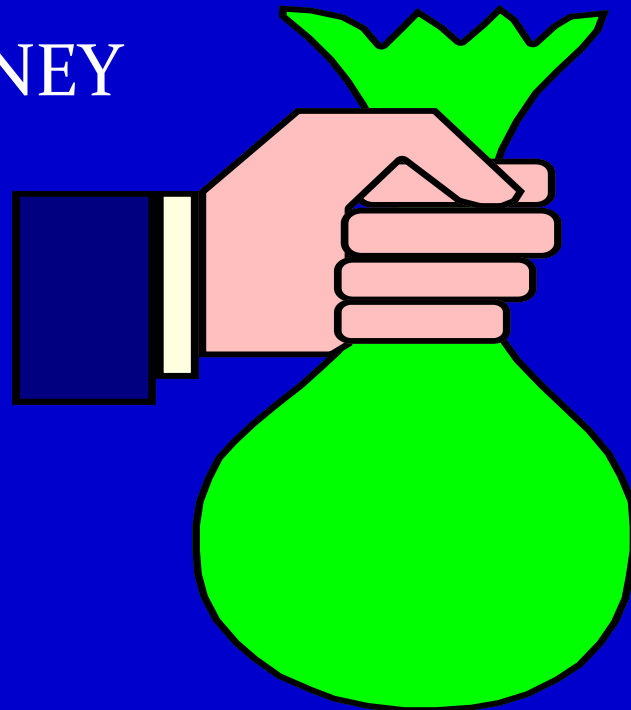


Prof. Dr. Mostafa Fayez

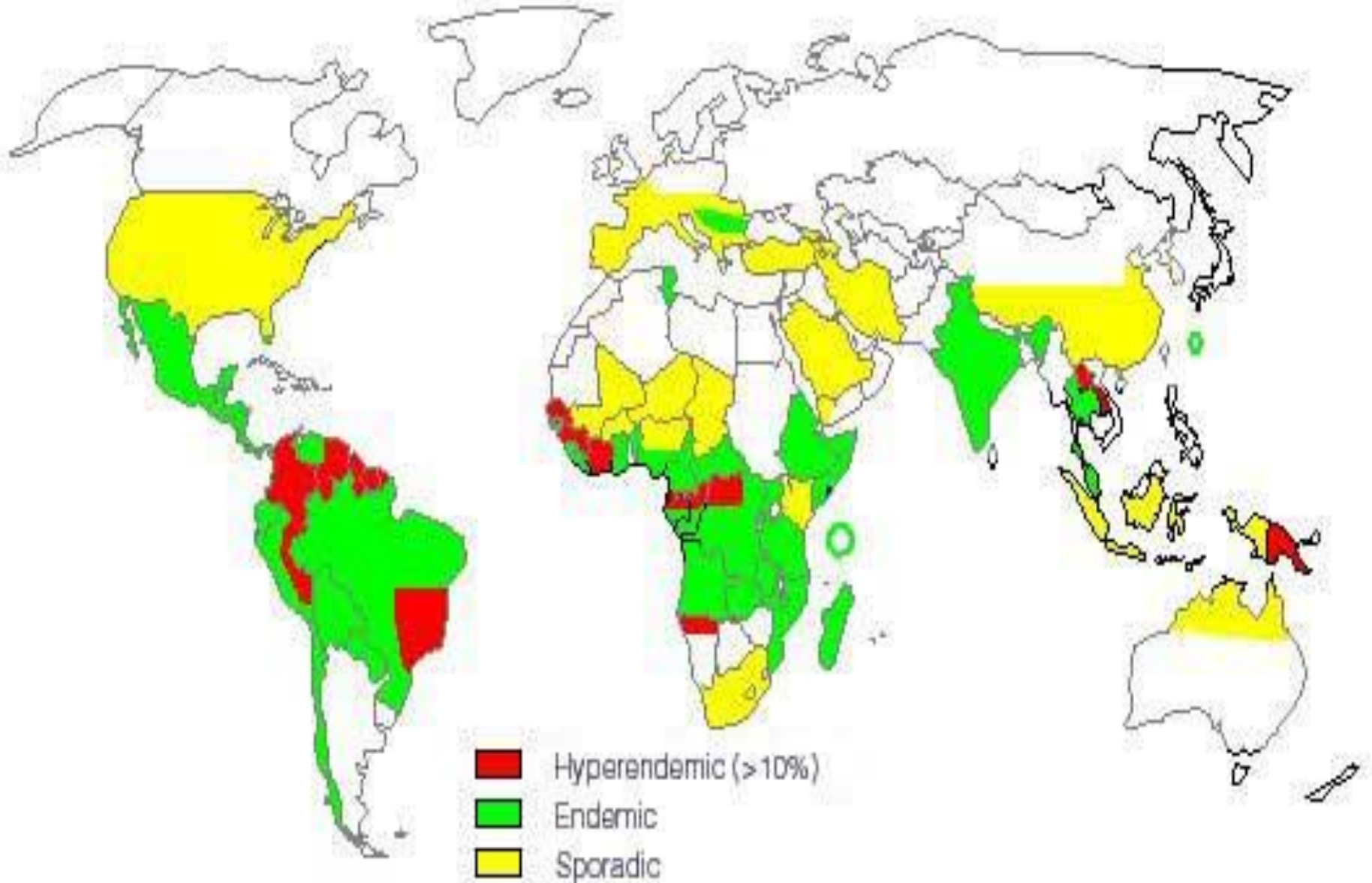
Professor of Pharmacology

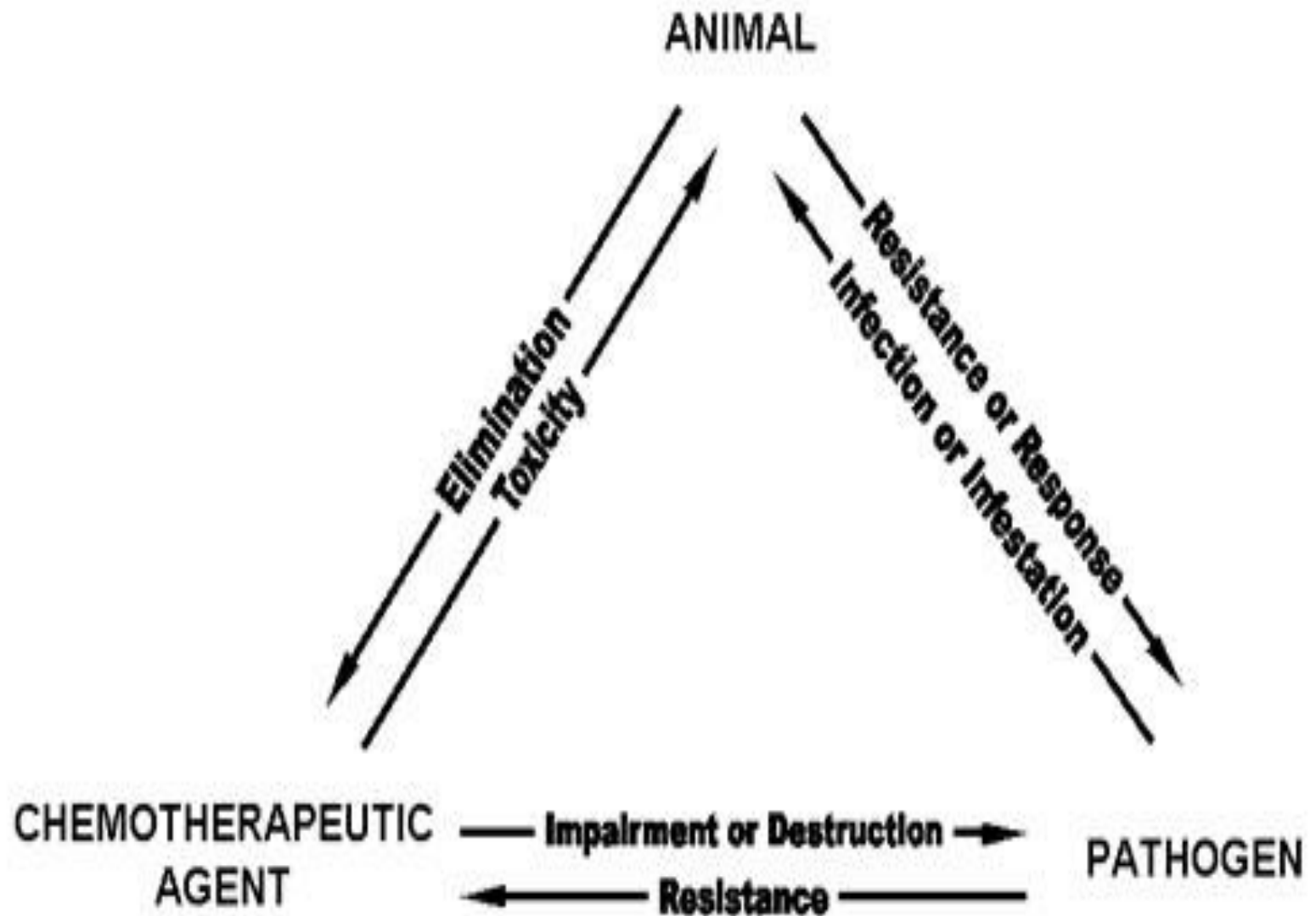
We Treat Poultry For Only One Reason

- FOR THE MONEY



Epidemiology





B. Identify common breeds of chickens



White Leghorn



Rhode Island Red



Barred Rock

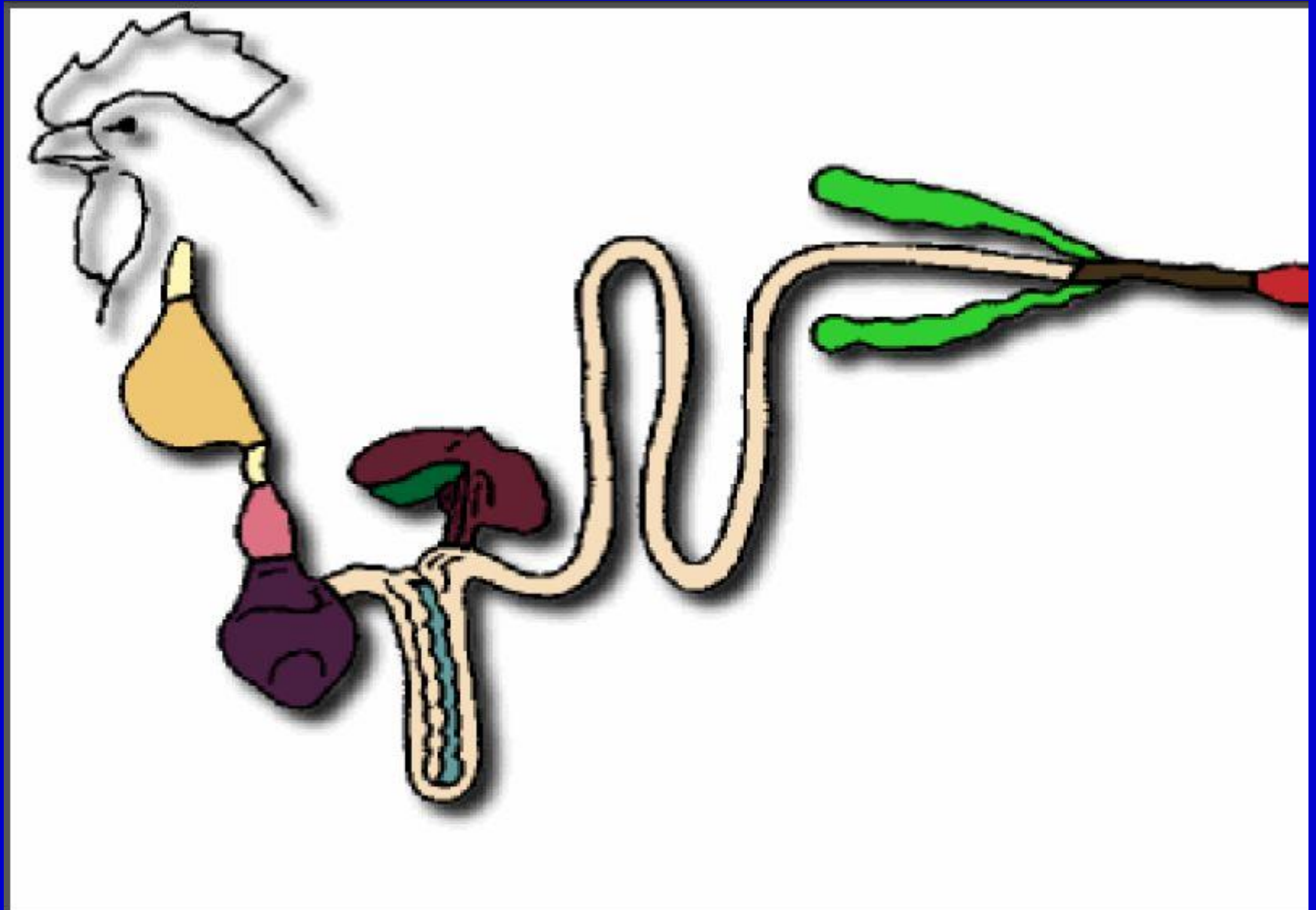


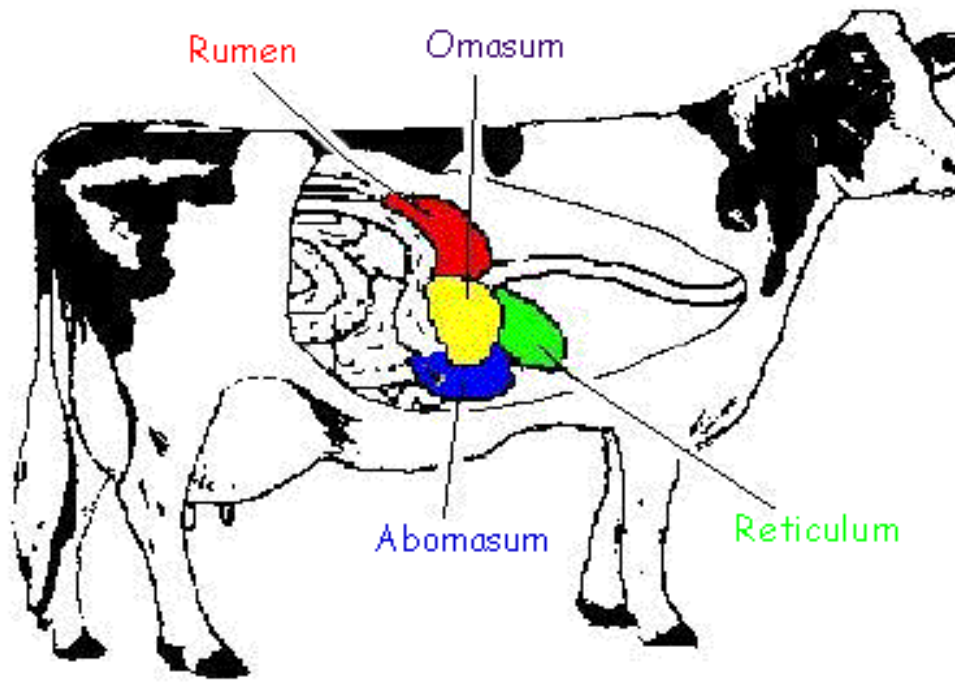
Araucana



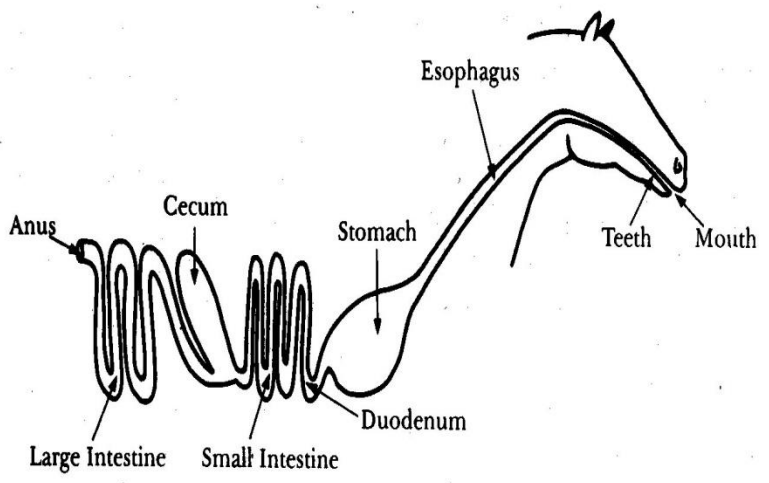
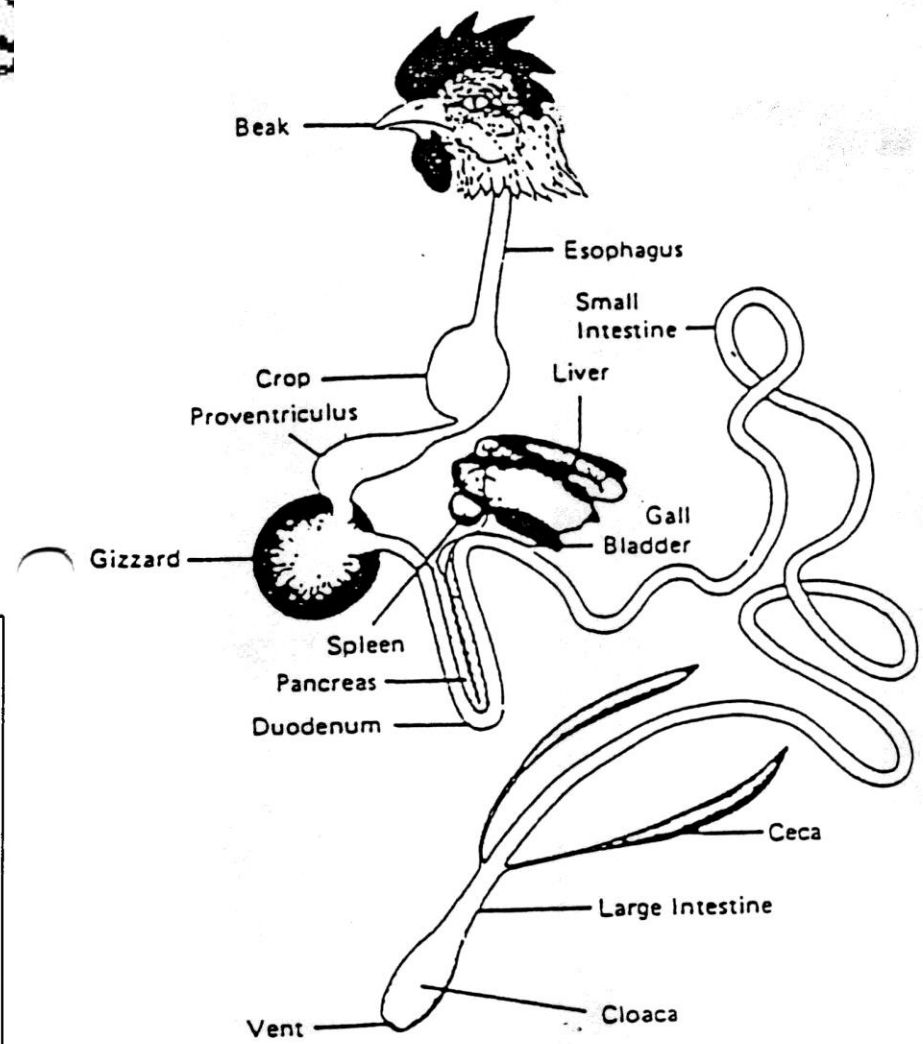
Poultry

Unique Anatomical
Considerations





DIGESTIVE TRACT OF MONOGASTRIC ANIMALS



أمراض الدواجن الهامة

Coccidia

Salmonella

E.Coli

Mycoplasma

الميكروب

الدواجن

البيئة

Drug...??

“choice of drugs”



What are my objectives from using a certain drug?



Principles of effective treatment

التشخيص الصحيح
معرفة المسبب
اتخاذ القرار
العلاج

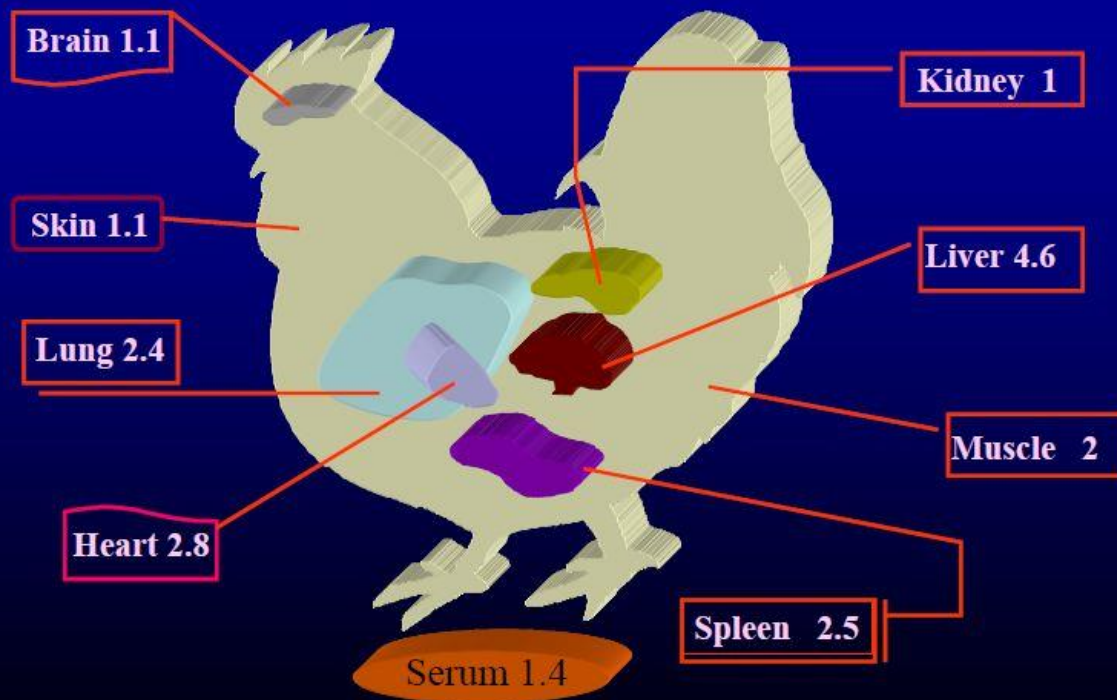


التشخيص الصحيح



معرفة المسبب

**Enrofloxacin Concentration in chicken tissues ($\mu\text{g/ml}$ or g)
1 h post treatment (O.S. 10mg/kg)**





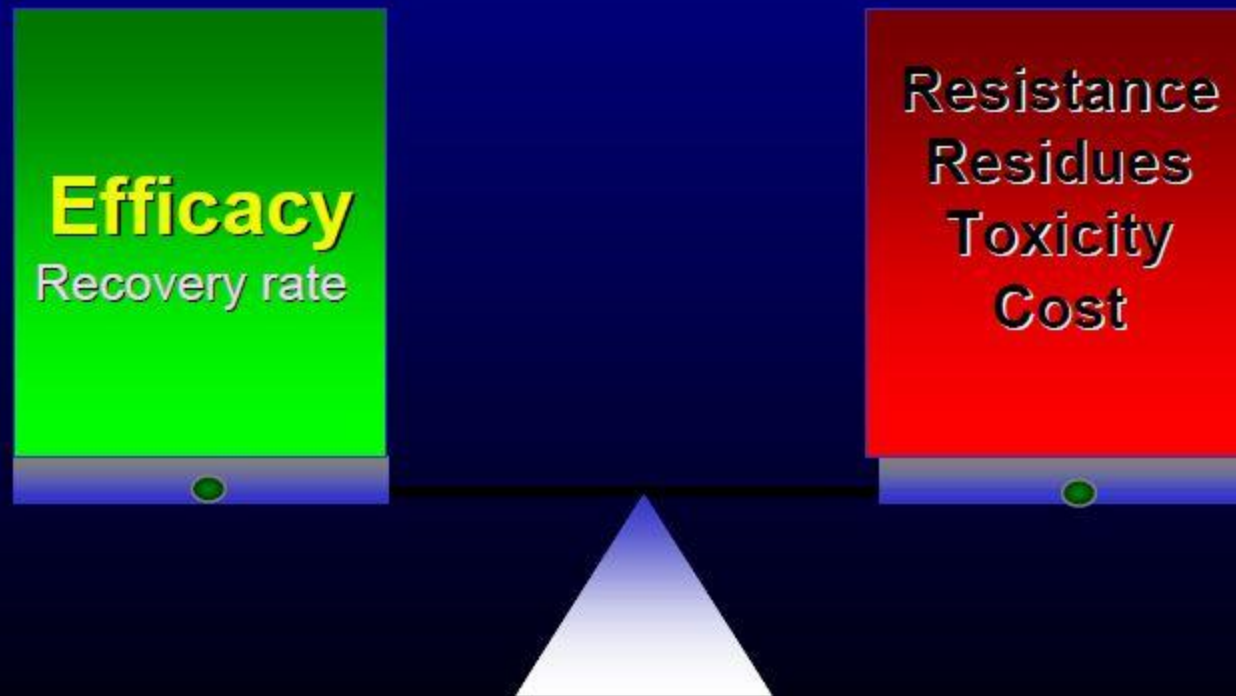
اتخاذ القرار العلاج



REMEMBER!!

**There are many factors affecting
your choice**

Application of PK/PD integration to optimisation of antibacterial therapy



Antimicrobial Drug Treatment

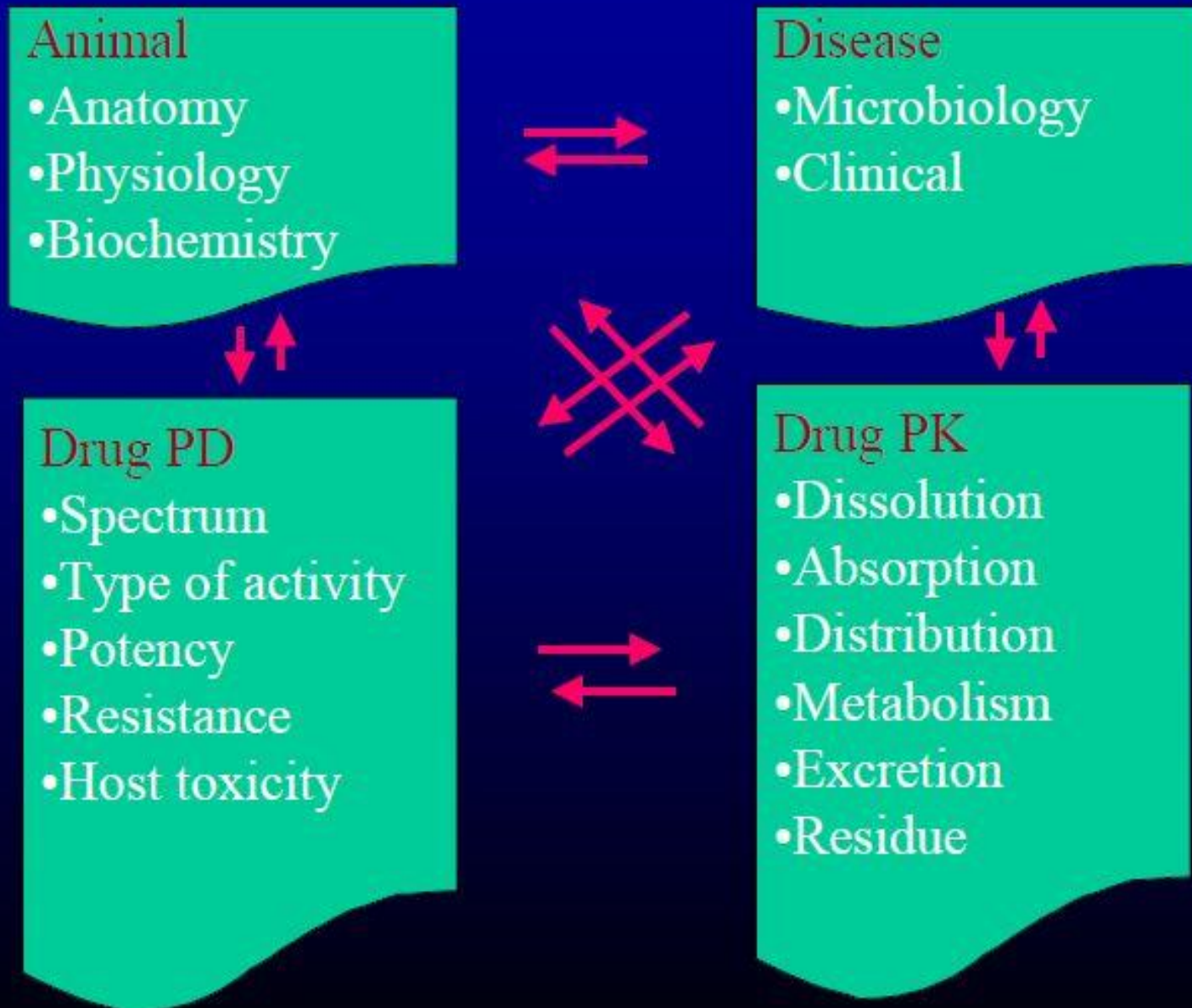
Which drug ?

How much ?

How often ?

How long ?

Rational Dosing of Antimicrobial Drugs



PHARMACOKINETIC (and Efficacy ?)

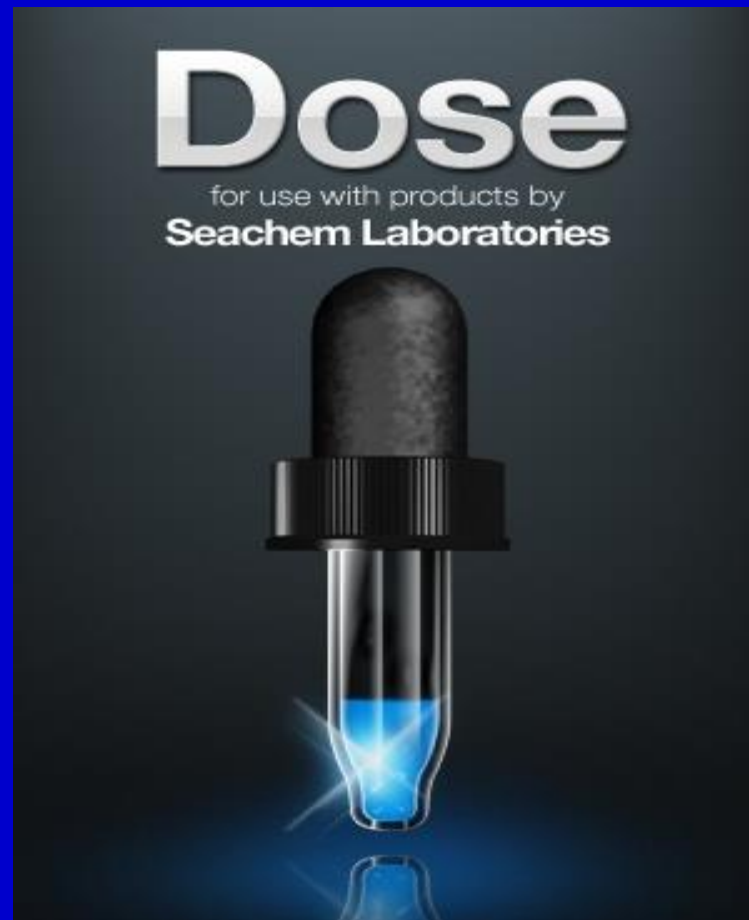
Variability of Antimicrobial Drugs in Poultry

- MEDICATION
 - **Continuous dosing in water**
 - **Pulse dosing in water**
 - In feed medication (pelletted food)
- VARIABILITY
 - Inherent inter-animal variation in A, D, M, E
 - Inter-animal variation in intake

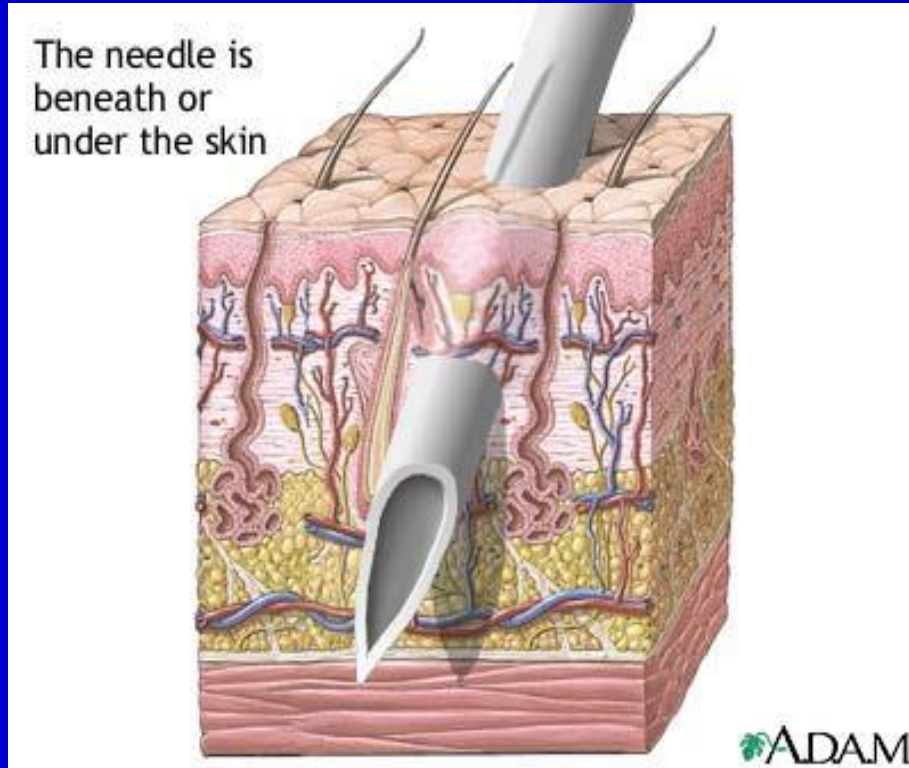
Aspects of Pharmacokinetics in Animals

- inter-species differences (half-life, clearance)
- intra-species differences (breed)
- age
- depot formulations
- residues in food producing species
- distribution to udder (blood:milk barrier)
- ruminants
- chicken
- fish
- honey bee

جرعة الدواء



طريقة إعطاء الدواء



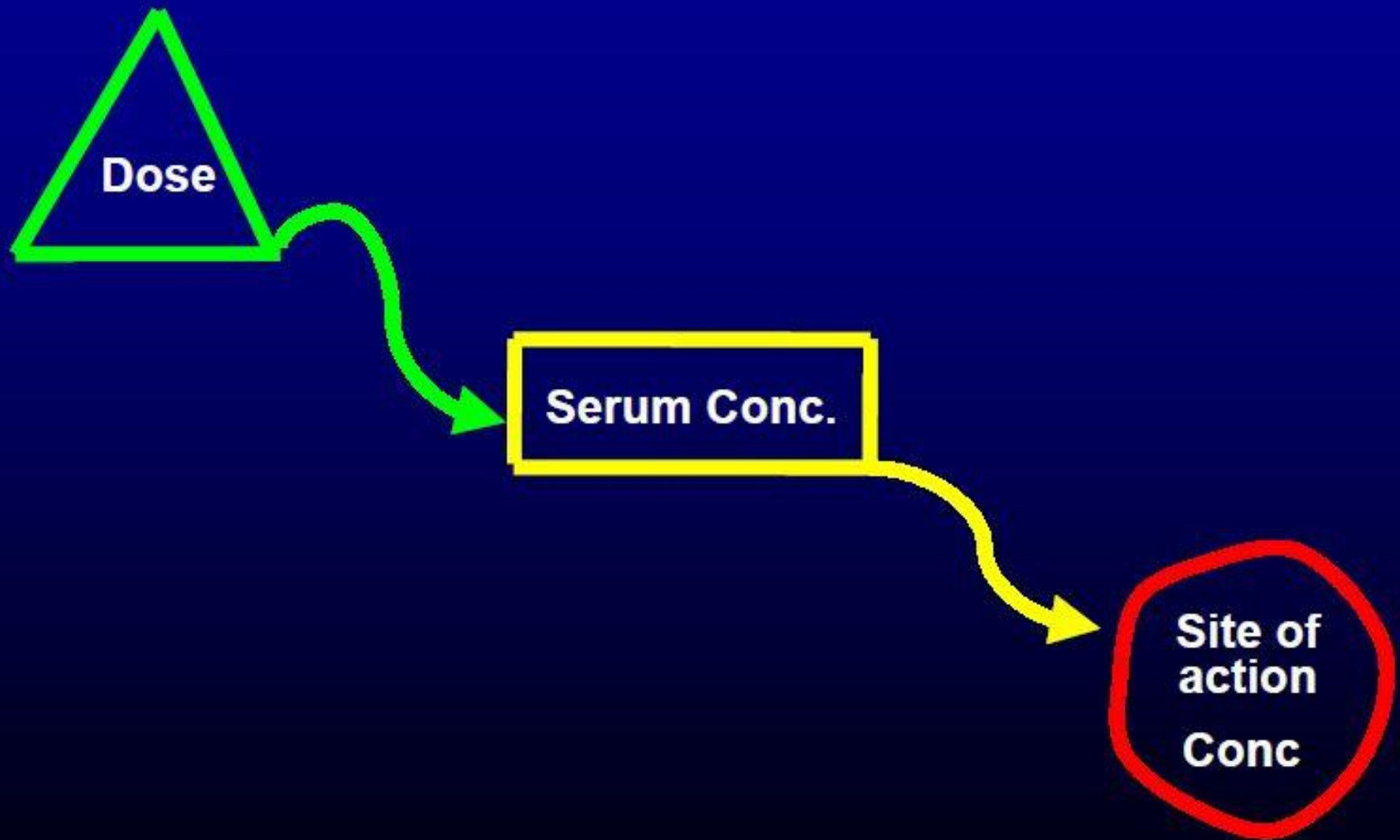
توقيت إعطاء الدواء

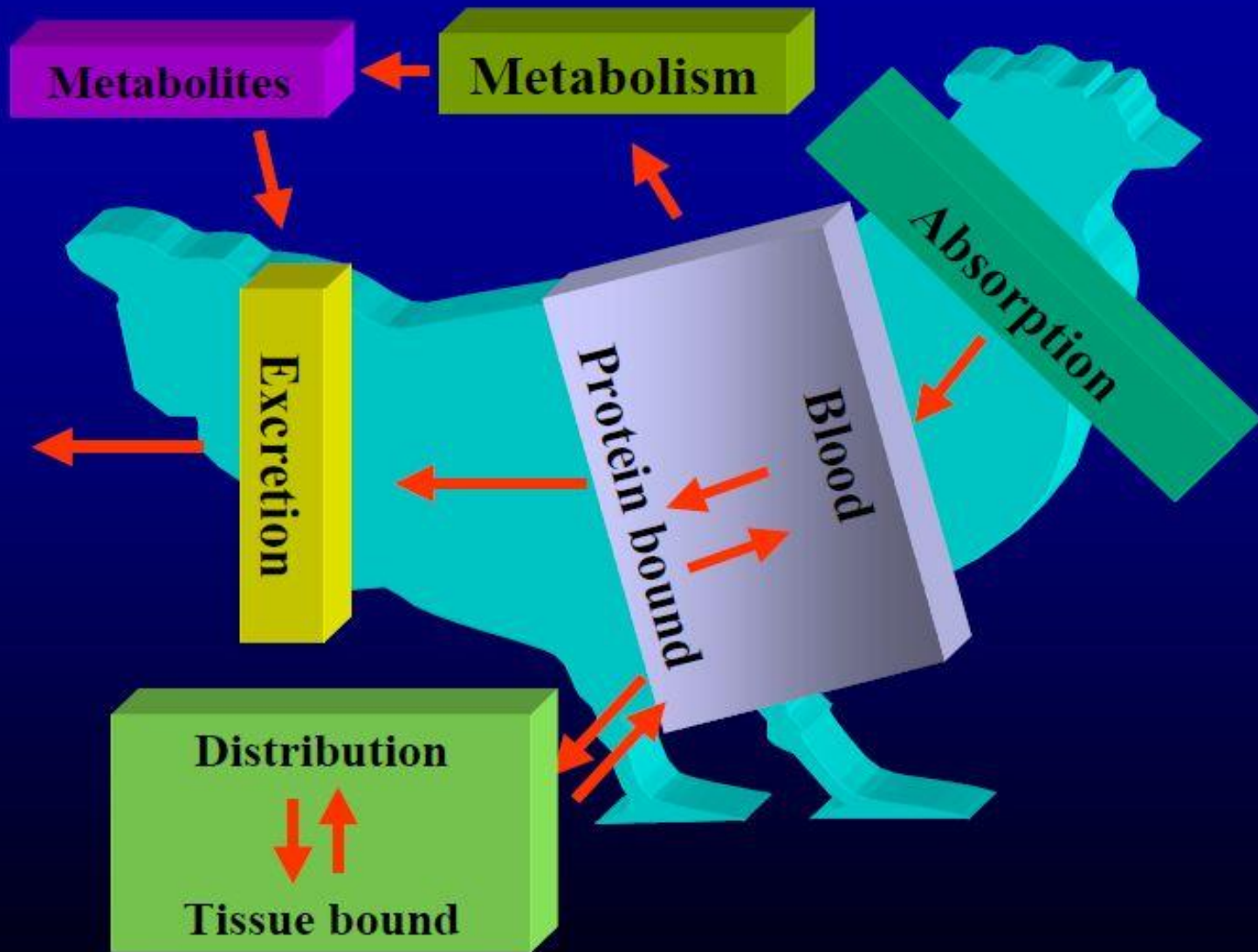


التكرار ومدة الإِطاء

رحلة الدواء في الجسم

Pharmacology of Antimicrobial Therapy





والسؤال الآن:

● هل وصل الدواء المناسب إلى مكان الإصابة بالتركيز المناسب؟ وهل سيظل للفترة المناسبة لقتل الميكروب؟ وهل سيؤدي إلى الشفاء؟



Treatment

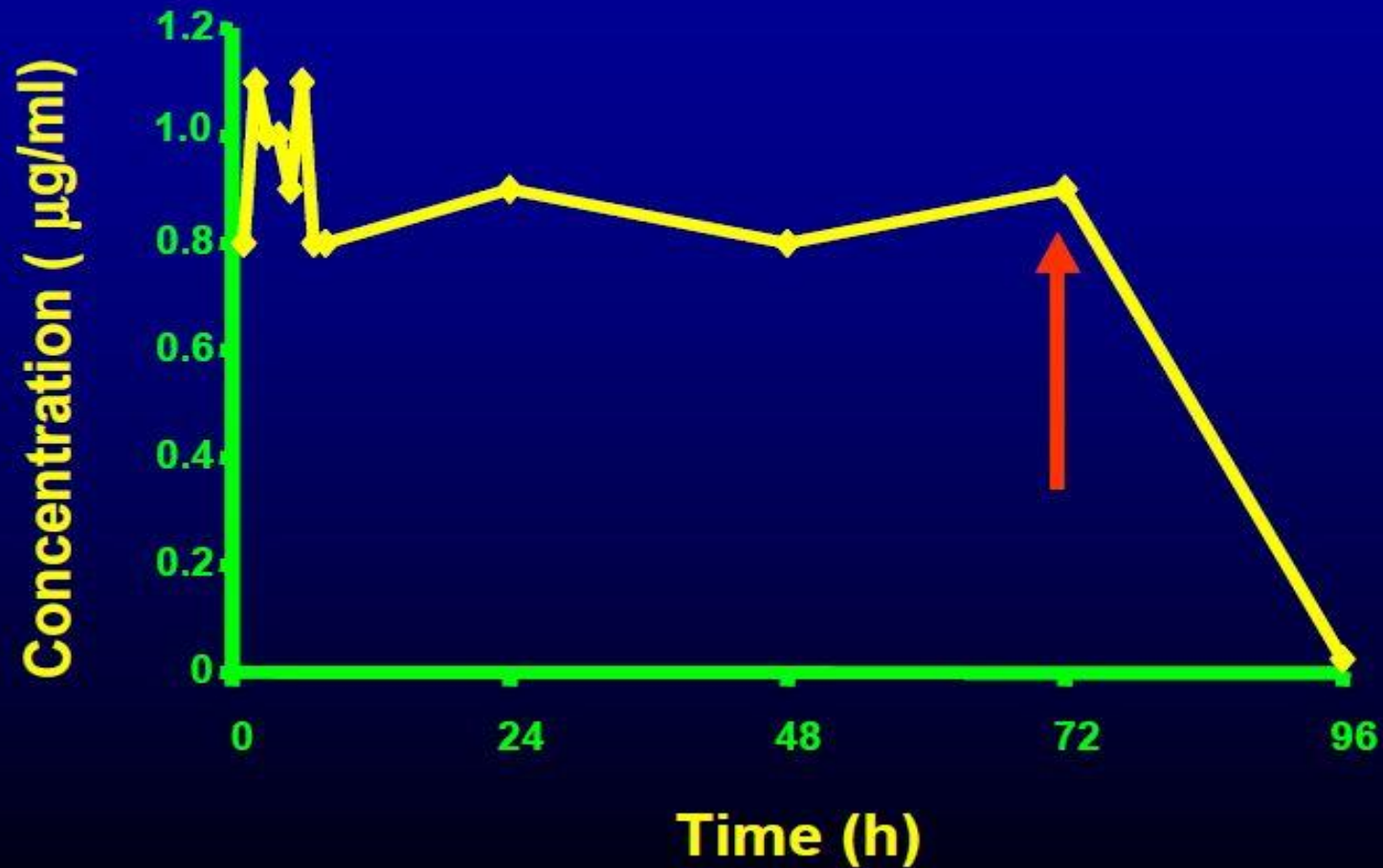
Using some Antibiotics

Enrofloxacin

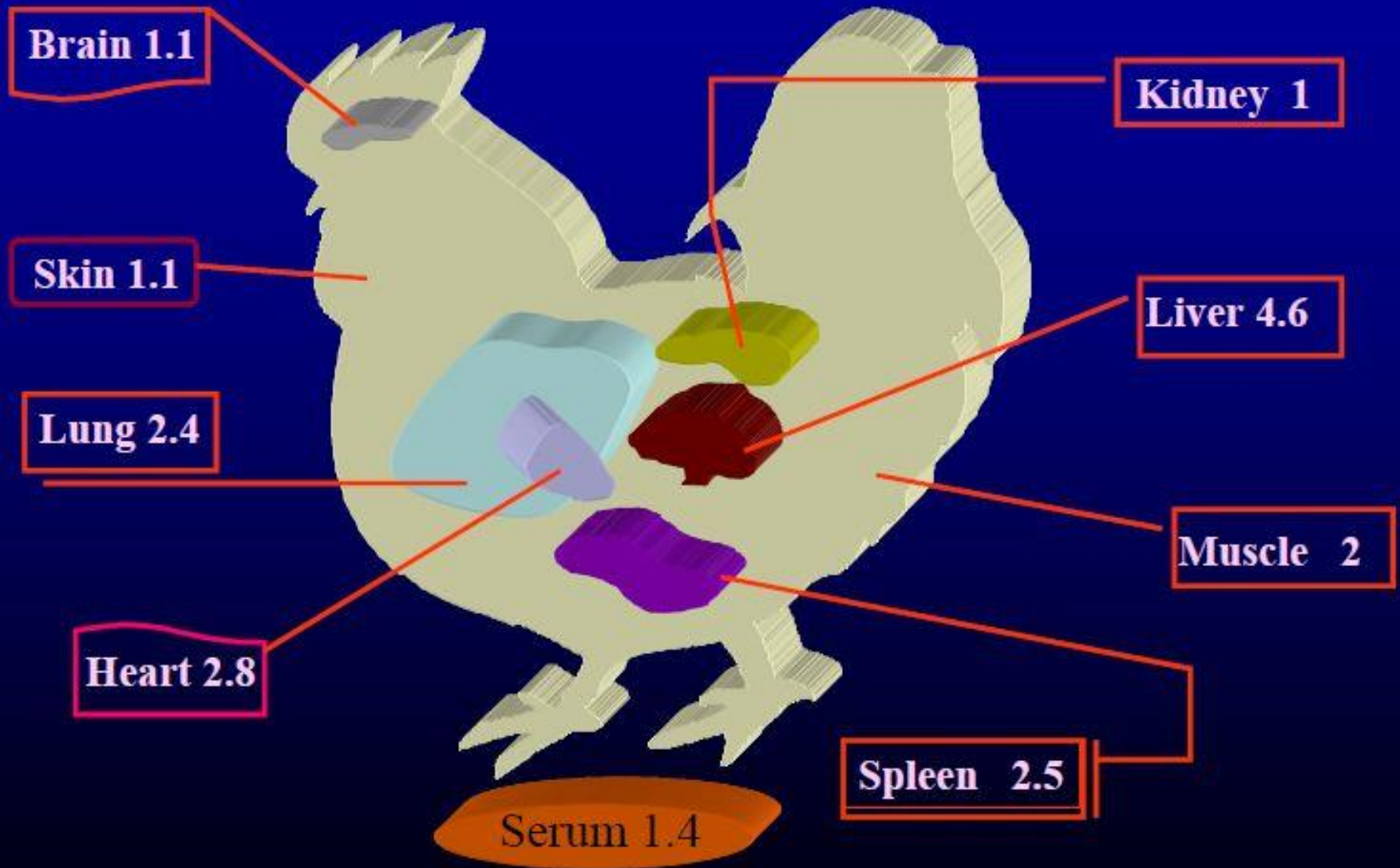
Preparation of dosage form:

- ❁ The stock solutions should be prepared fresh daily.
- ❁ Protect stock solution or medicated water from:
 - ❁ Freezing
 - ❁ **Direct sunlight.**
- ❁ **Use water with low hardness.**
- ❁ **Galvanized metal watering systems or containers should not be used to carry or store this product (possible chelation with metal ions)**
- ❁ Chlorinators should not be operated while administering this medication.

Enrofloxacin serum concentrations after continuous dosage at a dose rate of 50 ppm



Enrofloxacin Concentration in chicken tissues ($\mu\text{g/ml}$ or g) 1 h post treatment (O.S. 10mg/kg)



PK/PD integration for enrofloxacin in chickens following continuous OS administration at a dose rate of 50 ppm (10 mg/kg)

PK/PD Integration	<i>Mycoplasma</i> spp	<i>Staphylococcus</i> spp	<i>E.coli</i>	<i>Salmonella</i> spp
MIC 50	0.25	0.12	0.06	0.03
C _{max} /MIC	4.40	9.17	18.33	36.67
AUC _{24h} /MIC	82.80	172.50	345.00	690.00
MIC 90 (100?)	1.00	1.00	0.50	0.50
C _{max} /MIC	1.10	1.10	2.20	2.20
AUC _{24h} /MIC	20.70	20.70	41.40	41.40



النجاح
دائماً بيدك
أنت



شكراً لحسن الإستماع

A photograph of a yellow tang fish swimming in an aquarium. The fish is white with a yellow stripe along its body and a yellow spot on its tail. It is positioned in the lower-left quadrant of the frame. A black speech bubble with a white border is located in the upper-right quadrant, containing the text "I Need Some Fresh Air" in a yellow, serif font. The background is a dark blue aquarium with various coral and other fish visible in the distance.

**I Need Some
Fresh Air**

سُبْحَانَ اللَّهِ
عَبْدُ اللَّهِ
مُحَمَّدٌ
رَسُولُ اللَّهِ

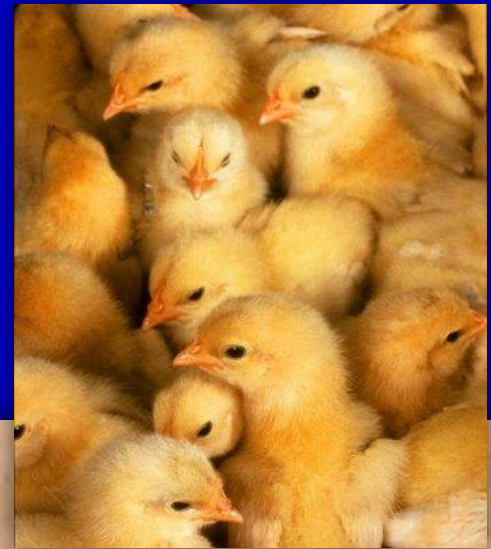


Principles of effective treatment

التشخيص الصحيح
معرفة المسبب
اتخاذ القرار
العلاج

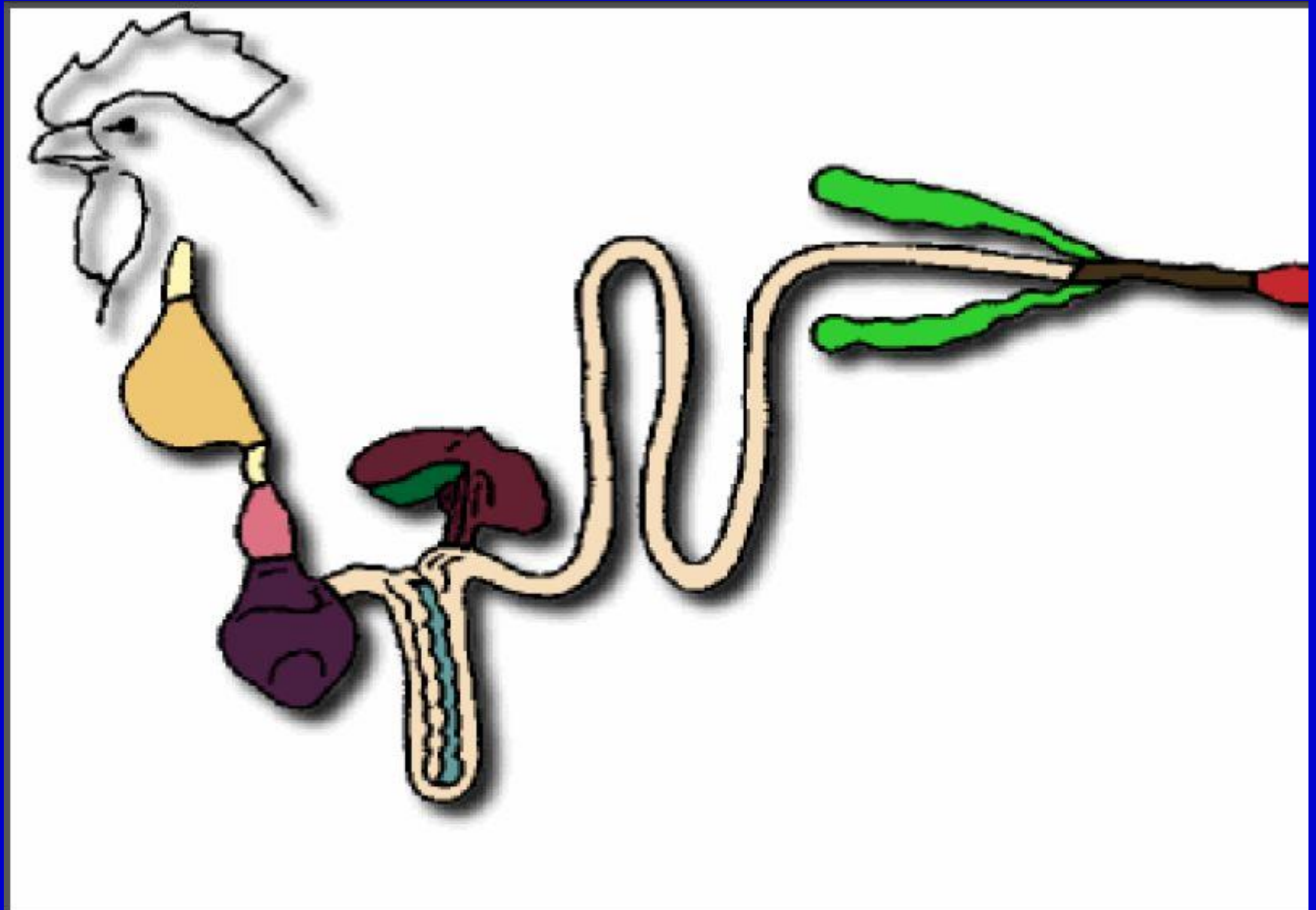


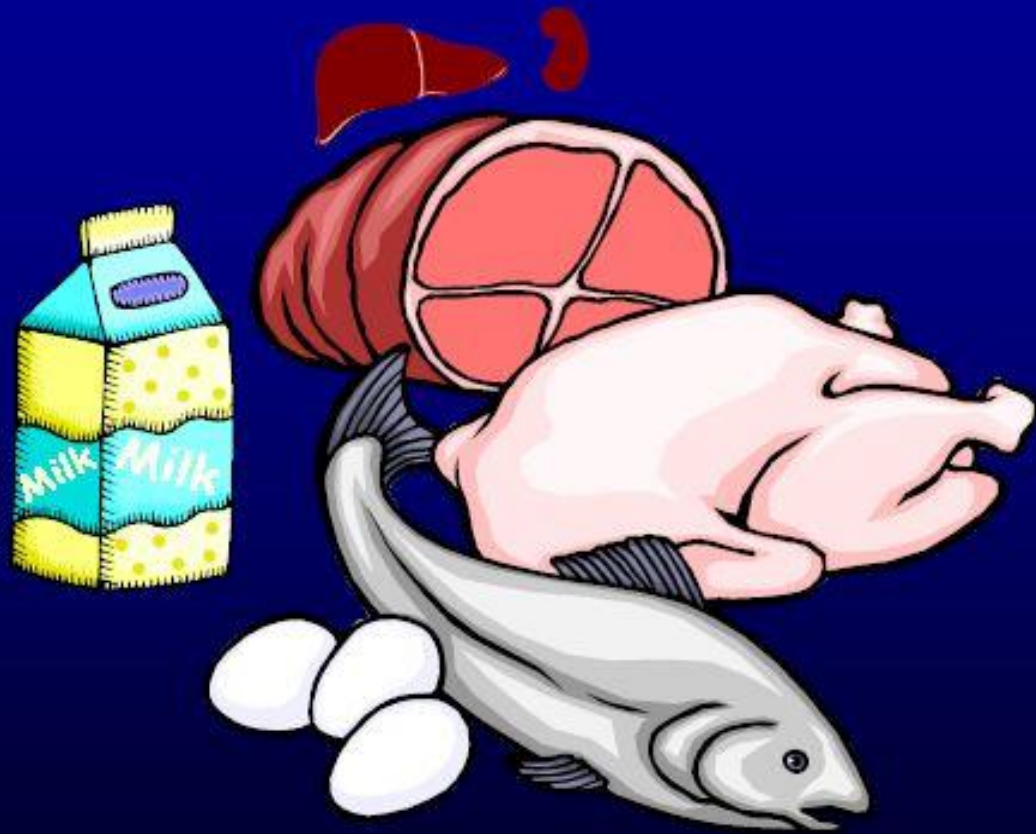
Poultry Production



Poultry

Unique Anatomical
Considerations





What are my objectives from using a certain drug?

