



Veterinary Stewardship: Building Awareness on Responsible Antiparasitic Use"

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The hall of the Veterinary school, Mongolian State University of Life Sciences
April 09, 2026.

CONTENT

➤ **Responsibilities of Animal Husbandry & Veterinary Professionals**

- ✓ Opportunities (eco meat), challenges (infection risks)

➤ **Animal parasitic diseases**

- ✓ Veterinarian antiparasitic activities in Mongolia

➤ **Antiparasitic Drug Use and Emerging Resistance**

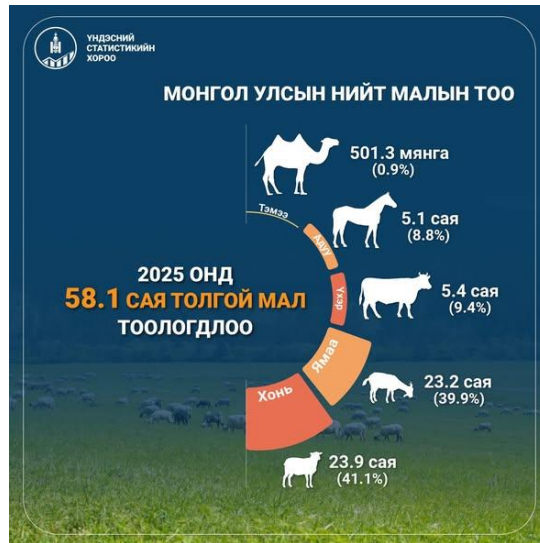
- ✓ Some findings for APR

➤ **What is Veterinary Stewardship:**

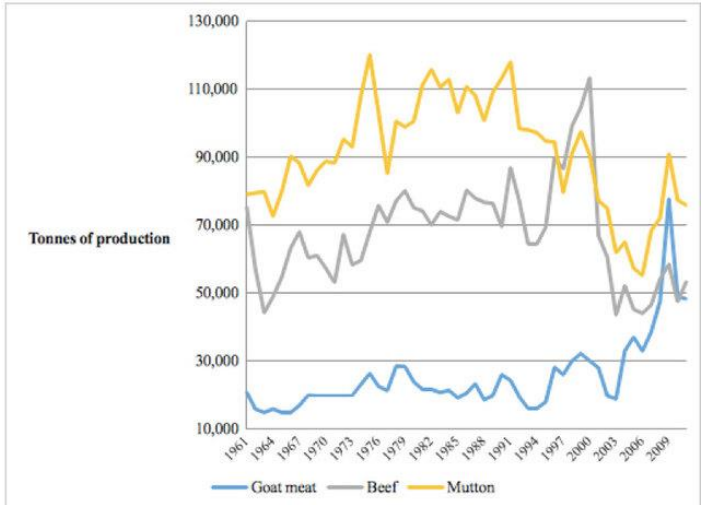
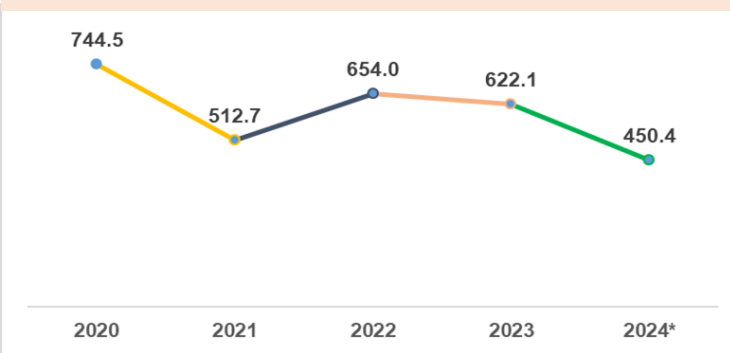
- ✓ Mass Medication Campaign or Targeted Approach?

Responsibilities of Animal Husbandry and Veterinary Professionals

- Total livestock, 2025: n=58.1 mill. Heads
 - ✓ Pasture/local animal n ~57.9 mill. Heads (99.67%)



"Meat production (thousand tons)



- <https://mofa.gov.mn/files/pdf-files/a5csr9t4788/695dd30d83d7de7c1b04c7ac.pdf>
- https://downloads.1212.mn/_UW5bC_wlMx6NGpwT41M-i0tvK0ODm_-hcjZLB-Z.pdf

Pasture-Based Livestock – Opportunities & Challenges

✓ Opportunities:

- Eco-friendly, natural meat production
- Supports domestic food supply

✓ Challenges:

- Monitoring pasture infections, including parasites

Feature	Range	Months	diperse
Optimal temperature for L3 survive	10 ⁰ C - +22 ⁰ C	5-9	25% ≤
Optimal humidity for L3 survive	rain/10/monthly	7-9	50% ≤
Optimal plant coverage for L3 survive	200-2000 kg/ha	6-8	20% ≤
Optimal temperature for egg development	-25 ⁰ C+25 ⁰ C	4-10	25% ≤
Optimal humidity for helminth egg	60poo/10x	7-9	30% ≤
Optimal plant coverage for helminth egg	200-2000 кг/га	6-8	30% ≤

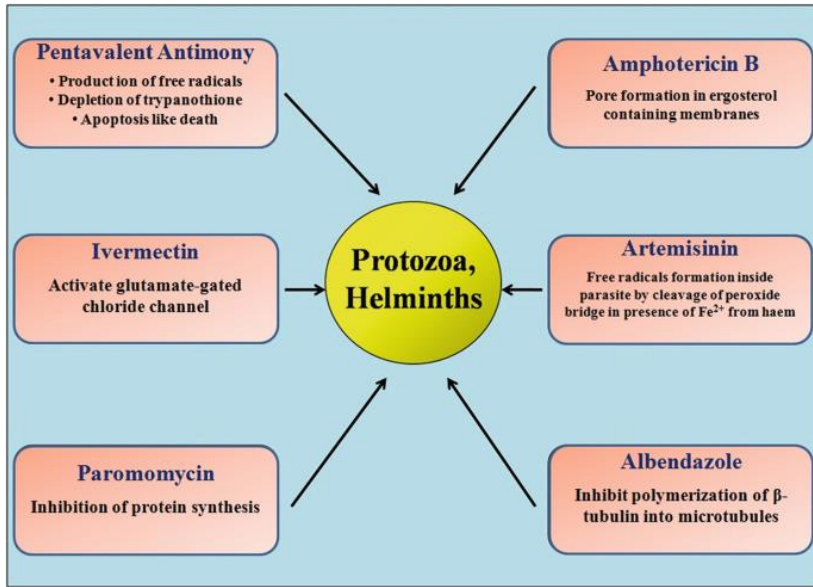
Responsibilities of Veterinary Professionals by AP activities

- 🔍 Protect animal health
- 🔍 Provide food safety.... Public health
- 🔍 Protect environmental health
- 🔍 Support Economy
 - 🔍 Business
 - 🔍 Hobby
 - 🔍 Traditional livelihood

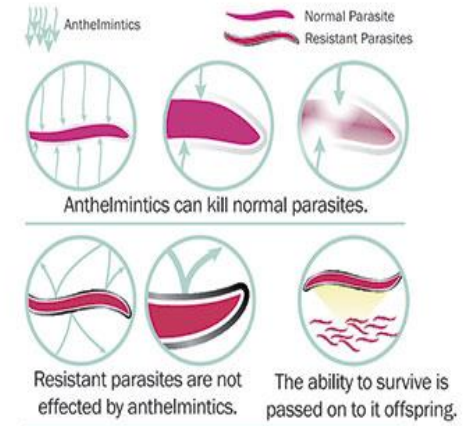
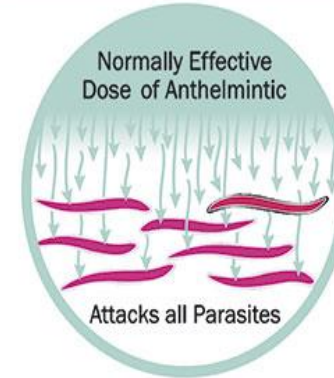


- SOURCE: Mendjargal D, 1999. Study book for animal helminth study in Mongolia.
- Tuya Sharkhuu, 2001, **Helminths of goats in Mongolia**. Veterinary Parasitology, 101(2):161-9
https://www.researchgate.net/publication/11761606_Helminths_of_goats_in_Mongolia
- G.Sharkhuu & T. Sharkhuu, 2004. **The helminth fauna of wild and domestic ruminants in Mongolia - A review**, European Journal of Wildlife Research 50(3):150-156
https://www.researchgate.net/publication/226327017_The_helminth_fauna_of_wild_and_domestic_ruminants_in_Mongolia_-_A_review

Antiparasitic Medications and Emerging Resistance



Anthelmintic Resistance



Resistance could be suspected if the reduction in parasites is 95% or less after the treatment

ANTHELMINTICS

- ❖ **Benzimidazoles BZs**
Albendazole, Fenbendazole, Oxibendazole, Mebendazole, Triclabendazole
- ❖ **Macro cyclic lactones MLs:**
Ivermectin, Abamectin, Doramectin, Moxidectin.,
- ❖ **Imidazothiazoles**
- ❖ **Tetrahydro pyrimidines**
- ❖ **Isoquinolines**

ECTOPARASITICIDES

- Pyrethroids:**
Cypermethrin, Deltamethrin, Permethrin
- Organophosphates**
Diazinon, Chlorpyrifos, Malathion

- ✓ High stocking density
- ✓ Heavy pasture contamination
- ✓ Limited veterinary supervision in rural areas
- ✓ Lack of diagnostic testing (no FEC)
- ✓ Limited surveillance data
- ✓ Preventive (routine) deworming practices

ANTIPARASITIC ACTIVITY & EMERGING RESISTANCE

Some findings for AHR in Mongolia.,



ХҮНС, ХӨДӨӨ АЖ АХУЙ,
ХӨНГӨН ҮЙЛДВЭРИЙН ЯАМ



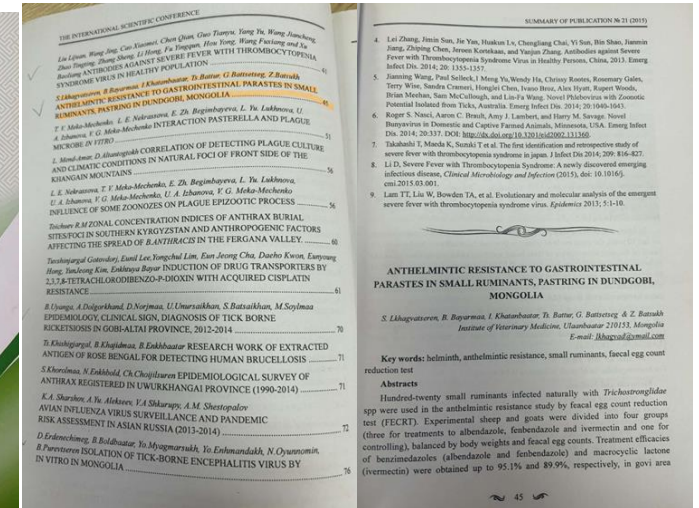
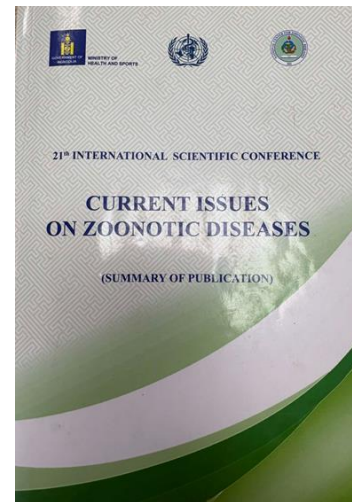
Мал эмнэлэг
үржлийн газар

Assessment of resistance to commonly used anthelmintic drug

Contracted research project: Laboratories of Helminthology and Arachno-Entomology and Protozoa,

PI: Prof. BATSUKH, Institute of Veterinary Medicine, Mongolia;

Year: 2009-2010



✓ An anthelmintic resistance of BZs and MLs to *Trichostrongylidae* spp of small ruminants has been detected by FECRT in gobi region of Mongolia.

ANTIPARASITIC ACTIVITY & EMERGING RESISTANCE

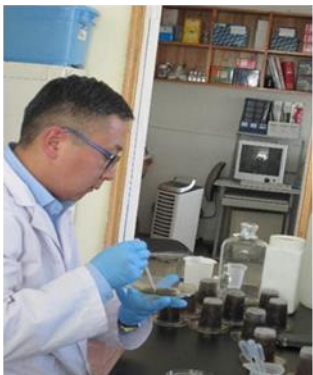
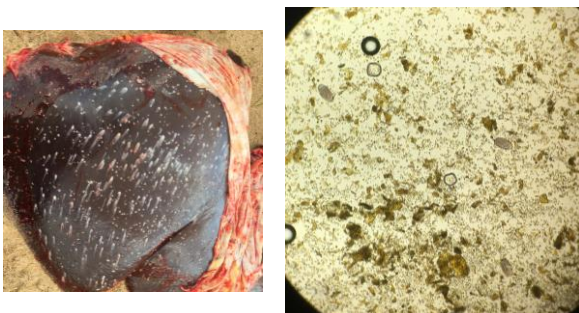
Some findings for AHR in Mongolia.,



STUDY FOR ANTHELMINTIC RESISTANCE OF EQUINE NEMATODE AGAINST IVERMECTINE

Ganzorig Bekh-Ochir, DVM, Master (MCs)

Veterinary School, MULS, 2017



ХӨДӨӨ АЖ АХУЙН ИХ СУРГУУЛЬ
МАГИСТР, ДОКТОРЫН СУРГУУЛЬ



БЭХ-ОЧИРЫН ГАНЗОРИГ

“ИВЕРМЕКТИНИЙ БЭЛДМЭЛД АДУУНЫ НЕМАТОДЫН
ДАСЛЫГ СУДАЛСАН ДҮН”

МАЛ, АМЬТНЫ ПАРАЗИТ ӨВЧИН СУДЛАЛ
Мал эмнэлгийн ухааны магистрын (MSc) зэрэг горилсон
бүтээл

E 08410101

УДИРДАГЧ: С.ЛХАГВАЦЭРЭН МАЛ ЭМНЭЛГИЙН УХААНЫ ДОКТОР (PhD)

УЛААНБААТАР ХОТ

2017 он

- ✓ Over 68% of race horse population in Mongolia, infected with high intensity ($n > 500$ epg) of mixed infection of *Strongylus* & *Parascaris* and the dominant nematodiasis of horse is *Strongylus vulgaris*.
- ✓ Any AH resistance for nematodiasis of race horse in Mongolia not determined by FECRT & larvae cultivation against ivermectin (MLs)

ANTIPARASITIC ACTIVITY & EMERGING RESISTANCE

Some findings for AHR in Mongolia.,

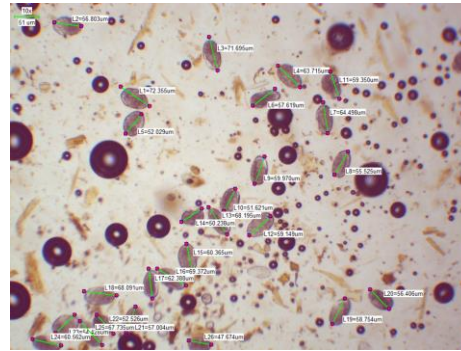


MONGOLIAN STATE UNIVERSITY OF LIFE SCIENCES
SCHOOL OF VETERINARY



DETERMINATION FOR ANTHELMINTIC RESISTANCE BY CLASSIC & MOLECULAR BIOLOGICAL METHODS

Davaajargal Tserennyam, DVM, Master (MSc)

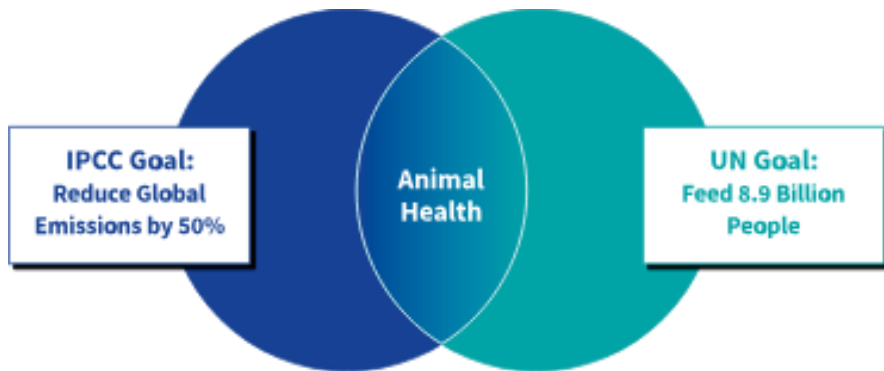


- The anthelmintic resistance was determined for *Haemonchus contortus* against benzimidazoles (BZs)

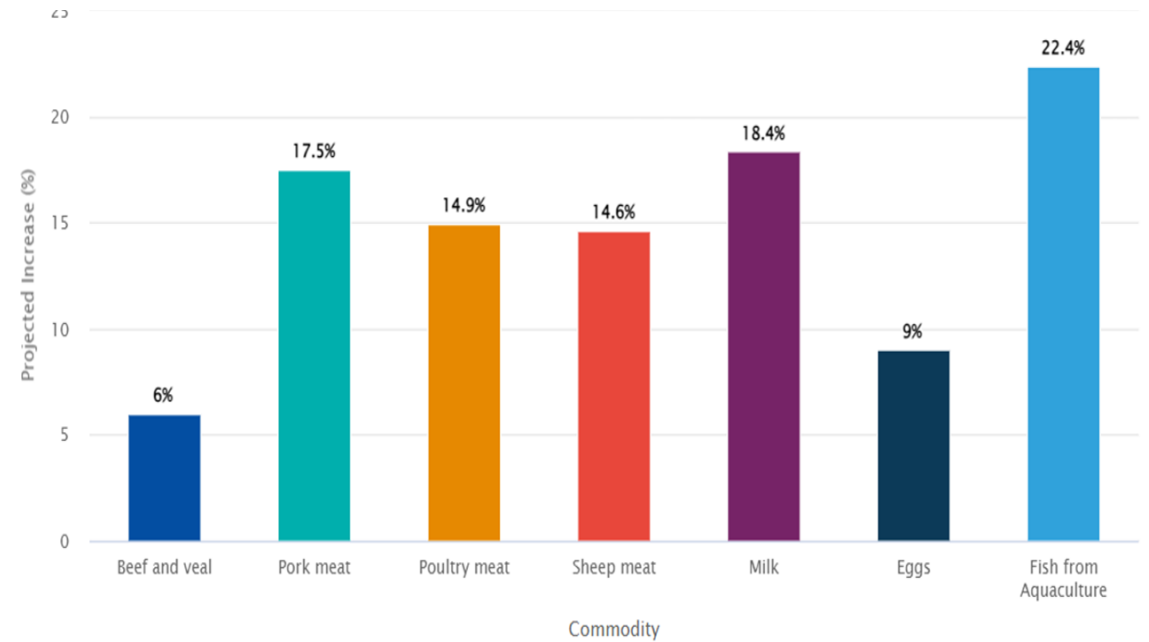


What is Veterinary Stewardship

Global goals for 2030 are an opportunity for animal health

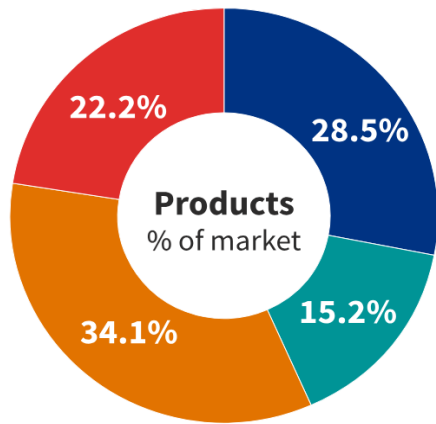


Projected Increase in Livestock Commodity Production (2020–30)

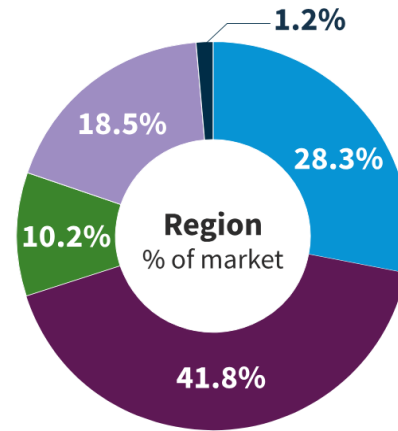


What is Veterinary Stewardship: ANTIPARASITICS

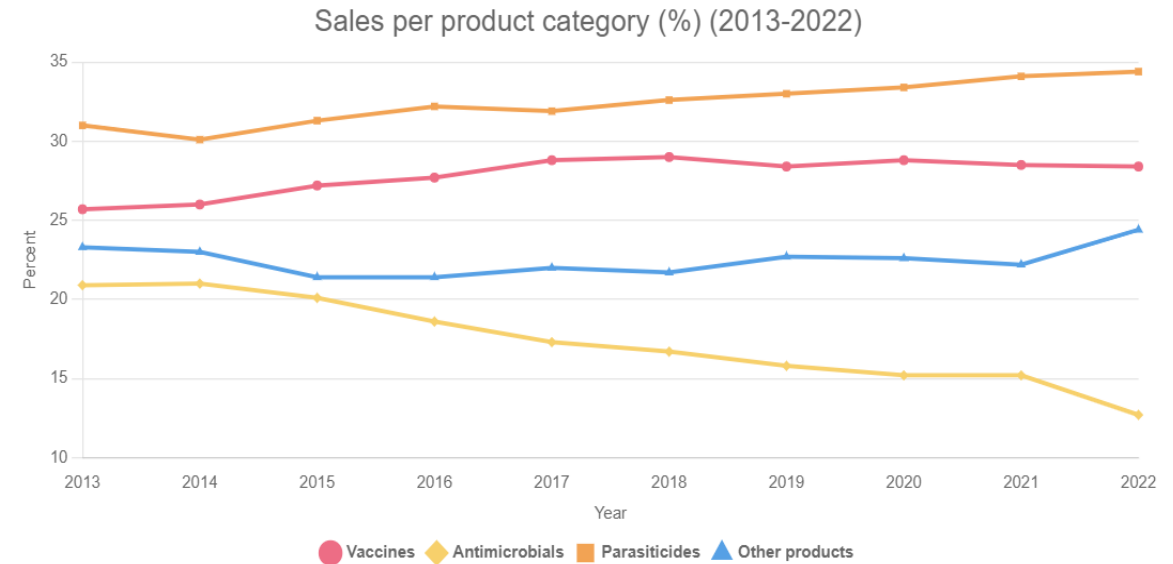
Global Animal Health Sector Portfolio (2021)



- Other products
- Parasiticides
- Antimicrobials
- Vaccines

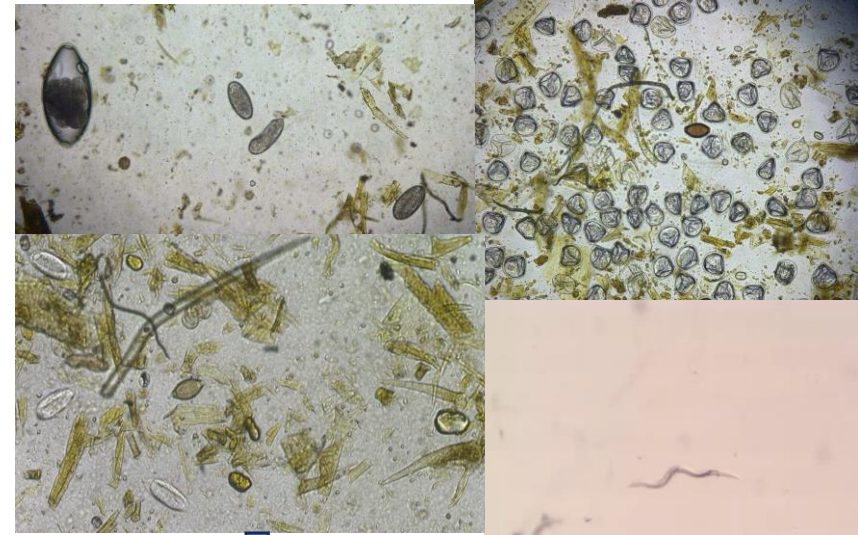


- Middle East/North Africa
- Asia-Pacific
- Latin America
- North America
- Europe



Veterinary Stewardship: Mass Medication Campaign or Targeted Approach?

- ✓ **Diagnosis-based treatment**
 - Fecal egg count (FEC)
- ✓ **Correct dosing**
 - Avoid to under/over dosing of APs
- ✓ **Targeted Selective Treatment (TST)**
 - Clinical signs
- ✓ **Rotation of drugs**



- ✓ PROFESSIONAL DIAGNOSE
- ✓ PROFESSIONAL SELECTION OF ANTIPARASITIC INTERVENTION
- ✓ PROFESSIONAL VALIDATION OF APs

A scenic landscape featuring rolling green hills in the background, a vast green field in the foreground, and a blue sky with scattered white clouds. The scene is bright and open.

Thank you for your attention

Any questions?