

The background of the slide features three black and white cows. One cow is in the foreground on the left, looking directly at the camera. Two other cows are positioned behind it, one slightly to the right and one further back on the right, both looking towards the right side of the frame. The sky is a clear, bright blue.

GUIDELINES FOR CONDUCTING TRIALS FOR CATTLE ACARICIDES IN ZIMBABWE

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INTRODUCTION



The guideline was updated in July 2025 following consultative meetings with Directorate of Veterinary Service (DVS), Medicines Control Authority of Zimbabwe (MCAZ) as well as Animal Health Industry Committee of Zimbabwe (AHICZ).



This presentation will focus on the updates that were made and common deficiencies we have been noting.

UPDATES

2.0: General requirements

Tick challenge

Previously defined as: The degree of tick infestation on the animal. An ideal trial site must be indicated by high tick challenge which must have not less than **5 ticks per 5 animals.**

Updated to: It is the degree of tick infestation on the animal. An ideal trial site must be indicated by high tick challenge which must have **ten or more live ticks on each of a number of the cattle amounting to more than ten per centum of the herd.**

UPDATES

2.0: General requirements

2.2.14 Ethical clearance

This is a **new section** introduced in the 2025 guidelines. It states that Ethical clearance to be sought according to the Animal Health (National Animal Research Ethics Committee) Regulations, 2021

UPDATES

Section 3: Specific requirements for different types of acaricides

- Section A: Trial Protocol for Acaricide using Plunge Dip
- A.2 Trial sites

Addition:

The trialist is required to request for the selection of proposed lowveld and highveld trial sites in writing to the Director of DVFS. DVFS will facilitate completion of the trial selection process before the trial begins.

UPDATES

- A.4 Tick challenge
- **Addition:**
- Tick samples should be sent to the Central Veterinary Laboratory for confirmation of the tick species present.



UPDATES

- A.5 Test cattle

Addition:

An individual indicator animal shall be deemed to be tick infested if it has ten or more engorged ticks attached to it. If this level is reached, the animal should be dipped for ethical reasons.

For cattle that fall sick or die during the course of the trial, a postmortem and or laboratory confirmation of diagnosis should accompany report submission.

UPDATES

- A.6 Materials and equipment

6.3 For generic formulations, two duplicate samples of minimum capacity **500ml** must be collected during the first month, second month and last month of dipping. One set after the stirring head have passed through and the other set at the end of dipping. For new chemical entities, duplicate samples should be collected during the first month, sixth month and the twelfth month of dipping. **Samples to be collected by an authorised DVS personnel according to the SOP.**

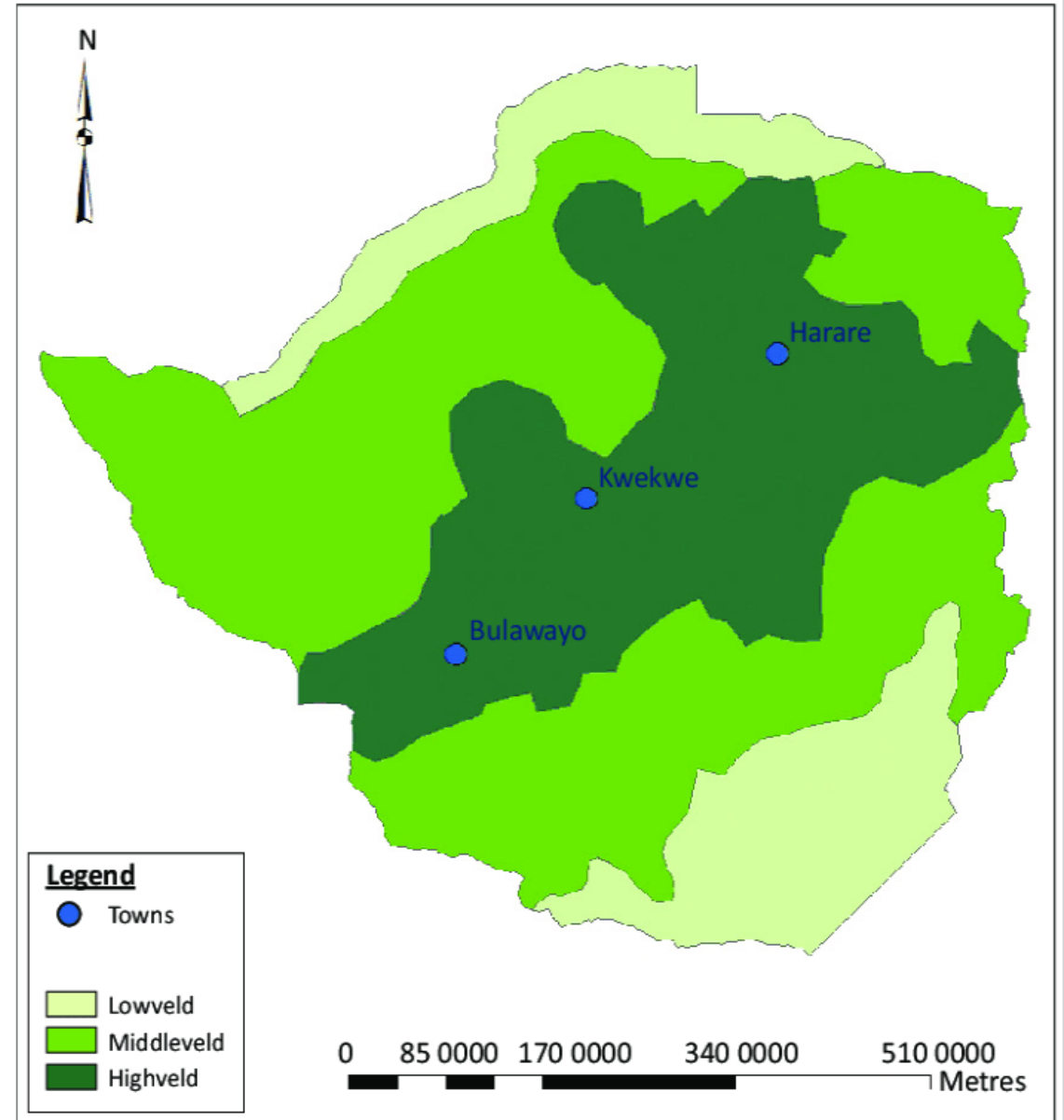
Amended

6.7 All samples to be submitted to the **CVL** for analysis. The submission should be **accompanied by fees** for the analysis.

Removed: 7.3.10 Stability of the sample from time of sampling to the time of analysis must be justified and specified

UPDATES

Inclusion of the map of Zimbabwe depicting the high, middle and low veld regions.



TRAINING NEEDS: ABBOTT'S FORMULA

Abbott Formular

%Efficacy = $(Mc-Mt)/Mc \times 100$; relative reductions in number of ticks

Control group (mc): Mean number of live parasites (ticks) on the untreated host animals

Treatment group (mt): Mean number of live parasites (ticks) on the treated host animals

Geometric means are used, the transformation should be justified and the arithmetic means also recorded.

Acceptance criteria: 90-100% for permanent parasites (*Ticks*)
resolution of clinical signs (*Demodex spp*) or reduction in
nussaince



TICK COUNT RECORD SHEET

No	Brown ear			Brown other			Blue			Bont			Bont leg			Red leg			Total
	F	SE	E	F	SE	E	F	SE	E	F	SE	E	F	SE	E	F	SE	E	
1																			0
2													1						1
3							1						3						4
4																			0
5	1												2						3
6													4						4
7													2						2
8																			0
9													1						1
10													1						1
11							1												1
12	1												3						4
13																			0
14													1						1
15													8						8
16													9						9
17													0						0
18													1						1
19													2						2
20													10						10
21																			0
22													3						3
23													2						2
24																			0
25													1						1
26	1																		1
27													1						1
28																			0
29													4						4
30	1												3						4

To note: All ticks i.e., flat, semi-engorged and engorged should be recorded and all ticks recorded, should be included in the efficacy calculation – there shouldn't be any ticks which are excluded from the efficacy calculation.

EXAMPLE

High veld trial			
Week 1	=	$100 \times [(11.2 - 13.53)/11.2]$	
	=	100×-0.208	
	=	-20.8%	
Week 2	=	$100 \times [(3.67 - 0.59)/3.67]$	
	=	100×0.839	
	=	83.9%	
Week 3	=	$100 \times [(12.7 - 0.49)/12.7]$	
	=	100×0.961	
	=	96.1%	
Week 4	=	$100 \times [(66.2 - 0.2)/66.2]$	
	=	100×0.997	
	=	99.7%	
Week 5	=	$100 \times [(65.2 - 0.17)/65.2]$	
	=	100×0.997	
	=	99.7%	
Week 6	=	$100 \times [(42.5 - 0.12)/42.5]$	
	=	100×0.997	
	=	99.7%	
Week 7	=	$100 \times [(3.83 - 0.07)/3.83]$	
	=	100×0.982	
	=	98.2%	
Week 8	=	$100 \times [(8 - 0.11)/8]$	
	=	100×0.986	
	=	98.6%	
Week 9	=	$100 \times [(13.3 - 0.06)/13.3]$	
	=	100×0.995	
	=	99.5%	

$$\begin{aligned}
 \text{Week 10} &= 100 \times [(74 - 0.03)/74] \\
 &= 100 \times 1 \\
 &= 100\%
 \end{aligned}$$

$$\begin{aligned}
 \text{Week 11} &= 100 \times [(96.2 - 0.02)/96.2] \\
 &= 100 \times 1 \\
 &= 100\%
 \end{aligned}$$

$$\begin{aligned}
 \text{Week 12} &= 100 \times [(10.5 - 0.14)/10.5] \\
 &= 100 \times 0.987 \\
 &= 98.7\%
 \end{aligned}$$

$$\begin{aligned}
 \text{Week 13} &= 100 \times [(30.5 - 0.13)/30.5] \\
 &= 100 \times 0.996 \\
 &= 99.6\%
 \end{aligned}$$

COMMON DEFICIENCIES



The guidelines state that a copy of the trial protocol must also accompany the final report



The number of treatment and indicator animals



Provision of the indemnity form in triplicate



Provision of climatic data and dip wash analysis results



Provision of raw data



THANK YOU