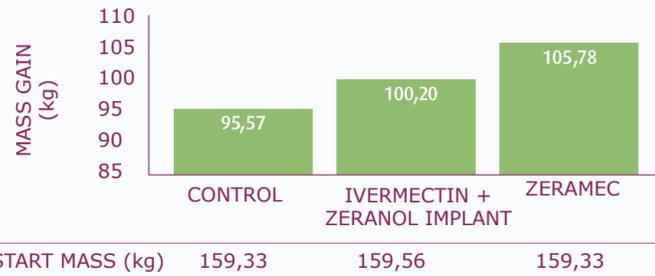


UNIQUE FORMULATION TECHNOLOGY

- The zeranol in Zeramec is administered in an injectable form according to the specific weight of the animal

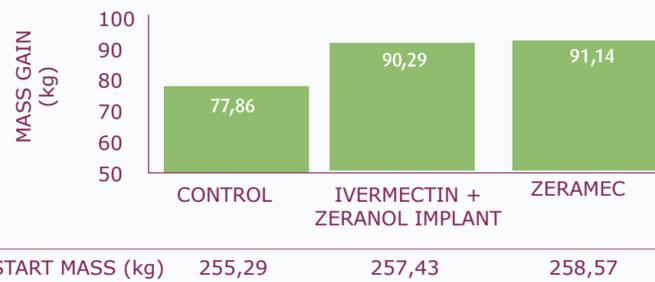
LIGHT STEER MASS GAIN OVER 84 DAYS



5 & 11 %
increase
over the
control

In both treated groups the use of ivermectin plus zeranol and Zeramec showed increased mass gains over the control

HEAVY STEER MASS GAIN OVER 84 DAYS



16 & 17 %
increase
over the
control

DATA ON FILE³ (6.1.78)

DATA ON FILE³ (6.1.78)

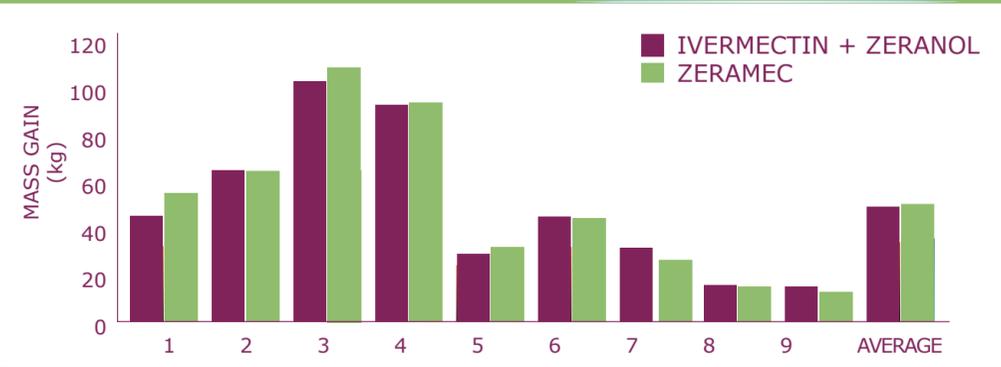
- The zeranol in Zeramec has an anabolic effect that is equivalent to a traditional zeranol implant

PLASMA PROFILES



DATA ON FILE⁴ (5.32)

MASS GAIN ZERAMEC VS IVERMECTIN + ZERANOL TREATMENT



DATA ON FILE⁵ (6.1.68; 6.1.74; 6.1.78)

COMPARABLE EFFICIENCY

Growth Promotant Technology + Parasite Control Technology

in one easy injection

Zeramec[®]
ENDECTABOLIC

References:

- Geary et al., 1993. Haemonchus contortus: Ivermectin-induced paralysis of the Pharynx. Experimental parasitology 77, 88 - 96.
- Zeramec[®]: the endectabolic substance. Technical Manual. Garcia et al
- Data on file (6.1.78)
- Data on file (5.32)
- Data on file (6.1.68; 6.1.74; 6.1.78)

Zeramec[®] - Reg No: G3660 (Act 36/1947)
Composition: Ivermectin 1 % m/v and Zeranol 1 % m/v

Virbac RSA (Pty) Ltd (Reg. No. 1990/003743/07),
Private Bag X115, Halfway House 1685
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Shaping the future of animal health



Zeramec[®]
ENDECTABOLIC

Growth Promotant Technology + Parasite Control Technology

in one easy injection

...unique, complete and accurate growth promotant technology producing **real growth** with ease

Best suited for pasture based systems



Shaping the future of animal health



Growth Promotant Technology

TO MAXIMISE BEEF PRODUCTION, BEEF PRODUCERS NEED TO TREAT ANIMALS WITH A GROWTH PROMOTANT AND AGAINST PARASITES

- ▶ The Zeramec innovative formulation technology combines an injectable zeranol anabolic growth promoter and a broad spectrum ivermectin parasiticide dewormer in one solution
- ▶ The two compounds act independently of each other

WHY USE GROWTH STIMULANTS?

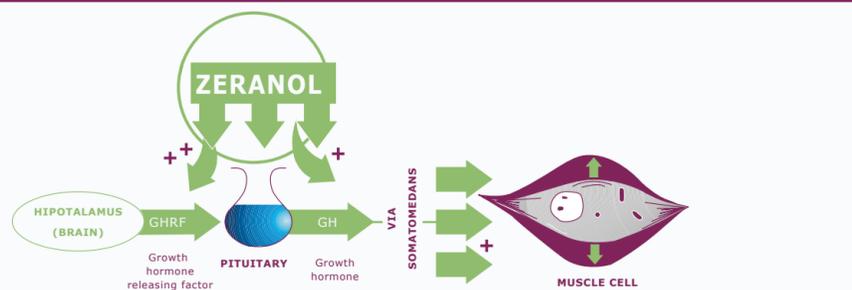
GROWTH HORMONES PROVIDE SEVERAL BENEFITS IN BEEF PRODUCTION

- ▶ Hormone treated animals grow quicker
- ▶ Better quality meat (muscle to fat ratio)
- ▶ Reach market weight sooner
- ▶ Improved feed conversion
- ▶ Reduction in cost of beef production

WHY USE ZERANOL?

IT STIMULATES THE PRODUCTION OF MORE NATURAL GH (GROWTH HORMONES)

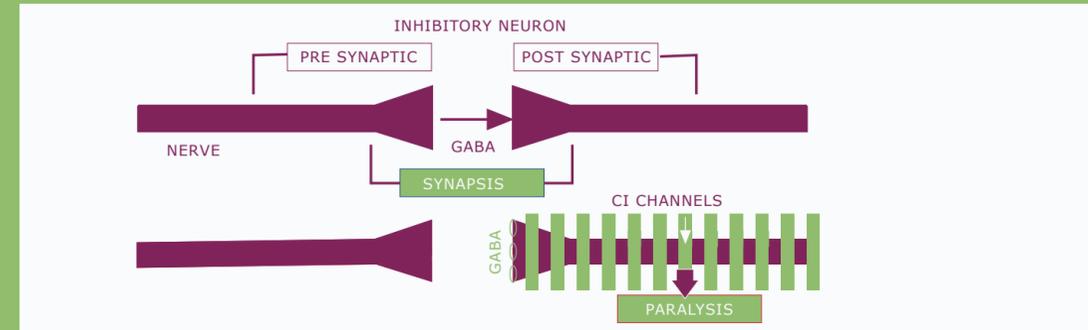
- ▶ Promotes bone and muscle growth therefore, ideally suited for growing animals
- ▶ Requires less energy in the process of protein synthesis therefore, the ideal anabolic substance for animals on pasture
- ▶ Ideal for the adaption of cattle before entering the feedlot



Parasite Control Technology

HOW DO IVERMECTINS WORK?

THE MAIN ANTIPASITIC EFFICACY OF IVERMECTIN IS ATTRIBUTED TO A HIGH-AFFINITY BINDING TO GLUTAMATE-GATED CHLORIDE ION CHANNELS IN INVERTEBRATE NERVE AND MUSCLE CELLS

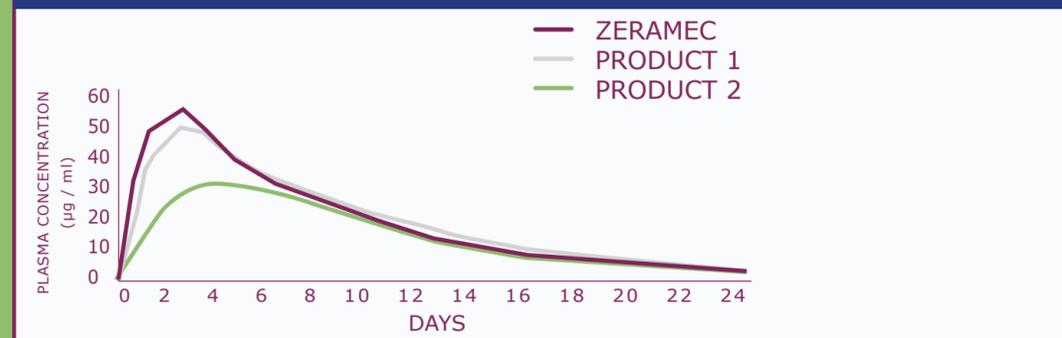


GEARY ET AL, 1993¹

PROVEN FORMULATION TECHNOLOGY

- ▶ Zeramec ivermectin is of high quality >98 %
- ▶ Zeramec formulation makes it easy to inject even at low temperatures
- ▶ Zeramec ivermectin belong in the same stable as Virbamec® LA
- ▶ Zeramec ivermectin offers reliable & proven parasite control
- ▶ Zeramec ivermectin is FDA approved
- ▶ Zeramec formulation ensures high ivermectin bioavailability

BIOAVAILABILITY



ZERAMEC: THE ENDECTABOLIC SUBSTANCE. TECHNICAL MANUAL²

Parasite Control Technology

THE EFFECT OF PARASITES

PARASITES HAVE A GREAT INFLUENCE ON THE DEVELOPEMENT AND GROWTH OF ANIMALS ESPECIALLY CALVES

These parasites influence the development in calves. The parasitic effect and symptoms are greatest in calves, as they have had no or very little time to develop some or any form of immunity to the parasites.

The result is that immune response is lower and they become victims of pneumonia, diarrhoea, and therefore suffer weight loss, and in sever cases may even die.

CATTLE THAT GET SICK WILL COST YOU MONEY

ZERAMEC CONTROLS THE FOLLOWING INTERNAL PARASITES

	IMMATURE	MATURE	PERSISTENCY
WIREWORM	*	*	14 DAYS
BROWN STOMACHWORM	*	*	21 DAYS
BANKRUPTWORM	*	*	14 DAYS
HOOKWORM	*	*	-
NODULARWORM	*	*	21 DAYS
LUNGWORM	*	*	21 DAYS
EYEWORM		*	-

Key : * (Control 90 % effectively)

EXTERNAL PARASITES

- ▶ Kills sucking lice and mange mites
- ▶ Controls sand tampsans infesting cattle for up to 3 days after treatment
- ▶ Kills cattle screw-worms present at time of injection
- ▶ Protects against screw-worm strikes for 2 weeks after administration
- ▶ For control of blue ticks – treatment must be repeated every 21 days