



# SOUTH AFRICAN ECTOPARASITICIDES AND OXPECKERS



## A GUIDE TO THE ECTOPARASITICIDES USED ON LIVESTOCK, HORSES, OSTRICHES AND GAME IN SOUTH AFRICA AND THEIR COMPATIBILITY WITH RED-BILLED AND YELLOW-BILLED OXPECKERS

### IMPORTANT DISCLAIMER!!

**THIS IS ONLY A REFERENCE DOCUMENT. IT DOES NOT REPLACE OR SUPERCEDE THE LABEL INSTRUCTIONS OF ECTOPARASITICIDES. IT REMAINS THE SOUL RESPONSIBILITY OF THE APPLICATOR TO FOLLOW THE LABEL INSTRUCTIONS OF THE ECTOPARASITICIDE. OMISSIONS AND/OR ERRORS IN THIS DOCUMENT CANNOT BE USED AS A REASON FOR NOT READING AND NOT FOLLOWING LABEL INSTRUCTIONS!!**

### WARNINGS

**Do not use products that are not registered in the Republic of South Africa. Registered products must have a valid registration number starting with a capital G followed by four digits and (Act No. 36 of 1947). Do not attempt to manufacture your own ectoparasiticide from basic components as it will be ineffective, damaging to animals and the environment, result in parasite resistance and it is a transgression of Act No. 36 of 1947. Do not overdose or underdose. Do not discard left-over products in an irresponsible way; participate in the AVCASA Pesticide Waste Management Programme. Do not re-use empty containers; they must be triple rinsed and recycled by a certified plastic recycling operator or incinerated by a certified incinerator. Do not use products for any animals or any parasites that are not indicated on the labels of the products.**

**WHEN IN DOUBT, CALL FOR ASSISTANCE:**

**REGISTRATION HOLDERS OF PRODUCTS AND THE GRIFFON POISON INFORMATION CENTRE CAN BE OF ASSISTANCE**

### KEY TO THE OXPECKER COMPATIBILITY TABLE

**Compatibility: Y = Yes for compatible with oxpeckers, N = No for incompatible with oxpeckers**

**Chemical class of Active Ingredient (AI): PY = pyrethroid, CM = carbamate, OP = organophosphate, SY = synergist, AM = amidine, ML = macrocyclic lactone, GR = insect growth regulator, OT = others**

**Bird LD50: Values given are for the active ingredients and not the formulations; LT = low toxicity**


**AI bird risk colour code: dark green = very low risk, light green = low risk, yellow = medium risk, orange = high risk, red = very high risk**

**AI bird risk factor: 1 = very low risk, 3 = low risk, 5 = medium risk, 7 = high risk, 10 = very high risk**

**Type of application: PL = plunge dip, SP = spray dip, PO = pour-on, ST = spot treatment, OR = oral solution, IN = injectable solution**


**ALWAYS READ THE LABEL OF THE ECTOPARASITICIDE BEFORE APPLYING IT AND FOLLOW ALL INSTRUCTIONS METICULOUSLY**

## ECOLOGICALLY SOUND MANAGEMENT OF ECTOPARASITES AND OXPECKERS®

Trade name		Act 36/1947 Reg. No.	Registration holder or distributor	Active ingredient(s) AI(s)	AI Concentration %	Class	Bird LD50 mg/kg	AI Bird risk colour code	AI Bird risk factor	Type of application						Ectoparasites	Animals	Dosage
										PL	SP	PO	ST	OR	IN			
<b>Acatak Pour-On</b>	Y	G2422	Novartis AH	Fluazuron	2.5	IGR	>2,000		1							Blue ticks	Beef cattle only	12 ml/100 kg
<b>Amidip Max</b>	Y	G3767	Virbac RSA	Amitraz	25	AM	788		2							Ticks, lice, mange mites	Cattle	10 ml/10 ℓ
<b>Amigard</b>	Y	G3512	Zoetis AH	Amitraz	12.5	AM	788		2							Ticks, lice, mange mites	Cattle	1 ℓ/ 500 ℓ
<b>Amipor</b>	Y	G2058	Virbac RSA	Amitraz Cypermethrin Piperonyl butoxide	1 1 5	AM PY SY	788 2,000 2,250		2							Ticks & Karoo paralysis ticks, house, stable & face flies, biting, sucking & red lice	Cattle, sheep, goats, game	1 ml/10 kg/cattle 2 ml/10 kg sheep & goats
<b>Animec Super</b>	Y	G3909	AfriVet BM	Ivermectin Chlorsulon	1 10	ML OT	2,000		1							Lice, mange mites, sand tampons, blue ticks, screw-worms, eye-worms	Cattle	1 ml/50 kg
<b>Animectin</b>	Y	G2966	AniPharm	Ivermectin	0.08	ML	2,000		1							Itch mites, lice	Sheep, goats	2.5 ml/10 kg
<b>Avotan Pour-On</b>	N	G3745	MSD AH	Abamectin	0.05	ML	84.6		8							Blue ticks	Cattle	1 ml/10 kg
<b>Bantik Cattle Dip</b>	Y	G3571	Cipla Agrimed	Cymiazol Cypermethrin	17.5 2.5	AM PY	1,212 2,000		1							Ticks, lice, screw-worms, biting, face & nuisance flies	Cattle	1.5 ℓ/1,000 ℓ
<b>Baymec</b>	Y	G3220	Bayer AH	Ivermectin	1	ML	2,000		1							Scab mite	Sheep	200 ug/kg
<b>Bayopet Bacdip Plus</b>	Y	G2029	Bayer AH	Flumethrin Piperonyl butoxide	2 10	PY SY	>2,500 2,250		1							Ticks, fleas	Horses, dogs	2 ml/1 ℓ
<b>Bayticol</b>	Y	G0489	Bayer AH	Flumethrin	2	PY	>2,500		1							Ticks, stable flies, Northern fowl mites, feather mites	Cattle, horses, dogs, poultry, ostriches	10 ml/5 ℓ
<b>Blitzdip Aerosol</b>	Y	G1059	Bayer AH	Cypermethrin	0.5	PY	2,000		1							Ticks	Cattle, goats, sheep	Apply to infested areas
<b>Blitzdip Pour-on for Cattle</b>	Y	G1049	Bayer AH	Cypermethrin	1	PY	2,000		1							Ticks, nuisance flies, biting & sucking lice	Cattle	1 ml/10 kg
<b>Blowfly Dressing</b>	N	G0935	Bayer AH	Cypermethrin Chlorfenvinphos	0.05 1	PY OP	2,000 16		10							Blowfly maggots & biting flies	Sheep	Brush on & around infested areas
<b>Bodygard</b>	Y	G3424	Zoetis AH	Flumethrin Piperonyl butoxide	1 5	PY SY	>2,500 2,250		1							Ticks, feather mites, red lice, tsetse flies	Cattle, sheep, ostriches, game	10 ml/100 kg
<b>Buzz-Off Gel</b>	Y	G2951	V-tech	Cypermethrin Citronella oil Herbal extracts	0.3 0.6	PY OT OT	2,000 LT LT		1							House flies	Horses	Wipe onto coat where flies are a nuisance
<b>Buzz-Off Fly Repellent</b>	Y	G2953	V-tech	Cypermethrin Citronella oil Herbal extracts	0.3 0.6	PY OT OT	2,000 LT LT		1							House flies	Horses	Brush onto coat where flies are a nuisance
<b>Cevamec 1% injectable solution</b>	Y	G2811	Novartis AH	Ivermectin	1	ML	2,000		1							Sheep scab mites, Australian itch mites, sucking & biting lice, sand tampons, Blue ticks, screw worm	Cattle, sheep	1 ml/50 kg


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## ECOLOGICALLY SOUND MANAGEMENT OF ECTOPARASITES AND OXPECKERS®

Trade name		Act 36/1947 Reg. No.	Registration holder or distributor	Active ingredient(s) AI(s)	AI Concentration %	Class	Bird LD50 mg/kg	AI Bird risk colour code	AI Bird risk factor	Type of application						Ectoparasites	Animals	Dosage
										PL	SP	PO	ST	OR	IN			
Closamectin Injection for Cattle and Sheep	Y	G3801	Biotech Laboratories	Ivermectin Closantel	0.5 12.5	ML OT	2,000 LT		1							Sheep scab mites, itch mites, sucking & biting lice, mange mites, blue ticks, screw-worms, sand tampsans	Cattle, sheep	1 ml/25 kg
Clout	Y	G1447	AfriVet BM	Deltamethrin	1	PY	4,460		1							Ticks, stable, horn, cattle louse & nuisance flies, biting & sucking lice, blackflies, Karoo paralysis, bont-legged & red-legged ticks	Cattle, sheep, goats	1 ml/10 kg
Coopers Redline	Y	G3445	AfriVet BM	Flumethrin	1	PY	>2,500		1							Ticks, tsetse flies, feather mites, Karoo paralysis ticks	Cattle, sheep, ostriches, game	1 ml/10 kg
Coopers Supadip	N	G3349	AfriVet BM	Chlorfenvinphos	30	OP	16		10							Ticks, lice, mange mites, fleas, keds, blow flies	Cattle, sheep, goats, dogs, horses	1 ℓ/600 ℓ
Coopers Tick Grease	Y	G3667	AfriVet BM	Deltamethrin Piperonyl butoxide	0.1 0.05	PY SY	4,460 2,250		1							Ticks	Cattle, sheep	Brush onto ticks
Cooperzon 30	N	G0821	AfriVet BM	Diazinon	30	OP	3.5		10							Ticks, mange & sheep scab mites, sheep lice & keds, blowfly maggots, pig mange mites	Sheep, goats, pigs	1 ℓ/600 ℓ
Cydectin 1% Injectable	Y	G1463	Zoetis AH	Moxidectin	1	ML	278		5							Lice, mange mites, sheep scab & itch mites, blue ticks	Cattle, sheep, ostriches	0.1 ml – 1 ml/5 kg
Cydectin 0.1% Oral Solution	Y	G2388	Zoetis AH	Moxidectin	0.1	ML	278		5							Itch mites	Sheep, ostriches	2 ml/10 kg
Cydectin Antiparasitic Pour-on for Cattle	Y	G2678	Zoetis AH	Moxidectin	0.5	ML	278		5							Mange mites, red & blue lice, horn flies, blue ticks	Cattle	1 ml/10 kg
Cydectin Eweguard & vaccine	Y	G2304	Zoetis AH	Moxidectin plus antigens	0.5	ML	278		5							Sheep scab & itch mites, sucking lice	Adult sheep & goats	1 ml/25 kg
Cydectin Eweguard & vaccine plus Se & Vit B <sub>12</sub>	Y	G3541	Zoetis AH	Moxidectin plus antigens Na Selenate Vitamin B <sub>12</sub>	0.5 0.1 0.1	ML OT OT	278 LT LT		5							Sheep scab & itch mites, sucking lice	Adult sheep & goats	1 ml/25 kg
Cydectin LA Injectable for sheep	Y	G3449	Zoetis AH	Moxidectin	2	ML	278		5							Sheep scab mites, sucking lice, itch mites	Sheep	1 ml/20 kg
Cydectin Plus Tape Oral Drench	Y	G3407	Zoetis AH	Moxidectin Praziquantel	0.1 1.88	ML OT	278 LT		5							Itch mites	Sheep	1 ml/5 kg


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										PL	SP	PO	ST	OR	IN			
Cydectin Plus Tape Oral Drench	Y	G3407	Zoetis AH	Moxidectin Praziquantel	0.1 1.88	ML OT	278 LT		5						Itch mites	Sheep	1 ml/5 kg	
Cydectin SE Oral Solution	Y	G3408	Zoetis AH	Moxidectin Selenium	0.1 0.05	ML OT	278 LT		5						Itch mites	Sheep	1 ml/5 kg	
Cylence	Y	G1725	Bayer AH	Cyfluthrin	1	PY	>2,000		1						Flies, lice, ticks, tsetse flies	Cattle, sheep, goats	1.5 - 2 ml/10 kg	
Cymigard	Y	G3922	Zoetis AH	Cymiazol Cypermethrin	2 1	AM PY	1,212 2,000		1						Ticks	Cattle	1 ml/10 kg	
Cypermil Pour On	Y	G3012	Ourofino AH	Cypermethrin	5	PY	2,000		1						Ticks, sucking & biting lice	Cattle	1 ml/10 kg	
Cypermil Spray	Y	G3111	Ourofino AH	Cypermethrin	15	PY	2,000		1						Ticks, sucking & biting lice	Cattle	1 ℓ/1,000 ℓ	
Cypermil Plus Spray	N	G3020	Ourofino AH	Cypermethrin Dichlorvos	5 45	PY OP	2,000 24		10						Ticks, sucking & biting lice	Cattle	Spot treatment	
Daz-Dust 2%	N	G0421	Bayer AH	Diazinon	2	OP	3.5		10						Lice, blowfly, horse flies	Cattle, sheep, goats, horses	Dust freely onto affected areas	
Dazzel NF	N	G0582	Bayer AH	Diazinon	30	OP	3.5		10						Ticks, scab & mange mites, sheep keds, lice, blowfly	Sheep, goats, pigs, rabbits	1 ℓ/600 ℓ	
Deca-Spot 0.5% Pour-on	Y	G3433	AfriVet BM	Deltamethrin Piperonyl butoxide	0.5 2.5	PY SY	4,460 2,250		1						Ticks, Karoo paralysis ticks, nuisance flies, stable, horn & cattle louse flies, blackflies	Cattle, sheep, goats	Cattle 1 ml/10 kg Sheep/goats 1 ml/5 kg	
Decatix 3	Y	G1348	AfriVet BM	Deltamethrin	2.5	PY	4,460		1						Ticks, lice, various flies, sheep scab mites, sheep keds, screw-worm, blackfly, ostrich feather lice	Cattle, sheep, goats, ostriches	1 ℓ/500 ℓ	
Dectomax	Y	G1726	Zoetis AH	Doramectin	1	ML	2,000		1						Blue ticks, screw-worm, sand tampsans, sucking lice, mange & itch mites, blowfly, sheep scab mites	Cattle, sheep, goats pigs	1 ml/50 kg	
Delete	Y	G2815	MSD AH	Deltamethrin Piperonyl butoxide	0.5 2	PY SY	4,460 2,250		1						Ticks, Karoo paralysis ticks, biting & sucking lice, stable, horn, cattle louse & nuisance flies, blackflies	Cattle, sheep, goats	Cattle 1 ml/10 kg Sheep/goats 1 ml/5 kg	
Delete All	Y	G2837	MSD AH	Deltamethrin Amitraz Piperonyl butoxide	0.5 2 2	PY AM SY	4,460 788 2,250		2						Ticks, Karoo paralysis ticks, biting & sucking lice, stable, horn, cattle louse & nuisance flies, blackflies, mange mites	Cattle, sheep, goats, game	Cattle 1 ml/10 kg Sheep/goats 1 ml/5 kg	
Delete-X5	Y	G3279	MSD AH	Deltamethrin	5	PY	4,460		1						Ticks, cattle lice, sheep scab mites, sheep & goat lice, sheep keds, ostrich feather lice, African face, nuisance & biting flies	Cattle, sheep, goats, ostriches	250 ml - 1 ℓ/1,000 ℓ	
Deltab Tablets	Y	G2517	MSD AH	Deltamethrin	25	PY	4,460		1						Ticks, lice, flies, screw worm, scab mites, keds, feather lice	Cattle, sheep, goats, ostriches	1 tablet/100 ℓ	


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										PL	SP	PO	ST	OR	IN			
<b>Deltab Back-Pack</b>	Y	G2518	MSD AH	Deltamethrin	25	PY	4,460		1							Ticks, cattle lice, sheep scab mites, sheep & goat lice, sheep keds, ostrich feather lice, stable, house, cattle louse, horn, tsetse & <i>Stomoxys</i> flies, blackflies	Cattle, sheep, goats, ostriches, dogs, horses	1 tablet/12.5 ℓ
<b>Deltadip Pour-On</b>	Y	G3838	Cipla Agrimed	Flumethrin	1	PY	>2,500		1							Ticks, stable flies, horn flies, cattle louse flies, nuisance flies, biting & sucking lice, black flies	Cattle, sheep, goats	1 ml/10 kg
<b>Difly Wound Spray</b>	Y	G2155	MSD Animal Health	Cypermethrin Dichlorophen Chlorocresol Pine oil Gentian violet	0.0125 0.015 0.5 15 0.15	PY OT OT OT OT	2,000 LT LT NT NT		1							Blow-flies, flies	Sheep, goats, pigs, horses	Treat affected areas
<b>Doraject LA +AD<sub>3</sub>E</b>	Y	G3912	Cipla Agrimed	Doramectin Vitamin A Vitamin D <sub>3</sub> Vitamin E	1 3.3 0.015 5	ML OT OT OT	>500 LT LT LT		3							Blue ticks	Cattle	
<b>Drastic Deadline</b>	Y	G723	Bayer AH	Flumethrin	1	PY	>2,500		1							Ticks, tsetse fly, red lice, feather mites,	Cattle, sheep, ostriches, game	1 ml/10 kg
<b>Drastic Deadline Extreme</b>	Y	G3840	Bayer AH	Flumethrin Fluazuron	2.5 1	PY IGR	>2,500 >4,000		1							Ticks, blue ticks, tsetse fly, red lice,	Cattle	1 ml/10kg
<b>Ecobash</b>	Y	G3382	AfriVet BM	Cymiazol Cypermethrin	17.5 2.5	AM PY	1,212 2,000		1							Ticks, biting, face & nuisance flies, lice, screw-worm	Cattle	1.5 ℓ/1,000 ℓ
<b>Ecomectin 1% Injectable Solution</b>	Y	G2275	AfriVet BM	Ivermectin	1	ML	2,000		1							Sucking & biting lice, blue ticks, horn flies, mange mites, screw-worms	Cattle	Cattle, sheep 1 ml/50 kg Pigs 1.5 ml/50 kg
<b>Ecomectin Cattle Pour-on</b>	Y	G3274	AfriVet BM	Ivermectin	0.5	ML	2,000		1							Sucking & biting lice, sand tampons, blue ticks, screw-worm, sheep scab mites, itch mites, mange mites	Sheep, cattle, pigs	1 ml/10 kg
<b>Ecomectin Pig Premix</b>	Y	G3860	AfriVet BM	Ivermectin	0.6%	ML	2,000		1							Lice, sarcoptic mange mites	Pigs	Only to be administered by veterinarians
<b>Ecomectin Sheep Drench</b>	Y	G2630	AfriVet BM	Ivermectin	0.08	ML	2,000		1							Itch mites	Sheep, goats	2.5 ml/10 kg
<b>Ectomin 100EC</b>	Y	G3341	Novartis AH	Cypermethrin (high-cis)	10	PY	2,000		1							Ticks, nuisance & biting flies, cattle lice & keds, sheep & goat lice, poultry mites	Cattle, sheep, goats, poultry	1 ℓ/1,000 ℓ
<b>Ectopor Pour-On</b>	Y	G3313	Novartis AH	Cypermethrin	0.002	PY	2,000		1							Ticks, lice, keds, flies	Cattle, sheep, goats, camels	1 ml/10 kg
<b>Ectoshield</b>	Y	G2671	Cipla Agrimed	Cypermethrin Amitraz	1.5 1.75	PY AM	2,000 788		2							Ticks, house flies, stable flies, face flies, lice	Cattle	1 ml/10 kg


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										PL	SP	PO	ST	OR	IN				
Ektoban	Y	G0598	Novartis AH	Cymiazol Cypermethrin	17.5 2.5	AM PY	1,212 2,000	█	1	█	█						Ticks, biting, face & nuisance flies, lice, screw-worm	Cattle	1.5 ℓ /1,000 ℓ
Eliminate	N	G3348	Virbac RSA	Abamectin	0.5	ML	84.6	█	8			█					Sucking & biting lice, mange mites, blue ticks, horn flies	Cattle, antelope	1 ml/10kg
Epricis 1%	Y	G3917	Ceva AH	Eprinomectin	1	ML	2,000	█	1						█		Cattle	Blue ticks	1 ml/50kg
Equivet Fly Repel	Y	G1329	Zoetis AH	Cypermethrin Piperonyl butoxide	0.25 1.25	PY SY	2,000 2,250	█	1		█			█			House & stable flies	Horses	Spray or wipe onto horse's coat
Equiworld Fly Repellent for Horses and Dogs	Y	G1857	Stride Distributors	Cypermethrin Piperonyl butoxide Natural plant oils Lanolin	0.25 1.25 0.025 1	PY SY OT OT	2,000 2,250 LT LT	█	1		█			█			House & stable flies, blackflies, ticks, mosquitoes	Horses	Ready to use spray or paint-on
Equiworld Tick Dip	Y	G3148	Stride Distributors	Cypermethrin	20	PY	2,000	█	1	█	█						Ticks, lice, nuisance & biting flies	Cattle, horses	1 ℓ /1,000 ℓ
Eraditick Ultra	N	G3976	AfriVet BM	Chlorfenvinphos Cymiazol Cypermethrin	20 16 2.5	OP AM PY	16 1,212 2,000	█	10	█	█						Ticks, house flies	Cattle	1 ℓ /600 ℓ
Expel Wound Aerosol	Y	G3245	AfriVet BM	Resin & oils Germicide Deltamethrin	99.39 0.51 0.1	OT OT PY	LT LT 4,460	█	1					█			Screw-worms, ticks	Cattle, sheep, goats, wildlife	Apply to infested areas
Expel Jetting Fluid	Y	G3941	AfriVet BM	Ivermectin	3	ML	2,000	█	1					█			Lice, blowfly larvae	Sheep, goats	Apply to infested areas
Expel Plus jetting Fluid	Y	G4027	AfriVet BM	Ivermectin Novaluron	3 2	ML IGR	2,000 >2,000	█	1					█			Lice, blowfly, red lice, mange mites	Sheep & goats	Apply to infested areas
Extinosad	Y	G3826	Elanco	Spinosad	2.5	OT	2,000	█	1	█							Red lice, blow fly maggots	Sheep, goats	1 ml/10 kg
Fluportik	Y	G3977	Ceva AH	Flumethrin	1	PY	>2,500	█	1			█					Ticks	Cattle	1 ml/10 kg
Fluxacur NF	N	G3202	MSD AH	Abamectin Triclabendazole	0.2 10	ML OT	84.6 LT	█	8						█		Itch mites	Sheep, goats	1 ml/10 kg
Interdip 20	Y	G3321	MSD AH	Cypermethrin	20	PY	2,000	█	1	█	█						Ticks, lice, biting & nuisance flies	Cattle, horses	1 ℓ /1,000 ℓ
Intervet Quadripel	Y	G3328	MSD Animal Health	Cypermethrin Piperonyl butoxide Natural plant oils Lanolin	0.25 1.25 0.025 1	PY SY OT OT	2,000 2,250 NT NT	█	1					█			House & stable flies, ticks, mosquitoes	Horses	Treat affected areas
Ivermax 1% Injectable Solution	Y	G3582	Cipla Agrimed	Ivermectin	1	ML	2,000	█	1							█	Sucking & biting lice, mange mites, sand tampan, screw-worms, blue ticks, sheep scab mites, Australian itch mites	Cattle, sheep, pigs	Cattle, sheep 1 ml/50 kg Pigs 1 ml/33 kg
Ivermax 1% Injectable Solution + AD <sub>3</sub> E	Y	G3723	Cipla Agrimed	Ivermectin Vitamin A Vitamin D <sub>3</sub> Vitamin E	1 5M IU 40K IU 1K IU	ML OT OT OT	2,000 LT LT LT	█	1							█	Sucking & biting lice, mange mites, sand tampan, screw-worms, blue ticks, sheep scab mites, Australian itch mites	Cattle, sheep	1 ml/50 kg


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Ivermax 1% Injectable Solution +minerals	Y	G3724	Cipla Agrimed	Ivermectin Cu Zn Co Mn	1 3.83 mg 0.06 mg 0.16 mg 2.49 mg	ML OT OT OT OT	2,000 LT LT LT LT		1							Sucking & biting lice, mange mites, sand tampan, screw-worms, blue ticks, sheep scab mites, Australian itch mites	Cattle, sheep	1 ml/50 kg
Ivermax LA Platinum	Y	G3832	Cipla Agrimed	Ivermectin	3.15	ML	2,000		1							Blue ticks	Cattle	
Ivermax Metabolic	Y	G3910	Cipla Agrimed	Ivermectin Vitamin B1 Various minerals	1 0.01 Various	ML OT OT	2,000 LT LT		1							Blue ticks	Cattle	
Ivermax Sheep Drench	Y	G3579	Cipla Agrimed	Ivermectin	0.08	ML	2,000		1							Australian itch mites	Sheep	2.5 ml/10 kg
Ivermectina 1% Ourofino Injectable	Y	G2889	Ourofino AH	Ivermectin	1	ML	2,000		1							Sucking & biting lice, mange mites, sand tampan, screw-worms, blue ticks, sheep scab mites, Australian itch mites	Cattle, sheep	1 ml/50 kg
Ivomec Eprinex	Y	G2628	Merial	Eprinomectin	0.5	ML	2,000		1							Sucking & biting lice, mites, horn flies, blue ticks	Beef & dairy cattle	1 ml/10 kg
Ivomec Gold	Y	G3080	Merial	Ivermectin	3.15	ML	2,000		1							Sucking & biting lice, mange mites, sand tampan, screw-worms, blue ticks	Cattle	1 ml/50 kg
Ivomec Injection	Y	G2329	Merial	Ivermectin	1	ML	2,000		1							Sucking lice & biting lice, sand tampan, blue ticks, sheep scab mites, mange mites, screw-worms	Cattle, sheep, pigs, ostriches	Cattle 1 ml/50 kg Pigs 1 ml/33 kg Sheep 0.5 ml/25 kg Ostriches 1 ml/50 kg
Ivomec Liquid	Y	G0590	Merial	Ivermectin	0.08	ML	2,000		1							Australian itch mites	Sheep, goats	2.5 ml/10 kg
Ivomec Maximiser CR Capsules (weaner sheep)	Y	G2510	Merial	Ivermectin	80 mg	ML	2,000		1							Sheep scab mites, itch mites blowflies, keds	Weaner sheep	1 Capsule/20 to 40 kg
Ivomec Maximiser CR Capsules (adult sheep)	Y	G2509	Merial	Ivermectin	160 mg	ML	2,000		1							Sheep scab mites, itch mites, blowflies, keds	Adult sheep	1 Capsule/40 to 80 kg
Ivomec Premix for Swine	Y	G1960	Merial	Ivermectin	0.6	ML	2,000		1							Lice, mange mites	Pigs	Follow premix instructions
Ivomec Super Injection	Y	G2629	Merial	Ivermectin Chlorsulon	1 10	ML OT	2,000		1							Sucking & biting lice, mange mites, sand tampan, screw-worms, eye worms, blue ticks, sheep scab mites, Australian itch mites	Cattle, sheep	Cattle 1 ml/50 kg Sheep 0.5 ml/25 kg

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## ECOLOGICALLY SOUND MANAGEMENT OF ECTOPARASITES AND OXPECKERS®

Trade name		Act 36/1947 Reg. No.	Registration holder or distributor	Active ingredient(s)	AI Concentration %	Class	Bird LD50 mg/kg	AI Bird risk colour code	AI Bird risk factor	Type of application						Ectoparasites	Animals	Dosage
										PL	SP	PO	ST	OR	IN			
Ivotan	Y	G2858	MSD AH	Ivermectin	1	ML	2,000		1							Sucking lice, biting lice, mange mites, sand tampans, blue ticks, cattle screw worms, sheep scab mites, itch mites	Cattle, sheep, pigs	Cattle, sheep 1 ml/50 kg Pigs 1 ml/33 kg
Ivotan Oral	Y	G3393	MSD AH	Ivermectin	0.08	ML	2,000		1							Sucking lice, biting lice, mange mites, sand tampans, blue ticks, cattle screw worms, sheep scab mites, itch mites	Sheep, goats	2.5 ml/10 kg
Karbadip	Y	G1291	Bayer AH	Carbaryl	50	OT	>1,000		1							Ticks, red mites, lice, tampans, fleas	Cattle, horses, chickens, dogs	3 kg/1,000 ℓ
Langa-Dip	Y	G3515	Elangeni AH	Cypermethrin	20	PY	2,000		1							Ticks, Karoo paralysis ticks, biting & sucking lice, nuisance & biting flies, sheep scab mites, blowflies	Cattle, sheep	1 ℓ/1,000 ℓ
Langa First-Year Drench	N	G3503	Elangeni AH	Abamectin Praziquantel	0.08 1.5	ML OT	84.6 LT		8							Australian itch mites	Sheep, lambs, goats, kids, calves, ostriches	2.5 ml/10 kg
Langa Max LA	Y	G3506	Elangeni AH	Ivermectin	1	ML	2,000		1							Sheep scab mites, sucking & biting lice, mange mites, Australian itch mites, screw-worms, blue ticks, sand tampans	Sheep, cattle, pigs	Cattle, sheep 1 ml/50 kg Pigs 1 ml/ 33kg
Langa MEC	Y	G3500	Elangeni AH	Ivermectin	1	ML	2,000		1							Sheep scab mites, sucking & biting lice, mange mites, Australian itch mites, screw-worms, blue ticks, sand tampans	Cattle, sheep, pigs	Cattle, sheep 1 ml/50 kg Pigs 1 ml/ 33kg
Langa Pour-Line	Y	G3501	Elangeni AH	Amitraz Cypermethrin Piperonyl butoxide	1 1 5	AM PY SY	788 2,000 2,250		2							Ticks, Karoo paralysis ticks, house, stable & face flies, biting & sucking lice, red lice	Cattle, sheep, goats, game	Cattle, game 10 ml/100 kg Sheep, goats 2 – 4 ml/ 10 kg
Langa Super MEC	Y	G3502	Elangeni AH	Ivermectin Chlorsulon	1 10	ML OT	2,000 LT		1							Sucking & biting lice, mange mites, sheep scab mites, Australian itch mites, sand tampans, Blue ticks, screw-worms	Cattle, sheep, goats	1 ml/50 kg
Langa Tablets for Sheep and Goats	N	G3510	Elangeni AH	Abamectin	0.8	ML	84.6		8							Australian itch mites	Sheep, goats	1 tablet/50 kg

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Trade name		Act 36/1947 Reg. No.	Registration holder or distributor	Active ingredient(s)	AI Concentration %	Class	Bird LD50 mg/kg	AI Bird risk colour code	AI Bird risk factor	Type of application						Ectoparasites	Animals	Dosage	
										PL	SP	PO	ST	OR	IN				
Maxi-Cyp 20%	Y	G3656	Cipla Agrimed	Cypermethrin	20	PY	2,000		1								Ticks, nuisance & biting flies, lice	Cattle, horses	1 ℓ/1,000 ℓ
Maxipour	Y	G3567	Cipla Agrimed	Flumethrin	1	PY	>2,500		1								Ticks, tsetse flies, feather mites,	Cattle, sheep, ostriches, game	1 ml/10 kg
MBD Cypertraz Pour-on	Y	G3472	Ceva AH SA	Amitraz Cypermethrin	17.5 15	AM PY	788 2,000		2								Ticks, house, stable & face flies, lice	Cattle	10 ml/100 kg
Milbitraz Spray Dip	Y	G2084	Bayer AH	Amitraz	12.5	AM	788		2								Ticks, mange mites, lice	Cattle	1 ℓ/500 ℓ
Milbitraz LS	Y	G2385	Bayer AH	Amitraz	23.75	AM	788		2								Ticks, mange mites, lice	Cattle	250 g/250 ℓ
Nokalt	Y	G3021	Ourofino AH	Amitraz	12.5	AM	788		2								Ticks, lice, mange mites	Cattle	1 ℓ/500 ℓ
Noromectin Injection	Y	G2734	Biotech Laboratories	Ivermectin	1	ML	2,000		1								Blue ticks, cattle & pig mange mites, sheep scab mites. Australian itch mites, lice	Cattle, sheep, pigs	Cattle 1 ml/50 kg Sheep 0.5 ml/25 kg Pigs 1 ml/33 kg
Noromectin Pour-On	Y	G2735	Biotech Laboratories	Ivermectin	0.5	ML	2,000		1								Blue ticks, mange mites	Cattle	1 ml/10 kg
Notix NF	N	G3537	MSD AH	Chlorfenvinphos	30	OP	16		10								Ticks	Cattle	1 ℓ/600 ℓ
Novallex	Y	G4007	Ceva AH	Ivermectin	1	ML	2,000		1								Sucking & biting lice, mange mites, sand tampan, screw-worms, blue ticks	Cattle, sheep	
PAB-NF	N	G0961	Bayer AH	Propetamphos	0.14	OP	197		7								Blowflies, blowfly maggots	Sheep	Apply onto crutch
Paracide	Y	G0791	Zoetis AH	Alphamethrin	7	PY	10,000		1								Ticks, Karoo paralysis ticks, various flies, lice, blackflies, midges, sand tampan	Cattle, sheep, goats	1 ℓ/1,000 ℓ
Paramax 1% Injectable Solution	Y	G3083	MSD AH	Ivermectin	1	ML	2,000		1								Sucking & biting lice, mange mites, sheep scab mites, Australian itch mites, sand tampan, screw-worms, blue ticks	Cattle, sheep, pigs	Cattle 1 ml/50 kg Sheep 0.5 ml/25 kg Pigs 1 ml/33 kg
Pouracide NF	Y	G0971	Zoetis AH	Alpha-cypermethrin Cypermethrin Tetrachlorvinphos Piperonyl butoxide	0.5 1 2 7.5	PY PY OP SY	2,025 2,000 1,500 2,250		1								Ticks, house & biting flies, biting & sucking lice, sand tampan	Cattle	1 ml/10 kg
Privexia	Y	G3915	Ceva AH	Moxidectin	1	ML	278		5								Blue ticks	Cattle	1 ml/50 kg
Pro-Dip Cyp 20%	Y	G2311	Virbac RSA	Cypermethrin	20	PY	2,000		1								Ticks, lice, Karoo paralysis ticks, screw-worms, blowflies, nuisance & biting flies	Cattle, sheep	1 ℓ/1,000 ℓ


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Trade name		Act 36/1947 Reg. No.	Registration holder or distributor	Active ingredient(s)	AI Concentration %	Class	Bird LD50 mg/kg	AI Bird risk colour code	AI Bird risk factor	Type of application						Ectoparasites	Animals	Dosage
										PL	SP	PO	ST	OR	IN			
Shoo-Fly Spray	Y	G2777	Kyron Laboratories	Permethrin Esbiothrin Piperonyl butoxide Aromatic oils	1 0.35 1.5	PY PY SY OT	>3,000 >5,000 2,250 LT		1							Biting & nuisance flies	Dogs, horses	Spray onto coat
Solution 3.5% LA	N	G3689	MSD AH	Ivermectin Abamectin	2.25 1.25	ML ML	2,000 84.6		8							Blue ticks	Cattle	1 ml/50 kg
Sovereign	Y	G3831	MSD AH	Ivermectin Triclabendazole	1.5 24	ML OT	2,000 LT		1							Blue ticks	Cattle	1 ml/10 kg
Startect	N	G3889	Zoetis AH	Derquantel Abamectin	1 0.1	OT ML	LT 84.6		8							Itch mites	Sheep	2 ml/10kg
Steladone 300EC	N	G1328	Bayer AH	Chlorfenvinphos	30%	OP	16		10							Ticks, lice, mange mites, blow flies, Karoo paralysis ticks	Cattle, sheep, goats	10 ml/6 ℓ
Stopatik	Y	G1431	Virbac RSA	Cypermethrin Piperonyl butoxide	2 8	PY SY	2,000 2,250		1							Ticks, house, stable & face flies, Karoo paralysis ticks	Cattle, sheep	1 ml/10 kg
Supaspray Plus	N	G3829	Cipla Agrimed	Dichlorvos Cypermethrin Sulfadiazine Piperonyl butoxide	0.16 0.037 0.011 0.021	OP PY OT SY	24 2,000 LT 2,250		10							Blowfly maggots	Sheep	Spray onto whole wound areas
Supatraz 125	Y	G3011	Cipla Agrimed	Amitraz	12.5	AM	788		2							Ticks, lice, mange mites	Cattle	2 ℓ/1,000 ℓ
Supatraz 25%	Y	G3581	Cipla Agrimed	Amitraz	25	AM	788		2							Ticks, itch & mange mites, lice, sheep scab mites, Australian itch mites	Cattle, sheep, goats	1 ℓ/1,000 ℓ
Supatraz Cattle Pour-on	Y	G3649	Cipla Agrimed	Amitraz	2	AM	788		2							Ticks	Cattle	1 ml/10 kg
Supona 30	N	G1284	Bayer AH	Chlorfenvinphos	30	OP	16		10							Ticks, Karoo paralysis ticks, lice, blowflies	Cattle, sheep, goats	1 ℓ/600 ℓ
Supona Aerosol	N	G0411	Bayer AH	Chlorfenvinphos Dichlorvos Gentian violet	0.48 0.74 0.145	OP OP OT	16 24 LT		10							Blowfly maggots, ticks	Cattle, horses, sheep, goats, dogs	Spot treatment
Taktic Cattle Spray	Y	G2535	MSD AH	Amitraz	12.5	AM	788		2							Ticks, lice, mange mites, sheep scab mites, itch mites, sheep lice, keds	Cattle, sheep, goats, ostriches	1 ℓ/1,000 ℓ
Taktic LS Cattle Dip	Y	G2536	MSD AH	Amitraz Calcium hydroxide	23.75 75	AM OT	788 LT		2							Ticks, lice, mange mites	Cattle	1 kg/1,000 ℓ
Taktic Pour-On	Y	G2927	MSD AH	Amitraz	2	AM	788		2							Ticks	Cattle, ostriches	1 ml/10 kg
Taktic Pig Pour-On	Y	G2574	MSD AH	Amitraz	1	AM	788		2							Mange mites, ticks	Pigs	5 ml/10 kg
Taktic TR	Y	G2537	MSD AH	Amitraz	23.75	AM	788		2							Ticks, cattle lice, sheep scab mites, itch mites, goat mange mites	Cattle, sheep, goats	1.43 kg/1,000 ℓ


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Trade name		Act 36/1947 Reg. No.	Registration holder or distributor	Active ingredient(s)	AI Concentration %	Class	Bird LD50 mg/kg	AI Bird risk colour code	AI Bird risk factor	Type of application						Ectoparasites	Animals	Dosage
										PL	SP	PO	ST	OR	IN			
Taktic WP Cattle Spray	Y	G2538	MSD AH	Amitraz	23.75	AM	788		2							Ticks, lice, mange mites	Cattle	100 g/100 ℓ
Tickenda	Y	G3725	Virbac	Flumethrin	1	PY	>2,500		1							Ticks, feather mites, red lice, tsetse flies	Cattle, sheep, ostriches, game	1 ml/10 kg
Tick Dressing 'S'	N	G0434	Bayer AH	Chlorfenvinphos	0.3	OP	16		10							Ticks	Cattle	Apply to infested areas
Tick Grease	Y	G1104	Bayer AH	Cypermethrin	0.025	PY	2,000		1							Ticks	Cattle	Apply to infested areas
Tick & Maggot Oil Plus	N	G1494	Bayer AH	Chlorfenvinphos Cypermethrin Pine oil	1 0.1 4	OP PY OT	16 2,000 LT		10							Ticks	Cattle, sheep, goats	Apply to infested areas
Tickotan	Y	G3849	Bayer AH	Cymiazole Cypermethrin	17.5 2.5	AM Py	1,212 2,000		1							Ticks, biting, face & nuisance flies, lice, screw-worms	Cattle	1.5 ℓ/1,000 ℓ
Tiguvon Spotton	N	G0145	Bayer AH	Fenthion	20	OP	7.2		10							Brown ear ticks, flies, screw-worm, cattle lice	Cattle, sheep, goats, horses	2.5 ml/100 kg
Tikgard	N	G1488	Zoetis AH	Chlorfenvinphos Alpha-cypermethrin	30 3	OP PY	16 2,025		10							Ticks, Karoo paralysis ticks, goat mange mites, sheep scab mites, itch mites, lice, keds, nuisance flies, screw-worm, midges	Cattle, sheep, goats	1 ℓ/1,000 ℓ
Triatix 125	Y	G3189	AfriVet BM	Amitraz	12.5	AM	788		2							Ticks, itch & mange mites, lice, sheep scab mites	Cattle, sheep, goats	1 ℓ/500 ℓ
Triatix 250	Y	G3190	AfriVet BM	Amitraz	25	AM	788		2							Ticks, itch & mange mites, lice, sheep scab mites	Cattle, sheep, goats	1 ℓ/1,000 ℓ
Triatix 500 LS Cattle Dip	Y	G3496	AfriVet BM	Amitraz	50	AM	788		2							Ticks, mange mites, lice	Cattle	500 g /1,000 ℓ
Triatix 500 TR Cattle, Sheep & Goat Dip	Y	G3256	AfriVet BM	Amitraz	50	AM	788		2							Ticks, itch & mange mites, lice, sheep scab mites	Cattle, sheep, goats	100 g /1,000 ℓ
Triatix Cattle Pour-on	Y	G3444	AfriVet BM	Amitraz	2	AM	788		2							Ticks	Cattle	1 ml/10 kg
Triatix 2 % Pig Pour-on	Y	G3381	AfriVet BM	Amitraz	2	AM	788		2							Mange mites, lice	Pigs	2.5 ml/10 kg
Triatix Plus Pour-on	Y	G3434	AfriVet BM	Amitraz Deltamethrin Piperonyl butoxide	1.5 0.5 3	AM PY SY	788 4,460 2,250		2							Ticks, stable, horn, cattle louse & nuisance flies, biting & sucking lice, mange mites, blackflies	Cattle, sheep, goats	Cattle 1 ml/10 kg Sheep, goats 1 ml/5 kg
Trifender Pour-On	Y	G3971	Bayer AH	Amitraz Cypermethrin Piperonyl butoxide	1 1 2	AM PY SY	788 2,000 2,250		2							Ticks	Cattle	1 ml/10 kg


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										PL	SP	PO	ST	OR	IN			
<b>Triton</b>	Y	G3565	Merial	Albendazole Levamisole Ivermectin	0.020 0.030 0.088	OT OT ML	LT LT 2,000		1							Australian itch mites	Sheep	1 ml/4 kg
<b>Triton Tape</b>	Y	G3566	Merial	Albendazole Levamisole Ivermectin Cobalt Selenium Praziquantel	0.020 0.030 0.088 0.176 0.04 0.015	OT OT ML OT OT OT	LT LT 2,000 LT LT LT		1							Australian itch mites	Sheep	1 ml/4 kg
<b>Vetrazin</b>	Y	G0525	Novartis AH	Cyromazine	50	IGR	2,000		1							Blowflies	Sheep	1 kg/500 ℓ
<b>Vetrazin Pour-on</b>	Y	G1397	Novartis AH	Cyromazine	10	IGR	2,000		1							Blowflies	Sheep	1 ml/kg
<b>Virbamax First Drench</b>	N	G3084	Virbac RSA	Abamectin Praziquantel	0.08 1.5	ML OT	84.6 LT		8							Australian itch mites	Sheep, lambs, goats, kids, calves	2.5 ml/10 kg
<b>Virbamax LV</b>	N	G2782	Virbac RSA	Abamectin	0.2	ML	84.6		8							Australian itch mites	Sheep, goats	1 ml/10 kg
<b>Virbamax Premix</b>	N	G3122	Virbac RSA	Abamectin	0.6	ML	84.6		8							Mange mites, pig lice	Pigs	1.67 g/10 kg
<b>Virbamec</b>	Y	G2588	Virbac RSA	Ivermectin	1	ML	2,000		1							Blue ticks, sucking & biting lice, sheep scab mites, Australian itch mites, mange mites, screw-worms,	Cattle, sheep, pigs	Cattle, sheep 1 ml/50 kg Pigs 1.5 ml/ 50 kg
<b>Virbamec L</b>	Y	G3269	Virbac RSA	Ivermectin Chlorsulon	1 10	ML OT	2,000 LT		1							Sucking & biting lice, flies, mange mites sheep scab mites, Australian itch mites, sandtampans, Blue ticks, screw-worms	Cattle, sheep, goats	1 ml/50 kg
<b>Virbamec LA</b>	Y	G2885	Virbac RSA	Ivermectin	1	ML	2,000		1							Sucking & biting lice, flies, mange mites sheep scab mites, Australian itch mites, sandtampans, Blue ticks, screw-worms	Cattle, sheep, pigs	Cattle, sheep 1 ml/50 kg Pigs 1 ml/33 kg
<b>Wipe-out</b>	Y	G3172	AfriVet BM	Deltamethrin	0.5	PY	4,460		1							Ticks, Karoo paralysis ticks, blowfly maggots, red lice, keds	Sheep, goats	2 - 4 ml/10 kg
<b>Wound Aerosol NF</b>	N	G0955	Bayer AH	Dichlorophen Propetamphos Pine oil	1 0.25 2.5	OT OP OT	1,000 197 LT		7							Nuisance flies, blowfly maggots	Cattle, sheep	Apply to infested areas
<b>Wound Oil NF</b>	N	G0956	Bayer AH	Dichlorophen Propetamphos Pine oil	1 0.25 3	OT OP OT	1,000 197 LT		7							Nuisance flies, blowfly maggots	Cattle, sheep	Apply to infested areas
<b>Wound-Sept Plus Aerosol</b>	Y	G1521	Virbac RSA	Cypermethrin Dichlorophen Chlorocresol Gentian violet	0.012 0.015 0.5 0.15	PY OT OT OT	2,000 1,000 LT LT		1							Blowfly	Cattle, sheep, goats, horses, pigs, dogs	Wound application

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										PL	SP	PO	ST	OR	IN				
Zapp 480SC	Y	G2335	Bayer AH	Triflumuron	48	IGR	561		3								Lice, blowfly	Sheep, goats	5 ml/10 ℓ
Zapp Pour-on for sheep and goats	Y	G2926	Bayer AH	Triflumuron	2.5	IGR	561		3								Lice, blowfly	Sheep, goats	10 ml/10 kg with special Zapplicator & nozzle
Zeramec	N	G3660	Virbac RSA	Ivermectin Zeranol	1 1	ML	2,000 EDR effects		10								Sucking & biting lice, mange mites, screw-worms, sand tymphans, blue ticks	Cattle	1 ml/50 kg
Zeropar	N	G1152	Bayer AH	Chlorfenvinphos Alpha-cypermethrin	30 3	OP PY	16 2,025		10								Ticks, Karoo paralysis ticks, goat mange mites, sheep scab mites, itch mites, lice, keds, nuisance flies, screw-worm, midges	Cattle, sheep, goats	1 ℓ/1,000 ℓ
Zeropar Aerosol	N	G0955	Bayer AH	Dichlorophen Propetamphos Pine oil	1 0.25 2.5	OT OP OT	1,000 197 LT		7								Ticks, nuisance flies, blowfly maggots, maggots	Cattle, sheep	Apply to infested areas and open wounds
Zipdip	N	G0381	MSD AH	Triazophos	40	OP	4.2		10								Ticks, Karoo paralysis ticks, lice, keds, sheep scab mites, blowflies, itch mites	Sheep, goats, angora goats, pigs	0.3 ℓ/1,000 ℓ

### IMPORTANT INFORMATION ABOUT THE ECTOPARASITICIDE RISK FACTOR FOR OXPECKERS

The risk that an ectoparasiticide poses to oxpeckers takes several factors into account. These include:

- a. The avian toxicity of the active ingredient. Avian toxicity constitutes the most important part of the risk to oxpeckers.
- b. The concentration of the active ingredient in the formulation.
- c. Solvents used in the formulation.
- d. The product application type (pour-on, plunge, spot treatment, injectable, etc.) Dermal application products are by nature more direct in their potential impacts oxpeckers than oral and injectable products.
- e. The quantity of the active ingredient dispensed on the animal.

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## IMPORTANT ADDITIONAL INFORMATION

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1. **Parasite management on horses, donkeys, mules, zebras and rhinos.** The uneven toed animals or Perissodactyls are highly sensitive to chemicals, more so than the even toed animals or Artiodactyls. Only products that are *particularly* registered for parasite control on these species should be used and nothing else as other products may kill them. Check with the registration holder of the particular product before using it on rhinos.
2. **Companion animals.** Do not treat dogs and cats with products that are not registered for them as it may cause serious poisoning symptoms or even kill the animals. Consult your local veterinarian for advice on endectocides and ectoparasiticides for pets.
3. **Parasite resistance.** It is very important for every farmer to check the efficacy of ectoparasiticides against ticks. Should resistance be suspected, the registration holder of the particular product must be informed. Contact details are available on the product label. Parasite resistance can be prevented by adhering to the following important principles:
  - a. Never manufacture your own ectoparasiticides from basic chemical components. It will not kill ectoparasites effectively and may even have serious adverse effects on animals.
  - b. Use only registered products according to their label instructions and for the animals which they are registered for.
  - c. Use the correct dosage on animals and refrain from spot treatments unless the product is particularly registered for spot application.
  - d. It may be useful to change to a different class of active ingredient in order to exterminate ectoparasites that start developing resistance against certain active ingredients.
  - e. Consult the registration holders of ectoparasiticides for good additional advice on managing ectoparasite resistance.
  - f. When buying animals from areas where ectoparasite resistance has been reported the new stock must be totally cleared of any ectoparasites in a controlled environment like a kraal or boma before animals are released into the grazing areas.

- 4. Managing the impact of products that are incompatible with oxpeckers.** Should it become a requirement to use products that are incompatible with oxpeckers due to parasite resistance the utmost care should be taken to eliminate the impact of such products on oxpeckers. The following mitigation measures should be implemented:
- Treat animals in the late afternoon after oxpeckers have departed to their roosting sites.
  - Treat only half of the herd and kraal the herd if possible for at least four days before letting them graze extensively again. Graze the other half of the untreated animals extensively for the period that treated animals are kraaled after which the herds can be swapped.
  - Keep cattle herdsman with the treated animals to deter oxpeckers from settling and feeding on cattle.
  - Offer oxpeckers a mixture of lean mince and fresh blood close to their favourite roosting sites for a period of two weeks while oxpecker incompatible dips are allowed to metabolise to non-toxic compounds.
- 5. Disposal of redundant dip mixtures.** Plunge dips need to be cleaned after a certain number of dip cycles. The remaining dip mixture is usually a concoction of active ingredients and their metabolites. The best practice to dispose of these dip mixtures is:
- Pump it into drums and have it disposed of by certified hazardous waste management service providers that are listed under the AVCASA Waste Management Programme lists on [www.avcasa.co.za](http://www.avcasa.co.za).
  - Dip mixtures can also be pumped into a plastic lined evaporation pond that is fenced off and cover with netting to keep any animals out. Once the liquid has evaporated the sludge must be collected in plastic drums and disposed of by certified hazardous waste management service providers as mentioned above.
  - Do not attempt to dispose of any redundant dip mixture or dip residues by pumping it into natural water bodies or onto the soil. The results will be disastrous for the environment.
- 6. Regional approaches to oxpeckers and ectoparasites.**
- Nama-Karoo biome. Oxpeckers are not found in the Karoo due to unsuitable treeless habitat over most of the biome. The same holds true for the succulent Karoo biome and Namaqualand although a few individuals have been recorded in the Swartberg region close to Prince Albert.

- b. Savannah biome and thicket. The Kalahari (dry part of the savannah biome) does have oxpeckers but not in the density found in the savannah regions. This is due to the healthier environment and much lower ectoparasite loads. It is not advisable to treat cattle often with parasites – rather allow the oxpeckers to maintain pressure on ectoparasites. Oxpeckers did occur traditionally in the savannah region but due to the use of oxpecker incompatible ectoparasiticides many regions are now without oxpeckers. If oxpeckers are expected to repopulate these areas it is of utmost importance to avoid the use of oxpecker incompatible ectoparasiticides.
  - i. Sweet savannah is expected to have good numbers of oxpeckers.
  - ii. Sour savannah is expected to have limited numbers of oxpeckers.
- c. Grassland biome. The habitat and climate of the grassveld biome are not ideally suitable for oxpeckers even though birds may be passing through on occasion. Other birds such as the pied starling partially fulfil the role of oxpeckers in the grassland biome and therefore oxpecker compatible ectoparasiticides should also be used here.
- d. Fynbos biome. Oxpeckers do not naturally occur in the fynbos biome even though a few sightings of individuals have been recorded.
- e. Forest biome. Oxpeckers may be found in the ecotone between forest and savannah and therefore oxpecker compatible ectoparasiticides should be used if required.