



ROTHMAN LIVESTOCK TRAINING SERVICES

www.RLTSafrica.com

Rothman Agriculture & Livestock Training Academy

Cattle Training Module (48 days) - 17 Sub-Modules: Description and Training Content

Cattle Module	Artificial Insemination Cattle	
Code: AIC	1 Introduction to Breeding & AI.	18 Equipment & Loading Maintenance of Equipment
Sub-Module	2 Advantages of AI.	19 Equipment & Loading Storage
C1	3 Disadvantages of AI.	20 Equipment & Loading Handling Flask
Duration	4 Anatomy.	21 Equipment & Loading Situation Variables
1 day	5 Physiology.	22 Equipment & Loading Routines
	6 Oestrus Observation.	23 Practical Training.
	7 Infertility.	24 Practical Training Working on Cow Organs
	8 Breeding Methods	25 Practical Training Handling the Pipette
	9 Heredity.	26 Practical Training Working on Cow Organs
	10 Tips to Improve Conception.	27 Practical Training Mechanical Processes
	11 AI Management.	28 Practical Training Relaxing the Rectum
	12 Equipment & Loading.	29 Practical Training Facilities
	13 Equipment & Loading Hygiene	30 Practical Training Picking Up Cervix
	14 Equipment & Loading Negative Factors	31 Practical Training Manipulating Cervix
	15 Synchronization	32 Practical Training Mock AI
	16 Synchronization Various Programs	33 Practical Training.
	17 Equipment & Loading Temperatures	

Cattle Module	Pregnancy Awareness Cattle	
Code: PAC	1 Introduction to Pregnancy Awareness	7 Anatomy
Sub-Module	2 Legal Parameters	8 Basic Palpation
C2	3 Various Methods Used	9 Palpation Indications
Duration	4 Visual Awareness	10 Guidelines and Measurements
1 day	5 Anatomy.	11 Period Assessments
	6 Differential Diagnosis	12 Practical Training.

Admission Pre-Requisite	Admission for training for the Pregnancy Awareness Cattle is only allowed if Trainees have already attended and completed the Artificial Insemination Cattle.
--------------------------------	--

Cattle Module	Pregnancy Awareness Cattle - Ultrasound	
Code: PACU	1 Introduction to Ultrasound Pregnancy Awareness	8 Anatomy Imagery
Sub-Module	2 Legal Parameters	9 Anatomy appearance and measurements
C3	3 Various Types of Ultrasound Equipment	10 Reproductive problems
Duration	4 Depth, Frequency and Gain	11 Period Evaluation
1 day	5 Differences between scanning and rectal palpation	12 Tips to help evaluation
	6 Ultrasonography Method	13 Cleaning Equipment
	7 Using the extension arm	14 Practical Training.

Admission Pre-Requisite	Admission for training for the Pregnancy Awareness Cattle - Ultrasound is only allowed if Trainees have already attended and completed the Pregnancy Awareness Cattle.
--------------------------------	---

Rothman Agriculture & Livestock Training Academy

Cattle Training Module (48 days) - 17 Sub-Modules: Description and Training Content

Rothman Livestock Training Services (Pty) Ltd /P.O. Box 10713, George, 6530, South Africa / 202-45 Hansmoeskraal, George, South Africa
Admin Cell: +27 64 506 0720 / Lily cell: +27 78 5467985 / Norman Cell: +27 82 547 7939 Email: admin@RLTSafrica.com / office@RLTSafrica.co.za

Registrar Registration Number RSA: Norman Rothman: 62/98/S-1619 / E. Isidoro-Rothman: 62/98/S-3943/ SAVC: H18/13011

Veterinary Council of Namibia Registration Number: Norman Rothman: 10/351 SC/RAI (L) Registrar Registration Number Namibia: Norman Rothman: 01/5/2011

Cattle Module	Calf Rearing Cattle	
Code: CAR	1 Introduction to Calf Rearing	21 Handling sick calves and source of infection
Sub-Module	2 Calving	22 Medication.
C4	3 Calving Problems & Abnormal Presentations	23 Parasite control.
Duration	4 Deficiency Delay	24 Calf Management Goals
1 - 2 days	5 Assisting the Cow during calving	25 Feeding Calves
	6 Calf Resuscitation	26 Development of the Bovine Stomach
	7 Prolapse Uterus	Compartments from birth to maturity
	8 Downer Cow causes and treatment	27 Milk Replacement for Calves
	9 Milk Fever, mechanism and management	28 Starter Rations
	10 Retained Placenta	29 Breeding Goals.
	11 Calf Management	30 Vaccinations for Cows before Calving.
	12 Poor Suckling Reflex	31 Diseases of Calves
	13 Using Stomach Tube	32 Inoculation.
	14 Dis-infect navel.	33 Calf Scours and dehydration
	15 First intake of Colostrum.	34 Weaning Calves
	16 Stimulate Oesophageal Groove reflex	35 Calf Handling facilities
	17 Don't Overfeed.	36 Calf Housing
	18 Control Water Intake.	37 Dehorning and Castration.
	19 Mixing Claves and age groups	38 Practical Training only for Long Calf Course in George &
	20 Bedding and Ventilation.	Academy Trainees.

Cattle Module	Stockman's Cattle / Animal Husbandry	
Code: STM	1 Introduction and Overview	18 Vaccinations
Sub-Module	2 Cattle handling facilities	19 Diseases of the udder
C5	3 Restraining Cattle	20 Treatment of Udder wounds
Duration	4 Casting Cattle	21 Intra-mammary
3 days	5 Dehorning and Castration.	22 Teat dipping and syphon
	6 Principles of good dipping	23 Intra-tracheal
	7 Stock management at dipping	24 Intra-vaginal and Intra-uterine
	8 Tank management for dipping cattle	25 Rectal and Intra-abdominal
	9 Tick Control	26 Trocar and use
	10 Mechanical spraying	27 Suckling period
	11 Determining age of cattle	28 Gestation
	12 Rectal temperature	29 Birth problems - Dystocia
	13 Pulse Rate and respiratory	30 Treatment after calving
	14 Administration of medication	31 Collecting blood
	15 Oral administration	32 DNA Sampling
	16 Subcutaneous injections	33 Practical Training.
	17 Intramuscular and Intravenous	

Cattle Module	Nutrition Cattle	
Code: NUT	1 Introduction and Overview	15 Feeding at Various ages
Sub-Module	2 PHOTOSYNTHESIS (ALL FLESH IS GRASS)	16 Creep feeding
C6	3 Humus theory	17 Feedlot feeding
Duration	4 The ideal milk cow	18 Fertility feeding
3 days	5 Dairy herd proportions	19 Functional feeding
	6 Some convincing aspects regarding feeding	20 Metabolic disorders
	7 Goals to achieve optimum reproduction	21 Optimum feeding

Rothman Agriculture & Livestock Training Academy

Cattle Training Module (48 days) - 17 Sub-Modules: Description and Training Content

8	Breeding Goals	22	Differences between milk and Colostrum
9	Calf Rearing goals	23	Dry matter intake
10	Uterine Involution	24	Balancing Rations
11	Identify your priority	25	Digestibility - Feeding Value - Plant Growth
12	The Cows ability to produce milk	26	Minerals and Vitamins
13	Feeding systems	27	Digestibility - Fibre - Fatty Acids
14	Feeding for Various markets	28	Full Feeding Tables for all major feeds supplied in Notes

Cattle Module	Registered Artificial Insemination Cattle			
Code: RAIC	1	Introduction to Breeding & AI.	19	Equipment & Loading Handling Flask
Sub-Module	2	Advantages of AI.	20	Equipment & Loading Situation Variables
C7	3	Disadvantages of AI.	21	Packing & Handling Frozen Semen
Duration	4	Anatomy Bull & Cow	22	Animal Improvement Act of South Africa
6 days	5	Physiology Bull & Cow	23	Regulation of Animal Improvement Act of South Africa
	6	Oestrus Observation.	24	Tables and Addendums of Animal Improvement Act
	7	Infertility.	25	Practical Training.
	8	Breeding Methods	26	Managing AI Programs Beed & Dairy
	9	Hereditability.	27	Record Keeping
	10	Tips to Improve Conception.	28	Technical Aspects of Field Work
	11	Synchronization	29	Technical Field Assessments
	12	Synchronization Legalities	30	Examination - Theory
	13	AI Management.	31	Examination - Livestock Improvement Act
	14	Equipment & Loading.	32	Examination - Practical
	15	Equipment & Loading Hygiene	33	Examination - Oral
	16	Equipment & Loading Negative Factors	34	Marks submitted to Registrar for Registration
	17	Equipment & Loading Maintenance of Equipment	35	1st Years Registration if pass mark is achieved
	18	Equipment & Loading Storage		
Admission Pre-Requisite	Admission for training for the Registered Artificial Insemination for Cattle is only allowed if Trainees have already successfully attended and completed the Standard Artificial Insemination Course for Cattle.			

Cattle Module	Semen Collection Cattle			
Code: SCC	1	Introduction and Overview	7	Consumables preparation and usage
Sub-Module	2	Anatomy - Male & Female	8	Diluting fresh semen for freezing
C8	3	Physiology.	9	Freezing fresh semen
Duration	4	Properties of fresh semen	10	Record keeping, packing & marking straws
4 days	5	Harmful factors for fresh semen	11	Basic Animal Improvement Act
	6	Equipment preparation & maintenance	12	Practical Training

Cattle Module	Registered Semen Collection Cattle			
Code: RSCC	1	Introduction and Overview	15	Managing Bulls for Collection
Sub-Module	2	Anatomy Bull & Cow	16	Freezing & Packaging of Semen
C9	3	Physiology Bull & Cow	17	Labelling of Frozen Semen
Duration	4	Infertility.	18	Record Keeping
6 days	5	Animal Improvement Act of South Africa	19	Technical Aspects of Field Work
	6	Regulation of Animal Improvement Act of South Africa	20	Technical Field Assessments
	7	Tables and Addendums of Animal Improvement Act	21	Documentation
	8	Practical Training.	22	Working with the Veterinarian's
	9	Microscope Practical	23	Examination - Theory
	10	Correct Cleaning & Equipment Preparation	24	Examination - Livestock Improvement Act
	11	Evaluating Fresh Semen	25	Examination - Practical

Rothman Agriculture & Livestock Training Academy

Cattle Training Module (48 days) - 17 Sub-Modules: Description and Training Content

12	Evaluating Frozen Semen	26	Examination - Oral
13	Sheath Wash - Various methods	27	Marks submitted to Registrar for Registration
14	Restraining Bulls	28	1st Years Registration if pass mark is achieved

Admission Pre- Requisite

Admission for training for the Registered Semen Collection for Cattle is only allowed if Trainees have already successfully attended and completed the Standard Artificial Insemination Course for Cattle, Registered Artificial Insemination Course for Cattle and the Standard Semen Collection Course for Cattle.

Rothman Agriculture & Livestock Training Academy

Cattle Training Module (48 days) - 17 Sub-Modules: Description and Training Content

Cattle Module	Embryo Transfer Cattle			
Code: EMB	1	Introduction and Overview	19	Synchronization Of Oestrus And Superovulation With Embryo Transfer
Sub-Module	2	Possibilities within Embryo Technology	20	Five Basic Options to Insure Sufficient Recipients
C10	3	Advantages of Embryo Transfer	21	Management of Donor & Recipient
Duration	4	Disadvantages of Embryo Transfer	22	Summary of events and procedures to be taken into account before the Implementing of a embryo transfer program
3 days	5	Introduction to Reproductive Biotechnology	23	Processing and procedures (On the first visit to the farm)
	6	Introduction to Stem Cells	24	The different Options one can consider to provide enough Recipients to receive embryos
	7	S Yamanaka Nobel Prize Winner Stem Cell Research	25	General Management of a Embryo Transfer program
	8	Introduction to Biotechnology and Bio-engineering	26	Nutritional & Animal Health program
	9	Introduction to CRISPR / Cas9 Genome editing	27	Embryo Loading Procedures
	10	Synopsis of Bovine Embryo Transfer Procedures	28	Sequence of Loading
	11	Structure of an Ovum Under the Microscope	29	Hygiene
	12	The effect of embryo quality on pregnancy	30	Administering Epidural Anaesthesia Prior to Transferring of Embryos
	13	Morphological Descriptions of embryos	31	Effect of Shade on Reproductive Performance
	14	The effect of embryo cell phase development on conception %	32	Preparation and Equipment for Donor and Recipient
	15	Grading of Embryos	33	Equipment Price Lists
	16	Anatomy of the Female Bovine	34	Additional list of requirements often used in embryo work
	17	Physiology of the Female Bovine	35	1st Years Registration if pass mark is achieved
	18	The One-Step transfer of Embryos Developed: 1991 – Louisiana State University (USA)		
Admission Pre-Requisite	Admission for training for the Embryo Transfer Course for Cattle is only allowed if Trainees have already successfully attended and completed the Standard Artificial Insemination Course for Cattle and the Registered Artificial Insemination Course for Cattle.			

Rothman Agriculture & Livestock Training Academy

Cattle Training Module (48 days) - 17 Sub-Modules: Description and Training Content

Cattle Module	Dairy Farming, Management & Production			
Code: DMA	1	Principles of Dairy Farming	41	Milk Extraction
Sub-Module	2	Understanding Nutritional Requirements - Dairy Cattle	42	Udder Reaction to Infection
C11	3	Influence of Calving weight on Milk production	43	Understanding Bacteria causing Mastitis
C12	4	Milk Cow & Ruminants Stomach	44	(Clinical Signs)
C13	5	Fatty Acids found in the Rumen	45	Testing of Mastitis
C14	6	The Reticulum & Omasum	46	The Control of Mastitis
Duration	7	The Abomasum	47	Managing Mastitis
5 days	8	Development of the Bovine Stomach Compartments	48	Controlling the Source of Infection
		from birth to maturity	49	Controlling the Vectors that Transmit Mastitis
	9	Milk / Urea / Nitrogen (MUN)	50	During these four stages Cows are exposed to infection
	10	High Moisture Roughages	51	Ensuring cows to calf immune system isn't compromised
	11	Dairy Machinery & Maintenance	52	Bacterial Invaders
	12	The History of the milk machine	53	Cow to Cow Contagious transmitted Mastitis
	13	Hand Vacuum pump system	54	General Milking routine's
	14	Single claw mobile Milking Machine	55	Preparation of the Udder
	15	Components of a Milking Machine	56	Testing for sub - clinical mastitis Photo
	16	Functioning Milking Machine	57	California Mastitis test (CMT) Photo
	17	Overview of a bucket milking system	58	Conductivity Testing for Subclinical Mastitis
	18	Components of a Milking Machine	59	Somatic Cell count (SCC)
	19	Working of the Pulsator	60	Cleaning of the clusters between cows
	20	Milking phase and rest phase	61	Teat Dipping and Formulations
	21	Milking Parlours	62	Dairy Cattle Diseases & Animal Health
	22	Pit - Elevated Herringbone Milking Parlour	63	Dairy - Breeding
	23	Pit system, Waikato Meters to record milk production	64	Dairy Cattle Functional Selection
	24	Different Milk Parlour Configurations	65	Dairy Hotel
	25	Parallel (Rapid Exit) two return lanes parlour	66	Animal Husbandry & Hygiene
	26	Parallel (side- by – side) Rapid Exit Parlour	67	Metabolic Disorders
	27	Robotic Milking Machine	68	Fatty Liver Syndrome
	28	Milk Hygiene	69	Vaccination programs for Cattle Chart
	29	Bacteria as host in the udder	70	The Downer Cow
	30	Bacteria Contaminating of Milk	71	Diseases & Parasites
	31	Functional cleaning of milk components	72	Poisoning
	32	Alkaline Cleaners	73	Prolapse of the Uterus
	33	Advantages & Disadvantages - different sanitizers	74	The Digestion of feeds
	34	Mastitis	75	Components supplying Energy or Carbohydrates
	35	Structure of one quarter of a Cow's Udder	76	Profitable Dairy Farming
	36	Milk Synthesis	77	Practical record systems of all aspects of dairy production
	37	Milk Production and Hormone Control	78	General Considerations
	38	Prolactin, Oestrogens and Progesterone	79	Herd Ratio
39	Bovine Somatotropin (BST)	80	AI Goals	
40	Managing to ensure Oxytocin release			

Rothman Agriculture & Livestock Training Academy

Cattle Training Module (48 days) - 17 Sub-Modules: Description and Training Content

Cattle Module	Beef Farming, Management & Production			
Code: BMA	1	Introduction and Overview	53	Urea, Minerals & Molasses Feeding The "Morea" Mix
Sub-Module	2	Red Meat Production	54	Phosphate Application
C15	3	Species Differences & Thermology Used	55	During Dry Periods per day per LS Unit
C16	4	Extract From SA Stud Book	56	Creep Feeding
C17	5	Beef Cattle Farming Management System	57	Benefits from Creep Feeding
Duration	6	Modern Breeding methods	58	Preparing and Finishing Cattle for market
5 days	7	Health & Hygiene	59	Effect of age of Oxen (Steers) on feed efficiency
	8	Fertility management	60	Newly received Feeders
	9	Develop a Standard of Excellence	61	Cross Breeding Systems
	10	Functional Selection	62	Two Breeds Single Cross or one way cross
	11	Selection to achieve maximin gains	63	Two Breeds Criss-Crossing Rational Crossing
	12	Highest Selection Factors	64	Two Breeds Criss -Crossing (Rational Crossing)
	13	Improved Technology & Management Aids	65	Two Breeds Criss-Crossing Rational Crossing
	14	Breed and Feed for	66	Three Breeds Criss - Crossing
	15	Herd Evaluation Profile	67	Four Breeds Double Cross
	16	Condition Scoring	68	Appendix Upgrading
	17	Advantages of condition scoring	69	Two Breeds Criss Crossing Rational Crossing
	18	Body condition Influences	70	Facts to be considered when cross breeding
	19	Physiology of Condition Score	71	Crossbreeding
	20	Body Condition and Fertility	72	Inbreeding Intensity
	21	Endocrine Regulators of Reproduction	73	Inbreeding or Outbreeding?
	22	Functional Infertility and Endocrine Disruptors	74	The Influence of Inbreeding on Milk Production
	23	Causes of Functional Infertility	75	Record Keeping
	24	Sub-maintenance Feeding & Draught Stress	76	<u>Abattoir - Meat Inspection Diseases</u>
	25	Economical selection and culling	77	Generalised vs Localised
	26	Heat spotting and Acceptable results	78	Inflammation
	27	Stress Inhibiting cows	79	Abscess/Abscessation
	28	Bull and Breed Selection	80	Arthritis
	29	Only Use Functional efficient bulls	81	Bruising
	30	Poor Genetics	82	Diseases affecting Meat Quality
	31	Make use of Seasonal Stimulation	83	Incomplete Bleeding
	32	Inhibiting Reproduction	84	Injection Marks
	33	Limited suckling improves conception	85	Poisoning
	34	Successful Beef Production	86	Meat Hygiene
	35	Optimum Management Input	87	Requirements Abattoir layout
	36	Vaccination Program For Cattle	88	Grades of Abattoir
	37	Calf Hocking system	89	Rural Abattoir
	38	AI Management	90	Abattoir Production Flow
	39	Classification of Minerals by Analysis	91	Cleans & Dirty Products
	40	Mineral Deficiency	92	Location Requirements
	41	Functions of Minerals & Supplementing	93	Extra Requirements
	42	Common Sources causing excessive mineral intake	94	Workers Requirements
	43	Vitamin Requirement	95	Building Requirements
	44	Feedlot & Finishing Cattle	96	Building Design Requirements
	45	Protein Requirements in Rations of Feedlot Cattle	97	Sterilizers
	46	Examples of Licks	98	Water Supplied
	47	Silage used in Feedlots	99	Off Loading Facilities
	48	Essential factors for optimum use of urea	100	Pens
	49	Protein Equivalent	101	Meat Classification
	50	Guidelines for the use of Urea for Cattle	102	Despatch and Out Loading
	51	Essential factors for optimum use of urea		
	52	Methods of Feeding Urea		