SUSTAINABLE RANCH MANAGEMENT

– JOHANN ZIETSMAN

BACKGROUND

Conventional cattle breeding and management epitomize man's ignorance and arrogance in regard to nature and natural systems. Everyone is to blame – from the cowboy to the professors. The most culpable are the top professors and so-called animal scientists. At the root of the problem is a defective education system where students are encouraged to ***learn more and more about less and less until they know everything about nothing***. They cannot see the greater picture and concentrate their efforts on meaningless detail. Einstein alluded to this when he said that the problem with modern society is "*perfection of means and confusion of goals".*

I have both an academic background (B Sc. Anim. Sci. Cum laude) and practical ranching experience (raised on a ranch; owned and operated a ranch from 1975 until 2002 when land was expropriated). This has given me a much broader perspective (problems and opportunities) than the average rancher or academic. In addition to this I have been influenced by the ideas of Jan Bonsma, Tom Lasater and Allan Savory at a personal level. The result is that I have been able to test (with the freedom to make mistakes) and implement breeding and management practices in line with the laws of nature. In the process I have come to understand that the vast majority of conventional recommendations are wrong (ecologically and economically unsustainable). I have also come to understand that the sustainable option is cheaper and much more rewarding (generally a doubling to quadrupling of productivity). The most difficult part is to make an about-turn in thinking.

Having pioneered Ultrahigh Density Grazing (UHDG) on a ranch scale on 12th January 1995 and having bred cattle (Veldmaster – Beefmaster/African Breed Composite) that can maintain maximum fertility (2 year calving; 80 – 90% reconception rate; 42 day breeding season) under conditions of high stocking rates (treble conventional) and non-selective grazing I have the confidence to help other ranchers do the same. To this end I run courses and do on-site consultation.

COURSES

In all the work I am involved in I do not separate cattle breeding and grazing management. Everything is interrelated. It is a relatively easy matter to increase stocking rate and improve the veld (range), but the individual performance of cattle (conventionally bred) will decline. This decline can be mitigated in the short term by managing for increased intake and better body condition and in the longer term by breeding for a higher relative intake.

For the sake of those who prefer to separate ranch management into categories I will oblige by presenting separate courses:

COURSE 1: CATTLE BREEDING and MANAGEMENT

OBJECTIVE: To achieve ***maximum sustainable profit/ha*** by enabling participants to:

1. Review and understand where the conventional thinking in terms of cattle breeding and management is leading to.
2. Appreciate the importance of stocking rate.
3. Realise that grass conversion efficiency is more important than absolute growth.
4. Realise that body condition is the alpha and omega of cattle breeding and management.
5. Breed and manage for optimum body condition / grass conversion efficiency.
6. Understand that treating symptoms as opposed to causes is expensive, addictive and unsustainable.
7. Understand that growth is extremely important, but that it must be measured differently.
8. Understand that fertility is highly heritable.
9. Select for practical fertility.
10. Plan a breeding season in order to maximize herd fertility.
11. Effectively inseminate suckling cows in a very short period.

DURATION: 2 Days including a field trip

COURSE MATERIAL: Written Notes

COST (Lectures and course material): US$ 750-00. Couples US$ 1000-00

SUBJECT MATTER:

1. **INTRODUCTION / BACKGROUND / PUTTING THE RECORD STRAIGHT**
    - PRE MODERN MAN
    - CORALLING AND DRAUGHT. ***Survival of the fittest.***
    - PEDIGREES, PUREBREDS AND SHOWS. ***Survival of the prettiest.***
    - FUNCTIONAL EFFICIENCY (Jan Bonsma)
    - FAT IS BAD

- FRAME SCORES
- "Man must measure" – Jan Bonsma
- PERFORMANCE RECORDING / TESTING. ***Cattle are bred to be lean and "efficient" and fed to be "productive". The effect of EPDs in the current situation is the same as increasing the speed of a car on the wrong road.***
- "The Lasater Beefmaster herd is the most functionally efficient herd in the world" – Jan Bonsma
- "A cow can stand on three legs, have a pair of wings and be purple as long as she produces a good calf every year" – Tom Lasater

2. **CATTLE HAVE A DUAL ROLE**
3. **NATURE ONLY FUNCTIONS IN THE CONTEXT OF A WHOLE**
4. **GOAL:**
    - MAXIMUM PRODUCTION / ANIMAL?
    - MAXIMUM SUSTAINABLE PROFIT / HECTARE?
5. **THE MOST IMPORTANT FACTORS DETERMINING RANCH PROFITABILITY**
    - STOCKING RATE
    - FERTILTY
6. **THE MOST EFFICIENT GRASS CONVERTOR**
    - FASTEST INDIVIDUAL GROWTH
    - SMALLER IS BETTER AT EQUAL GROWTH
    - GROWTH NEEDS TO BE IN PROPORTION TO SIZE
    - INTAKE IS NOT IN PROPORTION TO SIZE
    - MUCH MORE ENERGY STORED IN FAT MEAT THAN IN LEAN MEAT
    - THE SMALLER AND HEAVIER THE BETTER
7. **SMALL FRAME ANIMALS HAVE AN UNFAIR ADVANTAGE / LARGE FRAME ANIMALS ARE GENETICALLY HANDICAPPED**
8. **THE BEST CATTLE ARE BEING CULLED / SLAUGHTERED**

9. **THE BULLS BEING USED DO NOT DO JUSTICE TO THE BEST COWS**

10. **BODY CONDITION IS THE ALPHA AND OMEGA OF CATTLE BREEDING AND MANAGEMENT**

    - FRAME SIZE, DAILY WEIGHT GAIN, TIME CONSTANT WEIGHT AND FEED CONVERSION EFFICIENCY (kg feed / kg gain) ARE NEGATIVELY CORRELATED TO BODY CONDITION
    - BODY CONDITION IS DETERMINED BY RELATIVE INTAKE – Breeding and managing for a high relative intake.
    - BODY CONDITION IS A REFLECTION OF GRASS CONVERSION EFFICIENCY
    - FAT IS AN ENERGY RESERVE
    - BODY CONDITION IS THE MOST IMPORTANT DETERMINANT OF PRACTICAL FERTILITY

11. **THE MODIFYING INFLUENCE OF HORMONES**

12. **ADAPTATION**

    - NUTRITION
    - CLIMATE
    - PARASITES / DISEASES

13. **GENOTYPE X ENVIRONMENT + HORMONES = PHENOTYPE**

14. **PRACTICAL FERTILITY IS DETERMINED BY HORMONAL BALANCE AND BODY CONDITION**

15. **FERTILITY IS HIGHLY HERITABLE** ***if genetically discerning selection criteria are used***

16. **A 42 DAY BREEDING SEASON CAN BE THE NORM**

    The advantages of a 42 day breeding season:

    - Effective AI – 80-90% of lactating cows bred in the first 11 days of the breeding season
    - Effective supplementation
    - High conception rate

- High 14/15 month weights – high yearling conception
- Effective selection

17. WHAT CONSTITUTES A GOOD BEEF ANIMAL?

- EFFICIENT GRASS CONVERSION / INHERENTLY GOOD BODY CONDITION / HIGH RELATIVE INTAKE
- DESIRABLE HORMONAL BALANCE
- EARLY MATURING
- OPTIMUM MILK
- HIGH MEAT : BONE RATIO
- EASY-CARE

18. NATURE IS BOTH COMPLEX AND SIMPLE

19. READING NATURE CORRECTLY The necessity of using genetically discerning selection criteria

20. SELECTION CRITERIA

- COW FERTILITY

  Age at 1st calving

  Corrected ICP/PPAP

  Fertility Index

  Fertility Ranking

- BULL FERTILITY

  Dam's Fertility Ranking

  12 Month Maturity Ranking

  12 Month Scrotal Circumference / 100kg Mature Size

  Yearling Breeding Ability

- GRASS CONVERSION EFFICIENCY / INHERENT BODY CONDITION

  12 Month Maturity Ranking

- OPTIMUM MILK / COW EFFICIENCY

  6 Month Maturity Ranking

- MEAT : BONE RATIO

- EASY-CARE

  Calving Ease

  Mothering Ability

  Parasite/Disease Resistance

  Functional Conformation

  Handling Ease

  Herd Instinct

  Natural Poll

21. THERE IS NO UNIVERSALLY ADAPTED GENOTYPE

22. BREEDS OF THE WORLD

22.1 AFRICAN ZEBU ANGONI, BORAN, AFRIKANER

22.2 AFRICAN SANGA MASHONA, TULI, NGUNI

22.3 ASIAN ZEBU BRAHMAN, GIR, NELORE, SINDI, GUZERAT

22.4 TROPICALLY ADAPTED Bos Taurus SENEPOL, N'DAMA, CARACU, ROMOSINUANO, ADAPTAUR

22.5 CONVENTIONAL COMPOSITES BEEFMASTER, BONSMARA, BRANGUS, BRAFORD, SIMBRA, SANTA GERTRUDIS, DROUGHTMASTER

22.6 BRITISH ANGUS, HEREFORD, SUSSEX

22.7 DUAL PURPOSE SIMMENTAL, BRAUNVIEH, GELBVIEH, PINZGAUER, SOUTH DEVON

22.8 MEDIUM FRAME CONTINENTAL TARENTAISE, AUBRAC

22.9 LARGE FRAME CONTINENTAL CHAROLAIS, LIMOUSIN, CHIANINA, MARHIGIANA, ROMAGNOLA, PIEDMONTESE, BELGIAN BLUE

23. BREEDING SYSTEMS

23.1 CONVENTIONAL PUREBREEDING

23.2 ROTATIONAL CROSSBREEDING

23.3 TERMINAL CROSSING

23.4 CROSSBREEDING OF CROSSBREDS

23.5 PUREBREEDING OF CROSSBREDS

24. MATCHING GENOTYPE TO ENVIRONMENT

25. ACCELERATING NATURAL SELECTION

- DISCERNIBLE GENETIC VARIATION
- MINIMUM TRAITS
- APPROPRIATE CRITERIA
- ACCURATE MEASUREMNT
- HIGH SELECTION DIFFERENTIAL
- SMALL GENERATION INTERVAL
- MUTATIONS

26. THE WAY FORWARD

COURSE 2: GRAZING MANAGEMENT

OBJECTIVE: To achieve ***maximum sustainable profit/ha*** by enabling participants to:

1. Understand the statement made by South African botanist John Acocks when, in 1956, he said: “South Africa is overgrazed and understocked”.
2. Appreciate the difference between being a hunter-gatherer and being a manager.
3. Realise that one can’t manage without total control of each animal in terms of time and stock density.
4. Appreciate the importance of managing and breeding for good body condition.

5. Understand the importance of time in respect of trampling, grazing, browsing and nutrition.
6. Appreciate the fact that a few grains of sugar do not sweeten a cup of coffee.
7. Appreciate the fact that 1kg of fertilizer applied to 1ha for 365 days is not equivalent to 365kg applied to 1ha once a year on a particular day.
8. Plan recovery periods in terms of quality and quantity (drought reserve) relative to environment.
9. Realise that management must be proactive as well as reactive.

DURATION: 2 days including a field trip

COURSE MATERIAL: Written Notes

COST (Lectures and Course Material)**:** US$ 750-00 / person. Couples US$ 1000-00

SUBJECT MATTER:

1. **INTRODUCTION / BACKGROUND / PUTTING THE RECORD STRAIGHT**
    - PRE MODERN MAN
    - CONTINUOUS GRAZING
    - NON –SELECTIVE GRAZING (NSG). "South Africa is overgrazed and understocked" – John Acocks
    - SHORT DURATION GRAZING (SDG). "All grazing systems fail" – Allan Savory
    - HOLISTIC RESOURCE MANAGEMENT / HOLISTIC MANAGEMENT (HRM / HM)
    - ULTRA HIGH DENSITY GRAZING (UHDG)
2. **NATURE ONLY FUNCTIONS AS A WHOLE**
3. **THE GRASS-GRAZER-PREDATOR RELATIONSHIP**
4. **GOAL**
    - MAXIMUM PRODUCTION/ANIMAL?
    - MAXIMUM SUSTAINABLE PROFIT/HECTARE?
5. **THE MOST IMPORTANT FACTORS DETERMINING RANCH PROFITABILITY**
    - STOCKING RATE

- FERTILITY

6. **THE ALPHA AND OMEGA OF CATTLE BREEDING AND MANAGEMENT IS BODY CONDITION**
7. **THE PROBLEMS ENCOUNTERED WITH LOW DENSITY GRAZING**
8. **MANAGEMENT REQUIRES TOTAL ANIMAL CONTROL**
    - HERDING
    - PORTABLE ELECTRIC FENCES
    - SEMI-PERMANENT ELECRTIC FENCES
9. **THE NATURAL (ECOSYSTEM) PROCESSES**
    - **9.1** RAINFALL EFFECTIVITY
    - **9.2** SOIL AERATION
    - **9.3** CYCLING OF NUTRIENTS
    - **9.4** SOLAR ENERGY CAPTURE
    - **9.5** MACRO-SUCCESSION
    - **9.6** MICRO-SUCCESSION
10. **ENHANCING THE NATURAL PROCESSES**
    - **10.1** REDUCE ANIMAL NUMBERS OR REMOVE ANIMALS (unsustainable)
    - **10.2** BURN (unsustainable)
    - **10.3** TECHNOLOGICAL INTERVENTION – Mechanical and Chemical (unsustainable)
    - **10.4** ANIMAL IMPACT
    - **10.5** NON-SELECTIVE GRAZING
    - **10.6** NATURAL SELECTION
11. **PERENNIAL vs. SEASONAL RAINFALL ENVIRONMENTS**
12. **TIME IN RELATION TO GRAZING**
13. **TIME IN RELATION TO IMPACT**

14. **TIME IN RELATION TO BROWSING**
15. **TIME IN RELATION TO NUTRITION**
16. **MANAGING TIME AND IMPACT IN DIFFERENT ENVIRONMENTS**
17. **HERD MANAGEMENT**
18. **PREFERENTIAL GRAZING**
19. **RECORDING**
20. **DROUGHT PLANNING**
21. **MONITORING**
22. **THE WAY FORWARD**

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