

Managing Production Risk on Hawaiian Ranches

Ag Survivor

A RightRisk Workshop

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Mark S. Thorne, Ph.D.

University of Hawaii at Manoa - Cooperative Extension Service

College of Tropical Agriculture and Human Resources



College of Tropical Agriculture and Human Resources
University of Hawai'i at Mānoa

Presentation Outline:

- Introduction to Production Risk

- Definition
- Sources

- Managing Production Risk

- Pest Management Programs
- Biosecurity Plan
- Drought Management Plan
- Grazing Management Plan

- Summary



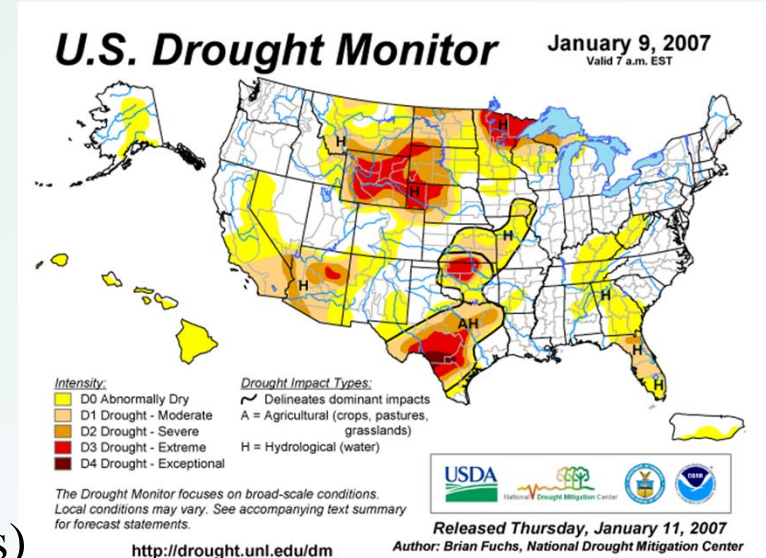
Production Risk: Definition, Sources, and Mitigation

Production Risk is the probability of an event occurring that negatively affects the productivity of your operation.

Sources of Production Risk Include:

- **Weather-**
 - too little rain,
 - too much rain,
 - too cold,
 - too hot,
 - too humid,
 - too windy)
- Forage production (drought/floods)
- Animal performance

• You can not control the weather, but we can mitigate its effect and minimize its impact on your operation.



Production Risk: Definition, Sources, and Mitigation

Sources of Production Risk Include:

- Pests

- Livestock (flies, ticks, worms, grubs, worms, etc.)
 - Forages (army worm, scale, root rot, aphids)
- You can not eliminate pest problems, but you can mitigate their effects and minimize their impact on the operation.



Production Risk: Definition, Sources, and Mitigation

Sources of Production Risk Include:

- **Disease**

- Livestock – Johne's, Foot and Mouth, BVD, Brucellosis, Tuberculosis, anaplasmosis, scrapie
- You can not eliminate the threat of animal disease, but we can mitigate their effects and minimize the probability that they will impact your operation.



Production Risk: Definition, Sources, and Mitigation

Set Stock vs Rotational Grazing



Sources of Production Risk Include:

- Management Decisions
 - Rotational grazing vs. set stock
 - AI vs traditional breeding
 - Investment in genetics, equipment, and/or technology
- Poor decisions can result in
 - Loss of soil fertility
 - Soil erosion
 - Loss of pasture productivity
 - Increase in invasive weeds
 - Poor animal performance (low conception/calving rates, low daily rates of gain, chronic health problems)
- Good decisions lead to improving pasture condition, good herd health and animal performance.



Managing Production Risk: Mitigation of what you can not control and management of what you can control.

- What you can not control, stop or eliminate you must live with.
- Drought happens, pest exist, and disease will always be a threat to your operation.
- Every operation needs to have management plans in place to mitigate and minimize the effects of these production risk factors.
 - Pest Management Programs
 - Biosecurity Plan
 - Drought Management Plan



Managing Production Risk: Mitigation of what you can not control and management of what you can control.

Pest Management Programs (Livestock):

- Developed in coordination with your veterinarian
- Focused on regular treatments for internal and external parasites, flies, and other insect pests.
- Treat animals and animal handling facilities
 - Livestock treatments (pesticides)
 - Wide variety of chemical formulations (Avermectins, Pyrethroids, Organophosphates)
 - Wide variety of application methods (Pour-on, Injection, sprays, Bolus, Ear tag, Feed additives)
 - Handling Facility Treatments
 - Chemical and biological agents
 - Surface-residual sprays, manure sprays, feed additives, traps



Managing Production Risk: Mitigation of what you can not control and management of what you can control.

Pest Management Programs (forages):

- Increase the diversity of forages in pasture
 - Some pests are host specific
 - Decreases the chance of losing entire pasture
- Inter-seed pastures with pest resistant varieties if possible
 - Yellow sugarcane aphid resistant kikuyu grass
- Selectively use pesticides to control outbreaks
 - Expensive, should be used sparingly and only in high priority areas
- Temporarily increase grazing pressure during outbreaks
 - Reduces the amount of habitat available for pests to complete life cycles
 - New grass growth is more vigorous and better able to resist pest damage



Managing Production Risk: Mitigation of what you can not control and management of what you can control.

Biosecurity Plan:

- The goal of a biosecurity plan is to reduce the risk of disease transmission
- There are three principles to be addressed in a biosecurity plan
 1. Increase the animal's ability to resist disease
 2. Minimize the number of contacts that might result in disease
 3. Eliminate sources of infectious agents



Managing Production Risk: Mitigation of what you can not control and management of what you can control.

Biosecurity Plan:

Increasing the animal's ability to resist disease

- Vaccinations are designed to increase an animals resistance to specific diseases
- Vaccinations do not manage all important disease risk factors
- Vaccination programs as part of a strategic health plan, supplement other disease control procedures but do not replace them.



Managing Production Risk: Mitigation of what you can not control and management of what you can control.

Biosecurity Plan:

- Minimizing the number of contacts that result in disease
 - Effective contact
 - Length of contact time/number of disease agents transferred
 - Reduce by physical separation
 - Quarantine
 - Segregation by age or class of animal
 - Dilution of animals over large geographical areas
 - Reducing the number of pathogens transmitted (dose load)
 - preventive medications
 - good hygiene



Managing Production Risk: Mitigation of what you can not control and management of what you can control.

Biosecurity Plan:

- Eliminating sources of infectious agents
 - Reservoirs of infection – animals or objects that the agent depends on for survival
 - Livestock, birds, insects, rodents, people, manure, soil, surface water, water tanks, and feed.
 - Treatment is dependent on where location of these reservoirs and the agent involved
 - Working closely with a veterinarian will help determine the best methods to reduce or eliminate reservoirs of infection on your operation



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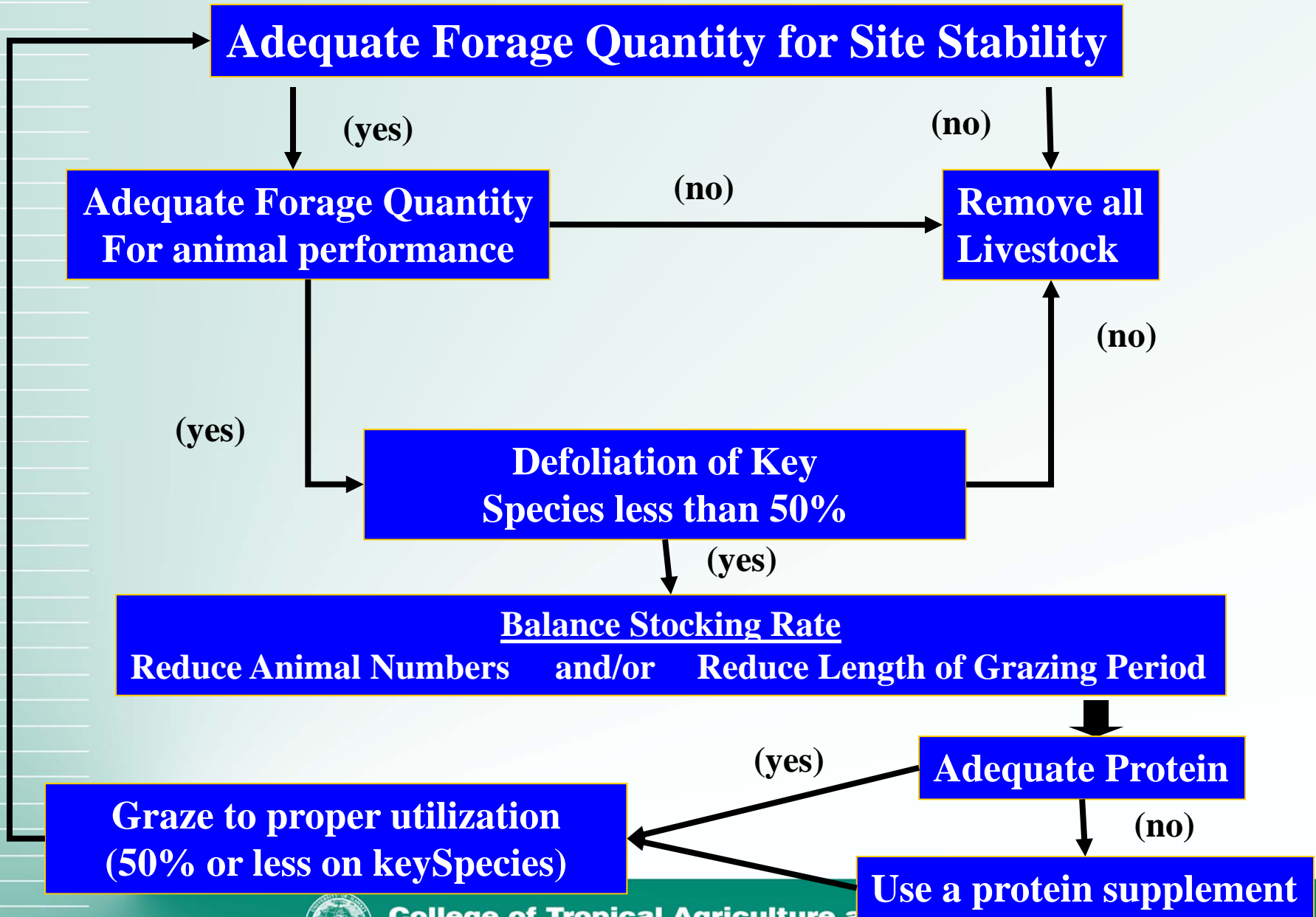
Drought Management Plan:

All Droughts

- interfere with normal operation of ranch
- threaten the economic, social, and ecological sustainability of the ranch
- How you manage your ranch resources before drought, during drought, and as drought dissipates will determine the long-term sustainability of your ranching operation.
- Writing a drought management plan will help you
 - Mitigate and recover from the current drought
 - Prepare for the next drought



Decision Rules For Drought Stricken Rangeland



Managing Production Risk:

Drought Management Plan:

- Drought plans identify actions to be taken at the first sign of drought as well as with continued indications of pending forage shortages.
- Plans for stocking rate adjustments need to be specific in terms of method and date.
- The timing of actions should be based on seasonal check points.
 - Critical evaluation dates at which livestock requirements must be balanced with available forage
 - Breeding
 - Calving
 - First three – four months post calving



Managing Production Risk:

Drought Management Plan:

- When a production year has been completed under short- or long-term drought, identify and address the weakest components of the management plan that have the greatest effect on production costs
- Modify plans for adjusting livestock numbers or forage resources for the next year and for the next drought



Managing Production Risk:

Drought Management Plan:

A plan of action should be developed for best and worst case scenarios

- If drought breaks early the following year a gradual restocking plan may be appropriate
- Premature, aggressive restocking can cause serious economic loss because of long-term reductions in the rate of vegetation recovery
- If vegetation recovery is slow or restricted by continued drought, a destocking plan will be needed
- Stocking rates in the year that drought breaks should not be increased above levels in the last year of drought
- If animal performance or remaining herbage were unacceptable during the preceding drought year, stocking rates need to be reduced by 10-30% in the following year



Managing Production Risk: Drought Management Plan:

- Important consideration for drought plans:
 - Resist the temptation to restock to former levels in the year following drought
 - use next year's forage production for restoring protective plant litter and improving plant vigor
 - Plan to delay the initiation of grazing by 1 to 2 weeks to enhance plant recovery following green-up that results from a rain
 - this delay may result in a 10 to 20% increase in forage production
- Use rangeland resources efficiently
 - Evaluate distribution of livestock grazing in all pastures
 - increase use of lightly grazed areas and reduce use in over grazed areas
 - change time or season of use
 - strategic short-term placement of salt or mineral



Managing Production Risk: Drought Management Plan:

- Important consideration for drought plans:
 - Determine the availability of alternative or reserve forages
 - could be used to reduce grazing pressure on rangelands
 - Reserve 10-20% of your forage resources in case vegetation recovery falls short of expectations.
- Calculate stocking rates for each pasture
 - Use animal units (AU) that are representative measures of animal weight and/or forage requirements
 - Keep and use accurate grazing records for each pasture
- Make and implement decisions early to avoid crises
 - delays often lead to intensification of the problem, economic loss, and long-term damage to the forage resource



Managing Production Risk: Mitigation of what you can not control and management of what you can control.

Grazing Management Planning

The objective of a grazing management plan is to sustain both the ecological and economic productivity of the livestock operation.

To achieve a balance between an ecologically and economically sustainable operation the grazing animal needs too be viewed as both a

Tool
and
Product

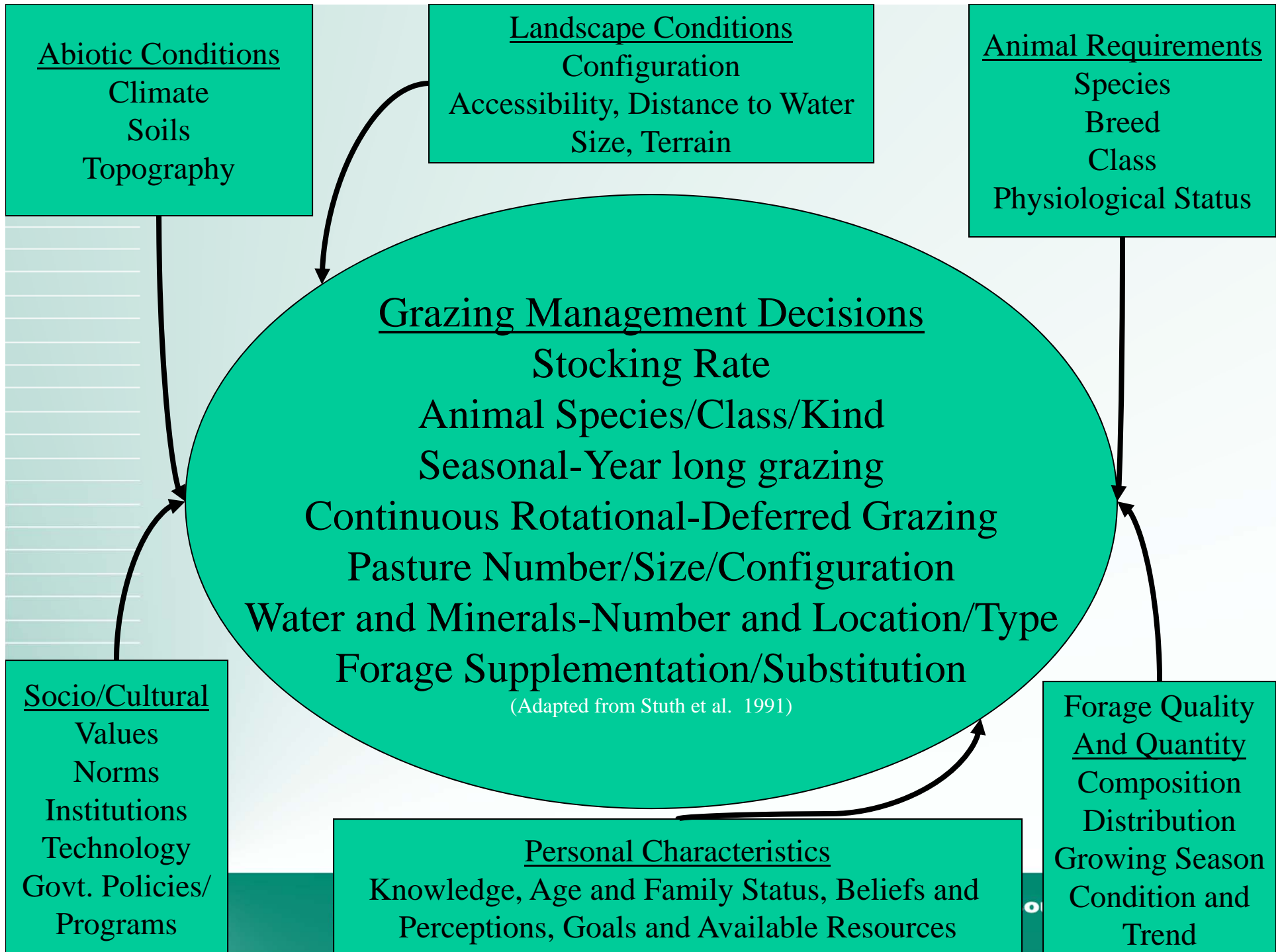
COW POKES

By Ace Reid



"How many head are you plannin' on overstockin' with this summer?"





Managing Production Risk: Summary

Risk factors that affect production livestock operations include events that we do not have little or no control over; weather, disease, pests; or are things in which we bring about on ourselves.

Successfully managing production risk requires planning.

“While you can not plan the weather, you can plan how you will respond to it and that can make all the difference”.

Likewise you can not predict all of the events that can negatively impact your operation, but you can develop plans that will minimize their impacts and that could make all the difference.



Thank you



The End!

