



NUTBAL

Updated 2014

Nutritional Balance Analyzer

Purpose

NUTBAL's primary purpose is to provide livestock producers, consultants, wildlife managers, researchers, and other free-grazing managers the means to monitor the nutrient concentration in the animal's diet and determine if the current diet is sufficient to meet performance goals set by the producer. Animals receiving good nutrition are better able to resist and overcome disease and other health issues.

Nutritional Balance Report

NUTBAL tool uses animal description (the kind, class, and breed), body condition, forage conditions, supplemental feed information, environmental conditions, performance targets to produce a nutritional balance report that includes:

- plan of nutrition to better manage animal health and performance,
- weight gain or loss,
- the nutrient(s) most limiting,
- least cost feeding solution(s), and
- amount of feed and forage consumed.



Capabilities

NUTBAL is used in conjunction with APEX to generate forage growth and FARMSIM to estimate animal production prices. It calculates what animals will consume *ad libitum* under grazing conditions. NUTBAL estimates the percent of crude protein and net energy for maintenance/gain balance of cattle, crude protein and net energy for maintenance/gain balance of sheep and goats, and the crude protein and digestible energy balance of horses.

NUTBAL Applications

- *Drought Management* – This diagnostic tool provides the nutritional status of the livestock in order to make more informed decisions for better management of droughts, feeds, reproduction, grazing, health and performance.
- *Reproductive Management* - Monitoring herd nutrition allows for better management for appropriate body condition helping to improve conception rates, milk production, breeding stock, and herd productivity.
- *Economical Feed Management* - NUTBAL helps identify when, what, and how much to feed to maximize the cost effectiveness of winter feeding programs, drought supplementation, and production goals.
- *Grazing Management* -Track a pasture's forage quality to fine tune rotational grazing programs and identify deficiencies in current systems.

Projects Utilizing NUTBAL

NUTBAL is an important tool for several Center for Natural Resource Information Technology (CNRIT) projects that include Afghanistan PEACE (Pastoral Engagement, Adaptation, and Capacity Enhancement), East Africa LEWS (Livestock Early Warning System), FRAMS (Forage Risk Assessment Management System), Mali Livestock and Pastoralist Initiative, and Mongolia LEWS. The USDA-Natural Resources Conservation Service (NRCS) has promoted the technology for their Conservation Stewardship Program. As a result, more than 1,500 producers are using the NUTBAL program for their livestock management. While US based projects tend to focus towards conservation or efficiency issues, international projects benefit from the ability to evaluate and project changes in animal well-being which can be closely followed by changes in the people's well-being in a region.