Savory

ABOUT HOLISTIC PLANNED GRAZING

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Holistic Planned Grazing is a planning process for dealing simply with the great complexity livestock managers face daily in integrating livestock production with crop, wildlife and forest production while working to ensure continued land regeneration, animal health and welfare, and profitability.

Holistic Planned Grazing helps ensure that livestock are in the right place, at the right time, and with the right behavior.

It is based on a military planning procedure developed over hundreds of years to enable the human mind to handle many variables in a constantly changing, and often stressful, environment. The technique reduces incredible complexity step-by-step to absolute simplicity. It allows managers to focus on the necessary details, one at a time, without losing sight of the whole and what they hope to achieve. Traditional goals of producing meat, milk or fiber generally become a by-product of more primary purposes – creating a landscape and harvesting sunlight.

In the process of creating a landscape, livestock managers also plan for the needs of wildlife, crops, and other uses, as well as the potential fire or drought. To harvest the maximum amount of sunlight, they strive through the planning to decrease the amount of bare ground and increase the mass of plants. They time livestock production cycles to the cycles of nature, market demands, and their own abilities. If profit from livestock is important, they factor that in too. At times they may favor the needs of the livestock, at other times the needs of wildlife or the needs of plants.

Because so many factors are involved, and because they are always changing it is easy to be swayed by those who say we can ignore all the variables: managers will do all right if they just watch the animals and the grass, or if they just keep their animals bunched and rotating.

Each of the factors influencing the grazing plan – when a farmer expects to breed and wean, when and where areas will be covered in snow or threatened by fire, when and where antelope are having their young, when and where ground-nesting birds are laying, when and where the farmer will need to trample an eroding piece of ground or a harvested cropfield, etc. – are recorded on a chart. This provides a clear picture of where livestock need to be and when, and this determines how the manager plans their moves.

Holistic Planned Grazing has proven to be effective for over four decades on roughly 40 million acres on four continents.

Key Questions Holistic Planned Grazing Addresses

Managers subdivide their land into grazing divisions paddocks to gain control over livestock movements. The paddocks are first planned on a map and then on the ground demarcated by fences, natural barriers, or for herders by blazed trees or natural features. In creating their grazing plans livestock managers decide how long the animals will stay together in one place, where they will move next, and when they will come back. The planning steps address these questions:

- What landscape are you trying to create (How did you describe it in your holistic context?)
- How much total forage will the grazing unit or units have to supply in the current planning period?
- How much forage will an average hectare/acre of land have to supply?
- How long will standing forage at the end of the growing season last in a nutritious state (including reserves for late start of the next growing season, drought, fires, wildlife, and so on)?
- How long will livestock spend in each paddock, and when will they re turn (the vital recovery period grazed plants require)?
- Where and when will you need to concentrate livestock most to maintain healthy grassland, reduce weeds or woody vegetation, or prevent soil erosion?

Holistic Planned Grazing: Key Principles

1. **Run as few herds as possible – one is best.** One herd provides the best graze-to-plant recovery ratio (shorter grazing periods and longer recovery periods). Each additional herd results in less growing time provided to plants, and thus reduces productivity of both plants and livestock. When the animals are concentrated into one large herd, most areas in the grazing unit will only have livestock on them 10% or less of the time.

2. **Plan plant recovery times before you plan grazing times.** Where grazing "rotations" are normally planned on grazing periods, and planned forward in the sense that from a certain paddock, the animals will go to another and then another – most commonly in a clockwise rotation – this planning is very different. First of all, the emphasis is on the planning of recovery periods, rather than grazing periods. This is one reason a chart is required – recovery periods only show up when plotted on a chart. Second, and especially over critical months for the livestock, moves are often plotted backwards. Managers reserve certain areas for the animals at crucial times, such as calving, and then indicate on the chart where the animals would have to come from to get there, and so on, backwards.

3. **Maximum density for minimum time.** Animals that remain bunched in a single herd are more effective at chipping the soil surface with their hooves and trampling down plant material to cover the soil so that air and water enter, and new plants can grow. Scattered animals have less impact on the soil surface with their hooves and will create less litter to cover the soil surface. If animals – bunched or scattered – are left in any one place too long, or if returned to it too soon, they will overgraze plants and compact and pulverize soils.

4. **Overgrazing is linked to the time animals are present, rather than how many animals there are.** Overgrazing commonly occurs at three different times:

   - When plants are exposed to the animals for too many days and the animals are around to re-graze the plants as they try to regrow;
   - When animals move away but return too soon and graze the plants again while the plants are still using stored energy to reform leaf; or,
   - Immediately following dormancy when plants are growing new leaf from stored energy.

5. **Base stocking rates on the volume of forage available and how long it must last.** Stocking rate used to be defined as the correct number of animals to carry to avoid overgrazing. Even though we now know that overgrazing of plants is not related to animal numbers but to the time the animals are present, stocking rate is still a useful concept. We now align it with carrying capacity – the number of animals the land can carry based on the forage available over the nongrowing season plus a month or more of drought reserve. And this is on many land bases adjusted to also cater for the wildlife needs on the same land. Stocking rate for the growing season will be figured based on estimated ADH/A that will be grown, and historical production.

6. **Drought reserves are planned as time reserves not areas of land.** In the past, areas of land were left un-grazed as a reserve or insurance against dry years. However, this was a risky practice. It reduced live stock production in average or better years because there was less forage available to graze and in seasonally humid environments the un-grazed area was prone to fire. To keep animal production high in every year and spread the "drought reserve" over most of the land to reduce the risk of wildfires, we now reserve *days of grazing* spread across most, or all, of the land.

7. **Plan on a grazing chart.** Because managers need to plan months ahead, cover drought reserves, livestock and wildlife needs, and other land uses and to do this all on the basis of plant recovery periods, it cannot be done well – or remembered – without the chart. The grazing chart provides a clear picture of where livestock need to be and when, and this determines how managers plan their moves backward or forward. The chart is also essential for monitoring and adjusting, or controlling, the plan. If grazing periods need to be adjusted in the growing season, the effect on the recovery periods for plants in all paddocks must be easy to see, and it's very difficult to see if you aren't using a chart. If, for instance, you move out of a paddock one day sooner than planned, you will lose one day of recovery from *all* padocks.

8. **Create one plan for the growing season before main growth starts.** The aim of this plan is to grow the maximum amount of forage possible during the growing season so that animals have enough to eat through out the year and plants are not overgrazed.

9. **Create one plan for the nongrowing season once grasses stop growing.** The aim of this plan is to prepare the soil and plants for the coming growing season and to ration out the remaining forage over the months ahead – right through to a month or more after main growth is expected to start. This additional "month or more" becomes the drought reserve to be used if the next growing season starts late. *Note: In regions where the entire growing season might only last a month, or where there are two growing seasons with one short and one long rainy period, a grazing chart is commonly extended over two years.*

10. **Monitor the plan.** No plan ever goes exactly to plan. What you expect to happen rarely does, and thus planning is always a process of planning, monitoring, control ling or adjusting, and re-planning if necessary.

    - ***Monitoring Daily Growth Rates of Plants.*** This is critical with when pad dock numbers are low to ensure adequate plant recovery and to reduce over grazing. It is less critical when a plan involves 50 to 100 or more paddocks because the resulting recovery period will be so long and the moves likely so fast that plants will not be overgrazed.
    - ***Landscape Level Monitoring.*** In Holistic Planned Grazing managers are us ing their livestock to produce, among other things, the landscape of the future described in their holistic context. Progress toward that future land scape must be monitored annually.

11. **Holistic Planned Grazing is a process not a recipe.** No two years are the same. The land changes each year and so does the weather. The people involved also change, as does the economy within which they operate. So just following a recipe and grazing in the same place at the same time year after year, or moving animals to the best grazing every time, or simply letting them wander, won't enable managers to improve their land much at all. Such an approach is attractive, however, because following a recipe seems so much easier than planning for all that complexity.

Rotational, Rational, and Holistic Planned Grazing - How They Differ

There are any number of rotational grazing systems that involve the division of large grazing areas into smaller ones, and the rotation of livestock through them. Grazing rotations may appear to work fairly well in perennially humid environments, where livestock are mainly run on planted and fertilized pastures and the variables are fewer. However, water runoff, soil erosion, decreased biodiversity, and reduced capture of sunlight usually are occurring but just not seen as easily. Animal performance and forage production are generally not as high as they could be, and very dry or very wet years can cause real problems (which managers feel they can do nothing about). In the seasonally humid (or brittle) environments grazing rotations break down quickly because there are so many variables, and very few, if any, are addressed.

Rotational grazing is centuries old. While it served reasonably well in the more humid environments it generally leads to decreased production over time. Andre Voisin, who first discovered the link between overgrazing and time and the paramount importance of recovery time over grazing periods, developed rational (meaning well-thought-out) grazing in response to this discovery. He also spoke out vehemently on the dangers of rotational grazing.

The chart that follows attempts to show where rotational grazing, rational grazing, and Holistic Planned Grazing differ. The information under each column has been generalized for simplicity. In practice, the columns are probably not quite so distinct.

Rotational, Rational, and Holistic Planned Grazing - How They Differ

Savory	Rotational Grazing	Rational Grazing	Holistic Planned Grazing
Grazing periods are based on:	Number of grazing divisions and desired rest period.	Recovery periods needed during fast and slow growth.	Recovery periods needed during fast and slow growth.
Grazing adjustments are based on:	Height of grazed plants in grazing division.	Daily growth rate of plants.	Daily growth rate of plants, livestock performance, and/or wildlife needs.
Stocking rate is based on:	Estimated dry matter intake and/or rainfall received.	Animal days per acre/ hectare (ADA/ADH)	ADA/ADH available for the non-growing season, plus a "time reserve" for drought, and *effectiveness of water cycle.*
Animal nutritional needs addressed by:	Estimated dry matter intake and daily monitoring of animals.	ADA/ADH estimates and daily monitoring of animals.	ADA/ADH estimates, daily monitoring of animals, and allocating the best grazing divisions for critical times, then planning backward from those critical periods.
Use of herd effect for land	Not planned.	Not planned.	Incorporated into plan that is essential in brittle environments.
Wildlife and other users/uses	Not planned.	Not planned.	Incorporated into plan so livestock can be used to enhance.
Drought planned by:	Reserving grazing areas.	Reserving time (days of grazing) spread over all grazing divisions.	Reserving time in all grazing divisions, and ADA/ADH estimates at end of growing season in a closed plan.
Performance in brittle environments	Breaks down in brittle environments.	Breaks down in brittle environments.	Does not break down in any environment.
Performance in less brittle environments	Good short term, but likely to break down long term.	Good short and long term.	Does not break down in any environment.
Fire prevention	Not planned.	Not planned.	Routinely planned.
Management decision based on:	Multiple goals involving either forage, animals, or finances at any one time.	Multiple goals involving either forage, animals, or finances at any one time.	A Holistic Context that addresses social, environmental, and economic factors simultaneously.