KAUAI COUNTY
LIVESTOCK NEWS

Estimating Forage Production

Using simple steps to assess your pasture can help save your grass

By Matt Stevenson

Whether you are pasturing cattle, horses, sheep, chickens, goats, or even pigs, you will need to know how much forage is available for your animals at different points in the season or during the management regime. The amount of forage available is the principal factor in determining stocking rate - the number of animals a pasture will carry for a given period of time. Estimating the amount of standing forage both before

In This Issue...

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ATTENTION HAWAIIAN HOMES LESSEES: SEEKING PROJECT COOPERATORS

The UH-CTAHR Cooperative Extension Service in Kauai County is seeking Hawaiian Home Lands residents and farm/pastoral lot lessees interested in participating in livestock demonstration projects. The intent of the projects is to provide hands-on training and transfer useful knowledge to current livestock producers or those who would like to begin livestock production. The focus will be on pigs, grazing livestock, and poultry. Contact Matt Stevenson at 274-3472 or stevenso@hawaii.edu for more info.

ESTIMATING FORAGE PRODUCTION (CONT'D FROM P. 1)

animals enter a paddock and after they are moved out of one is quick, easy, and incredibly informative for your management decisions.

Clip Method. A simple and accurate way to estimate forage production is to clip and weigh forage samples from a known area. Clip samples to the ground or to the top of the mat layer for dense mat forming species such as Kikuyu grass, Pangola grass, or perennial peanut and weigh the sample. Discard species that animals will not eat before weighing the sample, and don't forget to subtract the weight of the bag if you are using one. At a minimum, take three to five samples from an area representative of the entire pasture you are interested in: more samples if there is high variation, and less if the pasture is relatively uniform. Hoops or squares are commercially available that are calibrated to determine pounds of production per acre by simply multiplying the clipped weight by a set number. Hoops or squares can also be easily constructed from heavy gauge wire or PVC pipe to the same dimensions. Averaging these weights will give

you an estimate of total fresh forage weight per acre. Remember that most forages on Kauai are around 20-25% dry matter, less in wetter areas or

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RECIPE: MABO DOFU

Todd Fast, wikimedia

From: "50 Years of 4-H Cooking", UH Cooperative Extension Service, Maui County 4-H, 1979.

1 block tofu (drained)
1/4-1/2 lbs. ground pork
2-3 stalks green onions
1 pc. minced ginger
1 clove minced garlic
1-2 minced red pepper
2 T. oil
1 T. miso or 1 t. dark miso
3 T. shoyu
1 T. sugar
1/2 t. ajinomoto (optional)
1 c. soup stock or water
2 t. cornstarch dissolved in water

Saute ginger, garlic, pepper, and half of chopped green onions in oil. Add pork and cook well. Add miso and stir well. Continue stirring while adding shoyu, sugar, ajinomoto, soup stock, and thickening. Add tofu and rest of green onions. Simmer.

GOT ORIGINAL RECIPES?

The Society for Range Management is reissuing their Cowboy Cookbook and is taking submissions. They are particularly interested in recipes that have a ranch or farm family story that goes with them. Send recipes to me and I'll pass them on.

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during the wet season. Detailed instructions on how to use this clipping method and how to use this information to determine stocking rates are given in the UH-CTAHR publication "Stocking Rate: The Most Important Tool in the Toolbox". This publication is available at our office or online at: www.ctahr.hawaii.edu/oc/freepubs/pdf/PRM-4.pdf.

Ocular Estimates. Once you have clipped and weighed several samples over time, you may be comfortable using ocular estimates of forage production. In this method you skip the clipping and weighing step by visually estimating the weight of fresh forage present in the hoop. This method is of course faster and can be used in larger pastures or whenever more samples are needed. However, be sure to calibrate yourself by clipping and weighing at least a few rings at first to check your visual estimates. For this reason, this method should only be used when a general estimate is necessary. For more accurate measures, the clipping method above is safer.

Forage Height. You can also estimate forage production by measuring the height of target plants and their density in the pasture. This is perhaps the fastest method to estimate production because once calibrated to your pasture you can quickly sample by measuring with a yard stick. You can calibrate by first using the clipping method above. Before you clip and weigh a hoop, place the end of a yard stick on the ground and hold it vertically from the center of the hoop or square. Note the

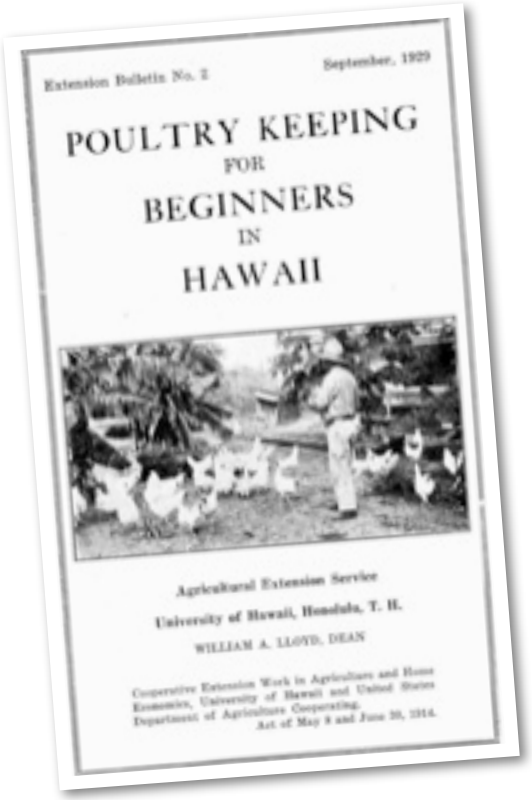
height of the forage canopy - the top layer of leaves of the sample. Record this height next to your sample weight. After several samples, you can chart height against the clipped estimate of production. For future sampling, now all you have to do is measure the height and relate that height to your chart to estimate production.

For example, say I have determined for my well established Pangola grass pasture that a height of 8 inches corresponds to about 4000 lbs./ac. production, and 5 inches corresponds to 3000 lbs./ac. I take several new measurements of forage height and find an average of 6 inches. I will know that my production per acre at that time is somewhere above 3000 lbs. but well less than 4000 lbs. As you can see, this method is fast but also more suited to situations where ballpark estimates are appropriate. Note that you can only use height to estimate production from pastures of similar species, density, soil type, climate, etc. Also, drought conditions will also affect your estimate of production even for the same pasture you calibrated from. So when in doubt or when accuracy is crucial, it is well worth the extra time and effort to use the clipping method.

You won't know how long to leave your animals in a paddock without damaging your forage base if you don't know how much forage is there to begin with. Give me a call if you have any questions about estimating forage production. I'd also be happy to walk the pasture with you. I can be reached at 274-3472 or stevenso@hawaii.edu.

For more on pasture and livestock management, contact me or see our publications online at: www.ctahr.hawaii.edu/site/BrowsePubs.aspx.

New Publications from UH-CTAHR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POULTRY KEEPING
FOR
BEGINNERS
IN
HAWAII

Agricultural Extension Service
University of Hawaii, Honolulu, T. H.
WILLIAM A. LLOYD, DEAN

Cooperative Extension Work in Agriculture and Home Economics, University of Hawaii and United States Department of Agriculture Cooperating.
Act of May 8 and June 30, 1914.

Some new titles relevant to livestock producers have come out from the UH-CTAHR publication office in the last year. Listed here are the author, date, title, series, and links to online copies. Limited quantities of hard copies are available for most titles at the Extension Office in Lihue. Also included are some "so old they're new" titles from the historical publication digitization project. To search all publications available online, see: www.ctahr.hawaii.edu/site/BrowsePubs.aspx.

Joy, Robert and Dale Evans. Dec, 2009. *Advice on Obtaining Seeds of Plants for Conservation.* SCM-13. www.ctahr.hawaii.edu/oc/freepubs/pdf/SCM-13.pdf

Zaleski, Halina et al. Sept, 2009. *Swine Health Management for Hawaii.* LM-21. www.ctahr.hawaii.edu/oc/freepubs/pdf/LM-21.pdf

Fukumoto, Glen. July, 2009. *Small-Scale Pastured Poultry Grazing System for Egg Production.* LM-20. www.ctahr.hawaii.edu/oc/freepubs/pdf/LM-20.pdf

Thorne, Mark et al. Mar, 2009. *Management of Production Risk for Hawaii Ranchers.* PRM-5. www.ctahr.hawaii.edu/oc/freepubs/pdf/PRM-5.pdf

Reimer, D. et al. May, 1983. *Breeding Better Beef 1: Preweaning Performance of Calves Sired by Angus, Hereford, and Charolais Bulls.* RES-030. www.ctahr.hawaii.edu/oc/freepubs/pdf/RES-030.pdf

Alicata, Joseph. Nov, 1964. *Parasitic Infections of Man and Animals in Hawaii.* TB-61. www.ctahr.hawaii.edu/oc/freepubs/pdf/TB-61.pdf

Hosaka, E.Y. and J.C. Ripperton. Mar, 1944. *Legumes of the Hawaiian Ranges.* B-093. www.ctahr.hawaii.edu/oc/freepubs/pdf/B-093.pdf

Whitney, L.D. et al. May, 1939. *Grasses of the Hawaiian Ranges.* B-082. www.ctahr.hawaii.edu/oc/freepubs/pdf/B-082.pdf

Gantt, Paul. May, 1938. *Hog Production in Hawaii.* EB-31. www.ctahr.hawaii.edu/oc/freepubs/pdf/EB-31.pdf

Chung, H.L. Sept, 1929. *Poultry Keeping for Beginners in Hawaii.* EB-020. www.ctahr.hawaii.edu/oc/freepubs/pdf/EB-020.pdf

Australia Leucaena Study Tour

By Glen Fukumoto (photos) and Mark Thorne

A contingent of nine people from Hawaii representing the cattle industry, seed suppliers, and UH-CTAHR travelled to Australia in April to learn cutting edge information on establishing and managing forage hybrid varieties of *Leucaena leucocephala.* This technology shows tremendous potential for strengthening pastoral production and efficiency in the islands. A detailed report of the study tour will be forthcoming, so for now here are some pictures from the trip.

From the Coconut Wireless: Upcoming Events & Announcements

Pastured Poultry Workshop - June 19, 9am - 12pm, Wailua. The UH-CTAHR Cooperative Extension Service will be holding another pastured poultry workshop at the Kauai Agricultural Research Center in Wailua. The workshop will cover the basics of keeping chickens in the backyard or for small-scale commercial production. Contact Matt Stevenson at 274-3472 or stevenso@hawaii.edu for more information or to register.

Kauai County Farm Bureau Fair - August 26 - 29, Lihue. Don't forget to put the County Fair on your calendar! Sponsored by the Kauai County Farm Bureau.

If you would like to submit events or other announcements for the Fall newsletter, please e-mail me by Sept 1 at stevenso@hawaii.edu.

Photo Quiz

The pasture to the left of the fence has a very high percentage of an unpalatable grass called broomsedge (which is spread by wind). The pasture on the right of the fence has virtually no broomsedge. Why? Send your ideas or sarcastic remarks to Matt at stevenso@hawaii.edu. The answer will be discussed in the Fall edition.

Kauai County 4-H

Friends of 4-H Recognition Banquet
by Matt Stevenson

On May 7, friends and families of our various 4-H clubs gathered at Hanamaulu Cafe to honor and recognize individuals and organizations who have contributed so much to the 4-H program. Mahalo nui loa for the outstanding support from these true Friends of 4-H:

Earl & Lori Lemm

Mike & Mac Andrade, Andrade Slaughterhouse

Les Milnes

Valerie Kaneshiro, M&H Kaneshiro Farms Inc.

Ed and Lilli Kawamura, Kawamura Farm Enterprises Inc.

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4-H CONT'D FROM P. 6

Learning by Doing
by Kauai 4-H Livestock Club

The Kauai 4-H Livestock Club attended an awesome goat & lamb clinic hosted by Tom Runyan of Tom's Goats. All of our members attended and learned a tremendous amount about the care and well-being of these two types animals. Tom spoke about the importance of a balanced diet, immunizations (SC & IM), hoof care, and answered all the member's questions. The members were all in agreement that this was the best clinic they attended all year! Of course the next question was - "what made it the best?" all responded with that it was hands on. You see each member, even our Cloverbuds, got to trim hooves and give injections to his goats. That is

what made this clinic the best - the learning by doing! The Kauai 4-H Livestock Club would like to thank Mr. Runyan for sharing his knowledge with us. Also, they look forward to the next two clinics that the Livestock Committee will be offering to them.

Kauai County 4-H Judging Contest
by Matt Stevenson

The Kauai County 4-H Judging Contest was held on May 8 at Kawamura Farm Enterprises in Lihue. Six 4-Hers challenged their knowledge of evaluating the conformation of steers, gave their oral reasons for their placements, and identified 15 retail cuts of meat. Congratulations to our senior qualifiers who will be the team representing Kauai at the State Farm Fair in July: Casandra Kawamura, Matthew Kawamura, and Thalia Souza all of the Garden Island 4-H Ranchers Club. Special recognition to our sole junior participant this year Bill Souza who also did a great job. Good luck in Honolulu!

For more information on the 4-H program visit www2.ctahr.hawaii.edu/4h/ or contact Laura Kawamura at 274-3473 or ljk@hawaii.edu.

NOTE

To conserve resources, the Kauai County Livestock News is now a completely digital publication. However, if you do not have Internet access or do not use e-mail and would like to receive a hard copy of this newsletter, please send me your name and mailing address.

Food for thought:
"A process cannot be understood by stopping it. Understanding must move with the flow of the process, must join it and flow with it."
--Frank Herbert, *Dune* (1965)

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