

# LIVESTOCK NEWS

## INSIDE THIS ISSUE:

*Yellow Starthistle  
Management Workshop ...1*

*A Year in the Life of  
Annual Range ...2-3*

*Yellow Starthistle  
Registration Form ..insert*

*Upcoming Events ...4*

*Internet Livestock Auction &  
New Publications ...5*

*Relevant Web Sites ...6*

*“one of the  
major topics of  
discussion include  
the importance of  
timing”*

Scott Oneto  
University of California  
Cooperative Extension  
Program Representative  
12200 Airport Road  
Jackson, CA 95642  
(209) 223-6482  
Email: sroneto@ucdavis.edu  
<http://ceamador.ucdavis.edu>

## YELLOW STARHISTLE MANAGEMENT WORKSHOP

BY SCOTT ONETO, UCCE AMADOR COUNTY

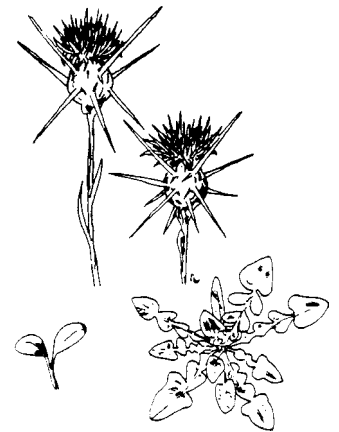
On January 25 the University of California Cooperative Extension in conjunction with other local agencies will be hosting its annual workshop on yellow starthistle management. Yellow starthistle (*Centaurea solstitialis*) is a plant of Old World origin that probably arrived in California in the mid 1800s as a contaminant in alfalfa seed. Since its accidental introduction, it has steadily spread and now inhabits over 8 million acres statewide. It is one of California's worst noxious weeds, infesting parks and rangelands, pastures, hayfields, orchards, vineyards, roadsides, and irrigation banks.

Understanding yellow starthistle's biology is basic to developing a successful control program. Starthistle has a very long life cycle for an annual plant. Germination is initiated by autumn rains, but plants mature long after most other annuals have completed their life cycle, sometimes not completing their life cycle until the following fall or winter. Its physiology makes it extremely adaptable to California's dry Mediterranean climate. Until recently, controlling this invasive weed has been practically impossible. Thanks to years of research, scientists have developed a

variety of methods that have been proven to be successful.

At the workshop, guest speaker Joe DiTomaso a weed scientist with the University of California will share some of the most recent findings in yellow starthistle management ranging from biological, mechanical, and chemical control. The workshop will also cover recent findings with a new growth regulator clopyralid, which controls starthistle by arresting its development at the growing points both on the plant and on the seedlings that germinate in the soil. They will also discuss new findings with biological control agents including the recently accidental introduction on the false peacock fly. Another major topic of discussion includes the importance of timing with each treatment.

The workshop will be held on January 25th at the Denny's Restaurant in Jackson from 12:30 p.m. to 4:00 p.m. and at the El Dorado County Complex in Placerville from 6:30 p.m. to 8:30 p.m. For more information see the enclosed registration forms.



# A YEAR IN THE LIFE OF ANNUAL RANGE

BY ROGER INGRAM, U.C.C.E. FARM ADVISOR, PLACER-NEVADA COUNTIES

No one knows from year to year how much growth we will have. Generally, adequate rainfall that is distributed throughout the growing season will translate to adequate forage supplies.

While we are unsure of what the future will bring, there are certain trends that we can predict with certainty regarding forage quantity and quality. **Quantity** refers to the amount of growth. **Quality** refers to the energy and protein contained in the forage.

The information that follows is based on monthly forage sampling at the Sustainable Ranching research site.

## Quantity

While we cannot predict how much total production we will see in a given year, we do know when that growth will occur. Right now as this article is being written, there has been enough rainfall to germinate plants.

We currently have a mix of last year's brown residual and this year's green growth. Over the next few weeks, the brown residual will disappear into the soil leaving new green growth.

Quantity gets started in fall with green-up, slows to a near standstill from early to mid-winter (**low quantity**), and then takes off in late winter through mid spring (**high quantity**). From mid-spring to mid-fall, growth has stopped.

One challenge for people who run livestock year round on annual range is to accumulate as much feed as possible during the growing season, and then ration it out until growth starts again.

## Quality

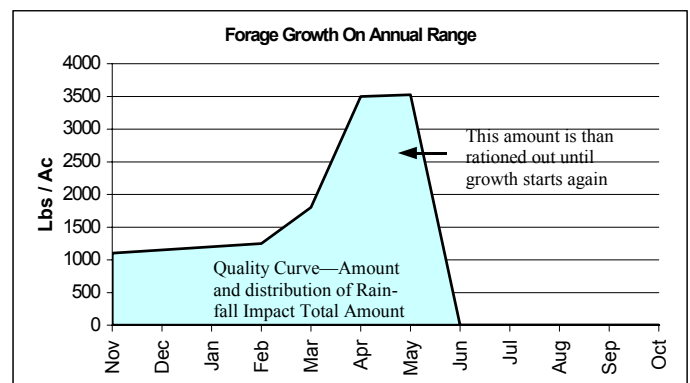
Quality has a different pattern than quantity. Quality is highest during the slow growth period of late fall-mid winter. From late winter-mid spring, quantity will start to increase. Once growth stops, quality will decline throughout the summer and into fall.

## What Happens to Protein

From a high of over 20% in late winter, protein will decline to around half that by the end of the growing season in May. Protein will continue to decline throughout the summer to less than 6% in August. By Fall protein may decline to less than 4%.

## What Happens to Energy

Energy declines slightly from March to May. By July energy content will have declined anywhere from 33 to 40%. Energy levels seem to stay fairly consistent throughout the rest of the summer and fall. Once fall green-up occurs, energy and protein levels start to increase.



## Implications

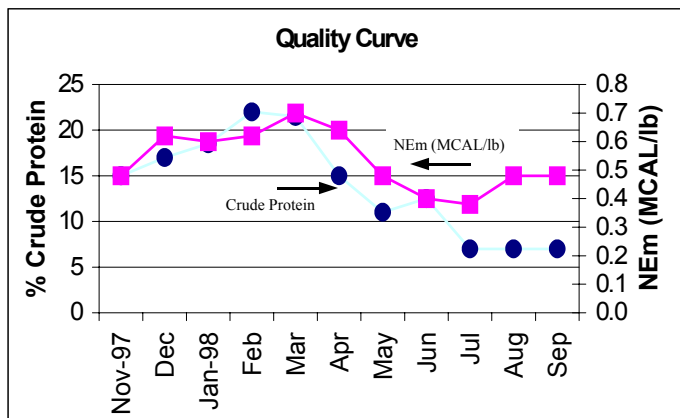
During winter feed quality is excellent. The lack of quantity poses a problem if animal demand is high—for example, a lactating cow. If the cow loses too much weight, you may have trouble getting her bred. Substitution feeding (to make up for the lack of quantity) will be needed to keep the cow in adequate condition to re-breed.

During spring quality starts to decline as quantity reaches its highest level. By the onset of seed formation, growth has peaked for the year. The amount of the peak will depend on rainfall amount and distribution along with the effectiveness of the water cycle on your land.

## CONT. ANNUAL RANGE

Quality will continue to decline over the next few months. The biggest concern for the rancher is the protein decline.

The annual range forage is primarily cellulose. We can't digest cellulose and neither can the cow. Luckily, the cow has a fermentation vat called the rumen that houses microbes. Microbes can break down the cellulose and reform the energy and protein volatile fatty acids and microbial protein. These end products are used to satisfy microbial requirements with the rest being available for the cow.



### Two Kind of Protein

Forage contains two kinds of protein, degradable and escape.

**Degradable protein** is fermented in the rumen, broken down, and then reformed as microbial protein to be used by the microbes and the animal. Forage protein is approximately 80% degradable. Since the breaking down and reforming processes are not 100% efficient, there is an adjustment of 90% to degradable protein values. The degradable protein in the forage is 72% (.80 degradable protein X .90 efficiency) of the total protein.

**Escape protein** makes up the other 20% of the total forage protein. This protein passes through the rumen without being broken down. This protein can be directly used by the animal.

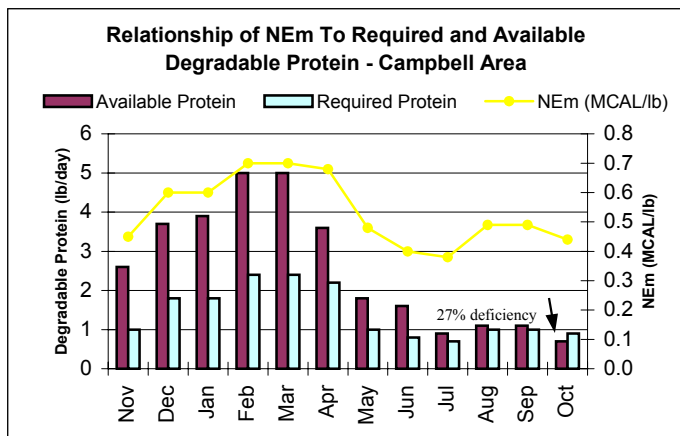
### Feed the Microbes

The drop in protein contained in the forage causes a decline in microbial numbers. They need protein to grow and multiply just like any living organism. If protein is inadequate and we choose not to supplement, then the feed energy in the forage (MCAL) will not be fully utilized. Considering the high cost of supplying external energy (hay, grain, infrastructure and labor needed to feed the cows), we simply cannot afford to let this happen.

Conversely, if we choose to supplement protein, then we can fully utilize the energy in the feed. A common low cost way to provide protein is urea fed as part of an overall mix that also contains trace minerals.

Again, when forage protein levels drop below requirements in summer and late fall, we must feed the MICROBES protein to keep populations from declining. If microbe numbers stay stable, this enables the cow to get at all the energy contained in the forage.

The following graph illustrates our project site for the 1997-98 year. We did not need to supplement with protein until October. However, we have been real close to the requirement since August. We started supplementing in late July.



## UPCOMING EVENTS: MARK YOUR CALENDAR

Jan. 21, 28, Feb. 4, 6, 11, 13: Ranch Water Quality Short Course  
Natural Resource Conservation Service Office, Grass Valley CA  
For more information call (530) 889-7385

January 25, 2000: Yellow Starthistle Management Workshop (Amador County)  
Denny's Restaurant Banquet Room, Jackson  
12:30 p.m. to 4:00 p.m.  
For more information see the enclosed registration form or  
call Carolyn at (209) 223-6482.

January 25, 2000: Yellow Starthistle Management Workshop (El Dorado County)  
El Dorado County Complex Building C, Placerville  
6:30 p.m. to 8:30 p.m.  
For more information see the enclosed registration form or  
call Nancy at (530) 621-5528.

February 5, 2000: 6th Annual PlacerGROWN Farm Conference  
Lincoln High School, Lincoln CA  
8:00 a.m. to 3:30 p.m.  
For more information call (530) 889-7398

February 18 & 25: Sheep Short Course  
U.C. Cooperative Extension Office, Auburn CA  
For more information call (530) 889-7385

March 31 - May 12: Ranch Development and Management Course  
Sierra Community College, Rocklin CA  
Attendees will learn: how to identify and manage different soil  
types, irrigation design and water management; erosion control;  
pond management; and choosing an enterprise for your ranch.  
By the end of the course, you will have written a comprehensive  
development and management plan for your ranch.  
For more information call (916) 624-3333 or (800) 242-4004  
or visit them online at <http://www.sierra.cc.ca.us/>

April 15, 2000: 80th Annual California Ram Sale  
Kings County Fairgrounds, Hanford CA  
Sale starts at 12:30 p.m.  
For more information call (916) 444-8122





## INTERNET LIVESTOCK AUCTION

One of the new ways to market your cattle is online. Traditionally, cattle producers buy and sell cattle at a sale barn. Today, technology and business-to-business e-commerce are making the process easier, more convenient and cost effective by increasing the exposure of cattle to both buyer and sellers. In addition, the quality of cattle can increase because stress, handling and exposure to disease is reduced. Internet auctions operate the same way as video auctions, but are held over the World Wide Web. The process involves taking pictures or having a representative film a rancher's cattle prior to the sale where they can be displayed on the Internet. Some predict this will replace many of the current marketing methods. Some of the economic advantages to buying and selling cattle on-line include: more frequent sales and therefore cattle can be purchased on a more frequent basis, they are less expensive to conduct than the video auctions, and buyers and sellers can participate from throughout the nation as long as they have a computer and Internet access. For more information about Live-Internet Livestock auctions visit the following sites:

- ✓ Cyber Stockyard [www.cyberstockyard.com](http://www.cyberstockyard.com)
- ✓ Cattle Offerings Worldwide [www.farms.com](http://www.farms.com)
- ✓ Cattle Sale [www.cattlesale.com](http://www.cattlesale.com)

## NEW PUBLICATIONS IN AGRICULTURE SUSTAINABLE AGRICULTURE RESEARCH & EDUCATION

**Farmscaping**—This technical guide offers information on designing a cropping system that increases plant diversity, disrupts pest life cycles and confuses insect pests. Describes use of hedgerows, insectary plants, cover crops and water reservoirs to attract and support populations of beneficial organisms such as insects, bats, and birds of prey. FREE

**Salad Bar Beef**—This 368-page how-to guide leaves nothing to your imagination, from choosing breeds, building fences and setting up a rotation to marketing. Explains how a cattle-poultry rotation breaks up parasitic cycles and helps produce superior beef.

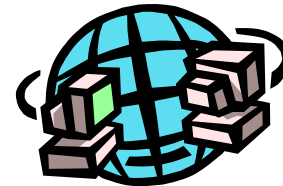
**Pasture Profits with Stocker Cattle**—This 224 page book features information about animal health; cash flow versus inventory valuation; running cows and stockers together; how to determine the correct stocking rate; and finishing cattle on pasture.

**Principles of Sustainable Weed Management**—This publication includes information on how to control weeds without excessive use of agri-chemicals. FREE

For more information on obtaining a publication please call the office at (209) 223-6482.

To simplify information, trade names of companies have been used. No endorsement of named companies or products is intended, nor is criticism implied to similar companies or products which are not mentioned.

# RELEVANT WEB SITES



Amador County Cooperative Extension Office	<a href="http://ceamador.ucdavis.edu">http://ceamador.ucdavis.edu</a>
Calaveras County Cooperative Extension Office	<a href="http://www.uccecalaveras.org/index.html">http://www.uccecalaveras.org/index.html</a>
El Dorado County Cooperative Extension Office	<a href="http://co.el-dorado.ca.us/ucce/">http://co.el-dorado.ca.us/ucce/</a>
UCCE Livestock and Natural Resources	<a href="http://danr.ucop.edu/ucce/r/ucce/r.htm">http://danr.ucop.edu/ucce/r/ucce/r.htm</a>
UC Davis Animal Science Extension	<a href="http://animalscience.ucdavis.edu/extension/default.htm">http://animalscience.ucdavis.edu/extension/default.htm</a>
UC Davis Veterinary Medicine Extension	<a href="http://www.vetmed.ucdavis.edu/vetext/Home.html">http://www.vetmed.ucdavis.edu/vetext/Home.html</a>
Sustainable Ranching Research & Education	<a href="http://www.foothill.net/~ringram">http://www.foothill.net/~ringram</a>
California Agriculture Journal	<a href="http://danr.ucop.edu/calag/">http://danr.ucop.edu/calag/</a>
U.C.D. Center for Rangelands & Forested Ecosystems	<a href="http://agronomy.ucdavis.edu/calrng/range1.htm">http://agronomy.ucdavis.edu/calrng/range1.htm</a>
Sierra Foothill Research & Extension Center	<a href="http://ice.ucdavis.edu/ucsfreq/">http://ice.ucdavis.edu/ucsfreq/</a>

# This Month's Feature

## Yellow Starthistle Management Workshop

Donna Hirschfelt  
UCCE County Director  
Amador County

Ken Churches  
UCCE Farm Advisor  
Calaveras County

Bill Frost  
UCCE County Director  
El Dorado County

U.C. Cooperative Extension  
U.S. Dept. of Agriculture  
University of California  
Oakland, CA 94612-3560

**Bulk Rate**  
**U.S. Postage**  
**PAID**  
**USDA**  
**Permit No. G-00268**

Official Business  
Penalty for private use, \$300

Amador – 03

Livestock News  
December 1999



For special assistance regarding our program please contact us.

The University of California prohibits discrimination against or harassment of any person employed by or seeking employment with the University on the basis of race, color, national origin, religion, sex, physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (special disabled veteran, Vietnam-era veteran or any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized). University policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Staff Personnel Services Director, University of California, Agriculture and Natural Resources, 1111 Franklin, 6th Floor, Oakland, CA 94607-5200 (510) 987-0096.