


The Mountain Meadow

 A quarterly publication from the Sublette County Conservation District

April 1, 2011



Photo by: Sno Ann Engler

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"By working with local people who understand local problems, the best conservation measures can be accomplished."

A Word From The Chairman

Written by: Darrell Walker



Darrell Walker

The district is getting ready for a busy spring and summer: chemical surface water quality sampling will start in late March and will be continued 5 times at 54 sites until late fall or even early winter. Macroinvertebrate (bug collections) sampling is started in late summer and completed by late fall, 51 sites are visited each year. Ground water chemical sampling within the Pinedale Anticline Project Area (PAPA) starts in April, includes all water wells located within one mile of a gas/oil well, number of wells are approximately 300.

Range monitoring, inventory and utilization will start when the weather (April/May) cooperates. These efforts will include starting or completing individual ranch conservation plans. If you don't have a plan and would like one, please contact the office.

The district is involved in gathering Sage Grouse information, if you have leks on your private lands or even on your BLM grazing lands we would appreciate receiving that information. We will check your locations against already reported locations and if it is new we'll see that it is added to the official list and ask your permission to do lek counts in the spring. The more information on number of leks plus number of males & females may help in keeping the bird from being listed as endangered.

The district is involved in the Pinedale Sage Grouse Resource Management Plan (RMP) Amendment, the LaBarge Platform Environmental Impact Statement (EIS), Normally Pressurized Lance (NPL) EIS by Encana, and the Rock Springs RMP which includes lands in Sublette County.

The seedling tree program for windbreak-living snow fence conservation projects, is in full swing and seedling tree orders will be taken until April 1st.

Cover Photo

This winter Sno Ann captured this image early one morning on her way to work of three bull elk!

Landowner Interview

Written by: Meghann Durbrow



Paul and Bette Hagenstien - 1959

In 1927, at the age of one month, Paul Hagenstein was adopted by Paul C. and Marjorie Hagenstein of Pinedale, Wyoming. Mr. and Mrs. Hagenstein adopted three more children over the course of the next 8 years (one every 2 years), giving Paul one brother and two sisters. Paul and his family lived in a modest home at the present day location of the Wyoming Game and Fish office and

Catholic Church. Then, in 1943 his parents bought a ranch on the New Fork River, which Paul would call home for the rest of his life. The ranch had no power or telephone, so the family built their own lines to acquire these amenities at their new home. From 1945 to 1973, the property was used by the Hagenstein family to run the Mount Airy Dairy, which was the very first to provide Pinedale with pasteurized milk. The Hagenstein's would use a team of horses to transport the milk to the highway where a truck awaited. This truck had to be pulled by the team of horses to jump start it in order to deliver milk to town. Paul would deliver milk to the wholesale clients, while his mother delivered milk to the private residents of Pinedale. Traveling with the "milk lady" on her rounds was a wonderful place to be in those days. One could see the whole town and talk with neighbors, a much better place to be than fixing fence!

In 1960, there was a fire that broke out in the boiler room of the dairy, destroying the barn, the phone lines and the power lines. Thus, for the remaining 13 years of operation, Mt. Airy Dairy would receive milk from the larger Utah dairies, including Meadow Gold., to then distribute it here in Pinedale and Boulder.



Paul with his prized Brown Swiss Bull - 1959

continued on page 5

NRCS Update

What does it cost you to raise one ton of hay?

I recently attended a workshop sponsored by the Medicine Bow Conservation District. Their main speaker was Jim Gerrish with American Grazing Lands Services LLC located in May, Idaho. He challenges producers to shift paradigms, and his message can be applied to life in general, not just in how to use forage resources. One of his main points was the actual cost of haying for a cow/calf operation. In study after study, the largest single cost to livestock operations was winter feed costs, as you well know. Equipment, equipment depreciation, as well as labor and fuel costs have increased exponentially compared to the profit producers receive for their cattle. Does our climate allow for any ability to reduce the amount of hay that needs to be put up? Some producers swath graze, even in Utah and Wyoming. Can that work here? With the potential increase in diesel costs this summer, it might be a practice to research. What was economical 20 to 30 years ago may not fit the business model today. Jim has developed a cost calculator that figures the per ton cost and he suggests that many ranchers don't know the actual cost to make hay, equipment depreciation included. How about your operation? Do you know the cost to produce one ton of hay?



Jennifer Hayward

Are we at the threshold of permanent change in our rangelands?

We are and we may be able to influence this. Cheatgrass (*Bromus tectorum*) is an invasive annual species that is appearing more and more frequently in Sublette County. This is a plant we do not want invading our rangelands to forever change our plant communities. The Invasives Task Force has recently formed to work on developing a plan to address cheatgrass in our ecosystems. If you are interested in participating, have information to contribute or just have questions, please let me know. Sublette County is not too far gone with our current population levels. We have a fighting chance to address this if we act quickly.

The SCCD has developed a cheatgrass brochure which is available at the office and will soon be available on the website for download. We recently hosted an open house and over 20 members of the public – private landowners, contractors, or agency employees stopped in to share the areas they know that cheatgrass exists. While chemical options are difficult, some options do exist. If this plant shows up on your property, hand pulling is most effective to stop it's gradual increase. It is such an effective competitor; it crowds out our desirable species.

Jennifer Hayward, District Conservationist, Pinedale NRCS Field Office

Paul started his herd of Red Angus when he bought his first registered Red Angus bull in 1967. The following spring, he discovered that even though the Red Angus bull was outnumbered 3-1 by Hereford bulls, he still had a majority of Red Angus calves. To this day, Paul and his wife Bette still own cattle that are located in Iowa and Wheatland.

Paul met his wife Bette when he returned from the service in 1948. While courting Bette, he would ride his mare, Flicka, to pick her up. They would then ride double back to the ranch for the afternoon. Paul and Bette were married later that year, and soon thereafter had two wonderful daughters, Valerie and Leslie. Paul and Bette have taken an active role in the community by opening up their home to local children to teach them about ranch life, and to help prepare them for adulthood. Paul has also taught Sunday School at his lifelong church, the Pinedale Community Church.

Seedling Trees!!!

Don't forget it is that time of year again!!! Seedling trees are now on sale at the Conservation District. Come pick up your order form and a "Planting for Conservation" handbook, courtesy of yours truly, the Conservation District! Orders must be in by April 1st, so hurry and don't miss out. There are a couple of rules to follow: 1. you must have 2 acres or more;

2. these trees are not to be used for landscaping purposes (windbreaks and shelters are good uses!); 3. and you cannot resell the living trees.

Distribution day will be April 28th and 29th, email reminders will be sent out.

Also at distribution day, tree planting supplies will be available along with educational information and refreshments! So even

if you don't purchase trees before April 1st, please stop by during the distribution days, as there may even be some extra trees for sale!



Range Plant Spotlight

Antelope Bitterbrush

Karen Clause, Rangeland Management Specialist for USDA-NRCS

Purshia tridentata
Plant Symbol = PUTR2



Antelope bitterbrush is a deciduous, sprouting shrub native to Sublette County that occurs throughout western North America. In Sublette County, it prefers coarse textured soils and at least 12 inches of precipitation, such as the glacial till in the foothills surrounding Pinedale. However, range-wide it occurs on a wide range of soils with 8 to 34 inches of precipitation.

Description: Antelope bitterbrush is most easily recognized by its grey-green underside (due to hairs) and bright green topside of three-lobed leaves. It is typically 2 to 4 feet tall with 5-petaled pale to bright yellow flowers in the early summer. It has a distinctly decumbent (spreading along the ground) appearance in most local areas, mostly due to its preference as a browse species by most animals.

Uses: Antelope bitterbrush is very palatable to most livestock and wildlife. It is a very important browse shrub, particularly for mule deer in the area. It maintains high levels of nutrients, including crude protein levels of 7.9%, in the winter. This could be considered winter maintenance forage for cattle, however it is just below requirements for mule deer as is the phosphorous content. It is an important source of carotene for rodents. In addition to providing food and cover for numerous wildlife species, it is one of the few non-legume nitrogen-fixing shrubs present in the county (the list also includes snowbrush ceanothus and russet buffaloberry).

Range Plant Spotlight continued

However, the ecological significance of this N-fixing is largely not understood in our area. Studies in other areas have determined that it may contribute as little as 1 lb/acre of N to the system, but that individual plant survival may be positively affected by root nodulation (the beneficial endophyte *Frankia purshiae*) under environmental stresses such as drought and cold temperatures

Season Species→	Cattle	Sheep	Moose	Elk	Mule Deer	Antelope
Spring	P	P	D	D	D	P
Summer	D	P	D	D	D	P
Fall	P	P	P	P	P	P
Winter	D	P	P	P	P	P

P= Preferred; D=Desirable; U=Undesirable

Natural establishment of antelope bitterbrush is aided by adequate moisture and rodents caching the seed (which may only happen once every 20 years!), and it relies on insects for pollination, unlike wind-pollinated sagebrush. It is an important reclamation species where it naturally occurs. It is also used for landscaping, snow fences and aesthetic purposes. The only known improved varieties of seed on the market are 'Lassen', originally collected from Lassen County, CA, Fountain Green originating from Fountain Green, UT, and Maybell originating near the town of Maybell, CO.

Management: Antelope bitterbrush is moderately tolerant to grazing, and can be eliminated by over use hence its designation as a "decreaser" under browse pressure. It is recommended that new seedlings are not grazed for a 4-year establishment period. Mature plants may benefit from moderate browsing, but no more than 50-60% of current annual growth should be removed. It is a fire dependent species, and disturbance such as light to moderate fire and other chemical and mechanical treatments can enhance stands. However, it is not fire resistant in some areas so care should be taken when planning an enhancement treatment.

References:

- USDA-NRCS Upper Colorado Environmental Plant Center
PLANTS database, <http://plants.usda.gov>
- NRCS eFOTG, Ecological Site Descriptions
<http://esis.sc.egov.usda.gov/>
- USDA-Forest Service Fire Effects Information System (FEIS)
<http://www.fs.fed.us/database/feis/>
- Karen J. Clause, Rangeland Management Specialist USDA-NRCS

Do It Yourself- Drip Irrigation: Getting Started

Written by: Loren Racich

How many emitters will be needed?

Emitters are sized by how many gallons per hour (GPH) that they emit (i.e. 2 GPH). The amount of water that will be applied is a function of emitter size and time. A 2 GPH emitter for one hour would apply the same amount of water as a 1 GPH emitter for 2 hours. Another factor to consider is the water needs of the plant, some require more water than others. Soil may also play an important role in how much water a plant needs. Sandy soils can absorb water fast but also drain fast, clay soils have slower infiltration, meaning they drain slower but also hold water more tightly (easier to over water). Along with soil considerations, it may be necessary to increase the size or add additional emitters per plant as they grow. After the system is installed, it is a good idea to check the soil at each plant. Be sure it is getting the proper amount of water, if too little or too much water is being applied, it may be necessary to vary the amount of time the system is on.



Emitters bought locally

Do you have ample water and/or flow available?

Avoid having problems with too many emitters per zone or circuit. If you have too many emitters and not enough water, they will not work correctly or may not put out any water at all.

Available Flow :

$$(\text{time to fill gallon container})/(\text{seconds}) = \text{Gallons per Second (GPS)}$$

$$(\text{Gallons per Second}) \times 60 = \text{Gallons per Minute (GPM)}$$

$$(\text{Gallons per Minute}) \times 60 = \text{Gallons per Hour (GPH)}$$

If it takes 60 seconds to fill a 5 gallon bucket then: $5\text{gal}/60\text{sec} = .083\text{ GPS}$ X 60 = 5 GPM X 60 = 300 GPH

This information becomes important when designing the layout of the system to avoid having too many emitters. It is always good to plan for future needs, such as addition emitters per tree as they grow. For example :

There are 100 trees that need to be watered. To start, one 2 GPH emitter will be used at each tree. The available flow would need to be $(100\text{ trees} \times 2\text{GPH}) = 200\text{ GPH}$. Using the above flow example of 300 GPH there would be enough water for all plants. However, if 2 emitters are needed per tree the flow requirement would double to 400GPH. In this case it would be necessary to design the system in parts or zones so that each zone can be run independently.

Pipe Size

Pipe size is important to insure enough water will be delivered to the system. Flow requirements, pressure, friction loss, and elevation change all play a role in determining pipe size. There are internet resources along with local resources such as landscaping companies that can aid in pipe sizing. In general, if you are in doubt use a larger size pipe!

Pressure

Different brands of emitters are designed to run at different pressures, so it is a good idea to check that the emitter pressure and available pressure are the same. Pressure regulators are available if the household water pressure is higher than the recommended emitter pressure.

Filters

It can be beneficial to install a filter to avoid clogging emitters, this is especially important when pumping out of a ditch. However, even clean well water will have some particles that could potentially clog the system. Filters are easier to change and clean than cleaning or changing individual emitters.

Freezing

Freeze damage should be considered as fall and winter sets in, it is a good idea to design the system so there will be some way to drain it. This may be as easy as installing caps or valves that will allow for gravity to drain the system. However, if gravity and elevation are not to your advantage, it may be necessary to use air to blow the system out.

This information is meant for general advice only. If you do not feel comfortable in the design and installation of a system, contacting a local contractor may be best, whether it is for advice, components or installation. For more information on design and layout the following websites and contacts are just a few that have useful information.

Local:

~ Cheeney Landscaping 307-360-8425

<http://www.cheeneylandscaping.com/>

~ Walker's Agri-Service Inc. 307-367-2589

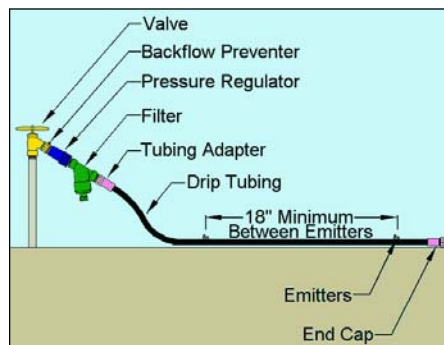
~ Pinedale Lumber, Ridley's and A to Z all have supplies as well

Or online:

~ <http://www.irrigationtutorials.com/dripguide.htm>

~ <http://www.digcorp.com/DIY/208->

[Drip Irrigation design and Installation Guide/pages](#)



Very simple design sample

Soil Mapping Progress

Written by: Dan Mattke, Soil Survey Project Leader

While winters frozen grip remains in Sublette County and the frost is still set in the ground, the soils staff is busy sharpening their shovels and awaiting another field season. The soils trucks remain buried and motionless in

their icy slumber, awaiting for spring to once again hit the two tracks of Western Wyoming. The soils office however, is teeming with life. The winter season, although an idle season for field work gives the soils staff the opportunity to catch up on office work and “complete” the soil survey package. Most of

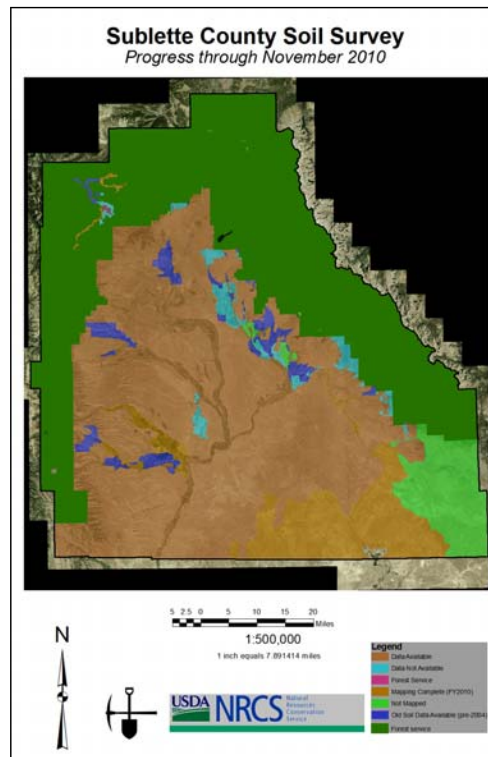


Dan Mattke digging a soils pit

the winter work focuses on completing the soils database and spatial work, ensuring that the users of soil survey information will have a useable product.

During the field season of 2010, the soils staff mapped 270,000 acres. At this point the survey has completed 1.7 million acres.

The field season of 2011 will primarily focus on a Rapid Carbon Assessment project. The Rapid Carbon Assessment project is a nationwide project that studies soil carbon as it is related to different land use and land cover.



Spotlight on Wildlife

Written by: Melanie Purcell

We've all heard of the jackelope, a species of rabbit with horns, native to the American West. Jackelope characteristics include: using its antlers, razor sharp claws and teeth for fighting; being a small creature having strength several times its body size; running at speeds faster than 90 miles per hour on the open plains; appearing as mimickers of humans, singing with the cowboys of the West near their campfires and using phrases like "Look, here it goes! This way!" to draw your attention away from them; and having a fondness for whiskey. Hunters claim that the creature can be lured with the drink, making them easier to hunt. While it is generally considered to be a docile, playful creature, they can be quite aggressive and have been said to be a 'hybrid' cross of a pygmy-deer and a rare species of killer rabbit (the pygmy rabbit. . .hmmm?). After all, they are quite elusive, considered territorial and known to emit several vocalizations.



Jackelope



Dilldapp

Nevertheless, the jackelope has many horned rabbit cousins of sorts such as; the Austrian raurackl, the German rasselbock and wolpertinger, as well as the dilldapp of Switzerland and the skvader of Sweden. There are references to horned hares (*Lepus cornutus*) dating back to the 1500's and illustrations of horned hares were included in the *Encyclopedie Methodique* (1782-1832) and in some 18th century German schoolbooks. Consequently, many naturalists from the 16th through the 18th centuries believed that horned rabbits really existed. Although these legends are likely inspired by rabbits infected with a rather common virus, (*Shope papillomavirus*), which causes hornlike growths in various places on the heads and bodies of rabbits.

It is conceivable then that the idea of the jackelope evolved from immigrants that came to America. The first sighting occurred in Douglas, WY about 1829. Local legend has it that the original jackelope was displayed in 1829 by the owner of a hotel, LeRoy Ball, although Douglas was not actually incorporated until 1887. In 1939, Douglas Herrick and his brother Ralph, drilled deer antlers into a taxidermy jackrabbit in their garage in Douglas, WY. Thus the town is famous as the home of the jackelope. Hunting licenses can actually be purchased in the town, which are valid from midnight until 2 a.m. on June 31st.



Rabbit infected with *Shope papillomavirus*

Groundwater Update

Written by: Delsa Allen



Preparing to ship samples

wells. These wells are used for industrial, stock and domestic purposes and are sampled annually. In 2008 there were 20 wells with detectible hydrocarbons, 3 of which had levels at or above WYDEQ clean-up levels. In 2010 the number of wells with detectible hydrocarbons was 11. For more information regarding these results, visit http://www.blm.gov/wy/st/en/field_offices/Pinedale/pawg/DataResults.html where the latest SCCD groundwater and surface water reports are located.

The SCCD groundwater monitoring program finished its 7th year of sampling in 2010, sampling water wells in and near the Pinedale Anticline Project Area. Since 2004, over 1,700 samples have been collected from around 300 water



Gathering water well depth from a domestic well

Tree Windbreak Workshop

Join the SCCD on Thursday March, 17, for our annual windbreak workshop. We will be there to answer all your tree planting questions as well as aid in windbreak design. Kay's Tree and Lawn Care as well as the Sublette County Weed and Pest will also be there to answer questions.

Pinedale Library 12:00– 1:30 PM
Big Piney Library 5:00– 6:30 PM

For more information Please call 307-367-2257 X 100



What We've Been Up To

Education



Sno Ann working with the kids

In February Sno Ann & Amy visited Big Piney's afterschool program. Grades ranged from K-5. They learned about the water cycle by moving through stations controlled by rolling a big dice placed at each station. Each side of the dice corresponded with one of the other 8 bead/dice stations. Each station offered a bead or charm, and as kids moved through the water cycle they made a charm bracelet signifying the many stations that a drop of water may go through. At the end of the visit kids were each treated with an orange. The Earth As An Orange was demonstrated during the peeling process and kids left

the afternoon with a better perspective of how much soil is available on earth to grow the food that feeds everyone on earth.

Meetings

These last few months have been full of meetings for the staff as well:

- ~Delsa and Kathy gave updates to the Pindale Anticline Working Group, and Delsa presented at the Annual Development Planning Meeting for the PAPA
- ~Loren, Meghann and Melanie coordinated meetings with permittees from the Boulder area to discuss past monitoring activities on allotments in the area and possible future monitoring
- ~Meghann attended three Cooperative Weed Management Area (CWMA) meetings with landowners and the Sublette County Weed and Pest to start the development of these groups
- ~Melanie and Loren attended meetings for the Invasive Taskforce Group, which was created by the Local Sage-grouse Working Group
- ~Delsa, Kathy, Melanie and Darrell all attended the annual Green River Cattleman's Association meeting to update local ranchers on what the District has been up to and future endeavors
- ~Many of the staff also attended the Cattleman's Association banquet



Cattleman's Banquet

Update From USFWS

Written by: Dave Kimble, Wyoming Partners for Fish & Wildlife

Forty-two percent of Wyoming's land is privately owned, and managers of these lands play an integral role in sustaining native fish and wildlife. The uninformed might think that land can be used for wildlife OR agriculture. However, it is obvious to most Wyoming residents that ranching is highly compatible with wildlife and often improves the habitat. The U.S. Fish & Wildlife Service's Partners for Fish & Wildlife Program embraces this principle and has been teaming with private landowners since 1988 to further enhance habitat in Wyoming with projects that often also benefit the agricultural production of the land.

The Partners Program provides technical assistance to plan and cost-share to fund habitat enhancements. Past examples include fence and water developments that improve livestock grazing management, irrigation diversion upgrades that allow for traditional water withdrawal and fish passage in streams, irrigation infrastructure rehabilitation for created wetlands, and restoration of natural wetlands. Depending on project type, project cost, and availability of other funding partners, cost-share rates are generally 50 to 90%. To receive project funding landowners agree to maintain the new structure (e.g. fence, dike, diversion, etc.) and use it for its intended purpose for at least 10 years. However, because projects are usually mutually beneficial for the landowner and wildlife, most landowners choose to maintain their projects beyond 10 years. Landowners retain all rights to control access to their private property.

Program participation is entirely voluntary and any private landowner is eligible to receive assistance. Partners for Fish & Wildlife Program staff can provide general technical assistance and assist with all aspects of project planning, design, permitting, and funding. Interested landowners in Sublette County may call the contacts below or stop by the Conservation District/NRCS office for more information.

Dave Kimble, PFW Biologist
Evanston, WY (307) 789-3194

Mark Hogan, State Coordinator
Lander, WY (307) 332-871



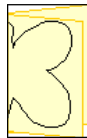
Upland & riparian grazing management project

Kid's Corner

How to make a Butterfly Window Hanging

Here is what you need:

- ~Waxed paper
- ~Scissors
- ~An iron
- ~Hole punch
- ~A few inches of string
- ~Crayon shavings (crayons shaved with a scissors or a knife - by an adult)



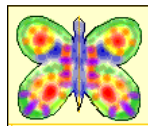
Fold a piece of waxed paper in two. Draw half of a butterfly with the body at the fold.



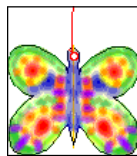
Flip the paper over and draw the other half of the butterfly, using the original as your template.



Open the waxed paper and put it on a flat surface. Put some crayon shavings on the waxed paper.



Cover the waxed paper with another piece of waxed paper (shavings between the two layers). Have an adult iron the two layers of waxed paper together on low heat (protect your iron by putting a paper towel on top of the waxed paper while ironing).



Cut out the butterfly. Punch a hole near the top. Put a string in the hole for hanging it. This butterfly looks beautiful hanging in a window!

Happy Spring!

Who Are We?

Sublette County Conservation District Board of Supervisors

Darrell Walker, Chairman
Brad Bousman, Vice Chairman
Dan Stroud, Treasurer
Chad Espenscheid, Member
Coke Landers, Member

Sublette County Conservation District Associate Supervisors

Jim Bousman and Les Burrough

Sublette County Conservation District Staff

Sno Ann Engler, Administrative District Coordinator
Kathy Raper, Surface Water Quality Specialist
Delsa Allen, Ground Water Quality Specialist
Sharon Harrell, Water Quality Assistant / Field Technician
Melanie Purcell, Natural Resource Specialist
Meghann Durbrow, Range Conservationist Technician
Loren Racich, Range Conservationist Technician
Amy Sturman, Administrative Assistant / Field Technician

Partners: USDA / NRCS Staff

Jennifer Hayward, District Conservationist
Karen Clause, Range Conservationist, Multi-County Specialist
Bryan Christensen, Range Conservationist, Multi-County Specialist
Dan Matke, Soil Survey Project Leader

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