Summer 2021

Slow Sand Filters

Slow sand filtration was the first water treatment process introduced to improve the quality of surface water in Europe and North America and soon proved to provide protection against cholera and typhoid. It has remained a suitable treatment technology throughout the world and is recognized as particularly appropriate for application in developing countries by reason of the simplicity of design and construction and the ease of operation and maintenance. In areas where land is available, slow sand filtration is a low-cost water treatment process which can be operated and maintained easily.

The Meadowlark Extension District has teamed up with Will Boyer, KSU Watershed Specialist, Kansas Center for Sustainable Ag Resources and Alternative Crops, and the KSU Vet Diagnostic Lab to build slow sand filters for farmers/ranchers use. The object of the project was to build a cost effective alternative for livestock water, when the pond in use has a harmful algae bloom.

The Slow sand filters are constructed from easily accessible materials in rural Kansas. Food grade chemical totes house the filter. The filter itself is composed of layers of gravel and sand with a PVC pipe grid which allows the water to flow out of the filter into a stock tank. The pond water is pumped into the filter, with solar powered submersible pumps. Because of the weight of the filters they are mounted on trailers that can easily travel to pond sites. The filters are currently at private ponds which had a positive blue/green algae tests.

This summer the filters will be tested by the Kansas Vet Diagnostic lab and Dr Joe Gerken, KSU Fisheries and Aquatic Extension Specialist will be testing the slow sand filter in a laboratory setting to assure results. When the project concludes, construction and operating instructions will be prepared for farmers and rancher’s use.
Ideas for Recruiting New Leaders

Ask the Question: “Who’s Not Here”

What groups or individuals should be involved in order to have a truly representative community organization, event, or project? Making sure a group is inclusive is the best way to build cooperation from the beginning.

Look for Skills, Not Names

One of the problems caused by relying on the same people for the same tasks over and over again is that those people will eventually tire of making the same contribution. A simple way to identify new people to recruit is to focus on the skills needed for the task and not the person.

Try Involvement by Degrees

One of the most successful techniques for helping new leaders develop is to offer ways in which individuals can become involved on a limited basis then “grow” into a larger and more prominent role. Asking for help with a small and simple task makes it easier for an individual to respond with a yes while presenting the chance to increase the commitment as time goes by.

Appeal to Self-Interests

A standard approach to recruiting new volunteers is to try to understand the personal motivation of others. The realization that others see rewards in community service is a vital step to both identify and recruit new leaders. Individuals may wish to help others, to pay back a debt to the community that fostered them, or to receive the approval of friends or neighbors.

Use a Wide-Angled Lens

While the effort to bring new people into the leadership arena is important it’s also important to recognize that even the smallest and most limited volunteer contribution can be part of the leadership activities of a community. What is important is seeing how each contribution fits into the whole picture. And, by never discounting any effort, no matter how small, the door to increased involvement remains open.

Define the Task

Recruiting new leaders by asking for help becomes most effective when a task is very clearly defined. This means describing the skills needed, describing the task in terms of what the expectations are as well as the time commitment required. Finally, defining the task should also cover some ideas about how this role fits into the whole scheme of community improvement.

Use Current Leaders to Recruit New Leaders

One of the signs of a healthy and vital community is a leadership group that recognizes the need to recruit new members into the leadership role. The most successful recruitment efforts are conducted by the people already in leadership positions. Example

is perhaps the most powerful tool available to current leaders. Recognition of effort, friendly interest, and encouragement go a long way to ensure a good supply of leaders for any community.

Create a History of Efficient Use of People’s Time

There’s nothing so encouraging to a volunteer as a meeting that’s well run. Group members who are convinced that the organization or community project is worthwhile and that the effort is well-managed are much more likely to take on a leadership role.

Offer Membership “Premiums”

What the advantages of assuming leadership? By offering some sort of “premium” to newcomers, emerging leaders can often be persuaded to try out a new role. “Premiums can be anything from discounts on memberships, trips to conventions or workshops, or a letter of recognition sent to an employer highlighting the community service or an employee.

Market Your Wares

Making sure that the community is aware of the results of local efforts is an important technique for attracting potential leaders. Be creative in the way your organization is presented to the community. Build on the reputation of your group as both effective and important.

Excerpts taken from “10 Ideas for Recruiting New Leaders” by the Heartland Center for Leadership Development
early June, with feeding starting immediately. Bags are more than likely well beyond the quarter inch length we like to control them at, and that means we may be in rescue treatment mode as larvae become increasingly difficult to control as bags increase in size. For best results, consider these tips:

Scout trees NOW if you have not already. If your control efforts were thorough last year, pressure may be light. Focus scouting at the tops of trees when possible where females tend to congregate and feeding will be heaviest.

Insecticide coverage will need to be thorough. Plan to use plenty of water and make sure you cover trees from top to bottom and inside to outside. Always read and follow pesticide labels for rate recommendations.

LOTS of insecticides are labelled for bagworm control. Look for active ingredients like acephate, permethrin, bifenthrin, lambda-cyhalothrin, or spinosad among others. Check to be sure bagworm and the species you are spraying are both on the label of the product you choose.

Control will become increasingly difficult. Once bags are closed off (early August), chemical control measures will be ineffective. Hand picking is the only option at that point.

There’s still time for control efforts – but that time is short. Scout and implement a control program soon.

Watering Trees in Summer
Anyone who’s done any tree planting understands the importance of watering those newly planted trees in the first few years as they get established. What isn’t often as straightforward is the need even established trees and shrubs have for supplemental irrigation during drought.

For trees planted in the three to five years range, watering doesn’t need to occur as often as with new trees, but deep watering should still occur every two to three weeks using soil moisture as your guide. Older trees may not need watering even that frequently, but you can help enhance tree vigor by watering trees in the ground more than five years every three to four weeks if hot/dry conditions persist.

Watering should occur to a depth of 12 inches, out to and beyond the drop line. Use a rain gauge to monitor natural precipitation and supplement as needed to reach that 12 inch depth. Trees tend to benefit infrequent but deep watering more than frequent watering on a more shallow basis. Feeder roots of deciduous trees extend well beyond the drip line of the tree, meaning watering should occur beyond the drop line as well. Avoid watering at the base of the trunk – absorbing roots are further out.

NOTE: what about shrubs?
Established shrubs should be watered so the soil is moistened to a depth of eight to 12 inches every couple of weeks.

For more watering tips, check out Watering Established Trees and Shrubs available upon request from any District Office or online at: https://bookstore.ksre.ksu.edu/pubs/mf2801.pdf.

Planning for a all Garden
Even as your current garden plantings are (hopefully) continuing to flourish, it’s not a bad time to start thinking about the next round of plantings.

It’s not an ideal time to find seed potatoes, but if you can, mid-July is a great time for the next planting of potatoes. Freshly dug or grocery store potatoes will not be a suitable substitute due to sprouting issues.

Late July is a good time to plant seed beets, carrots, or beans and mid to late August is a good window for planting seed radishes and leaf lettuce.

Planting conditions aren’t the same in late summer as they are in early spring, and neither are planting practices. Plant a little deeper to keep seeds a little cooler as well as avoid quickly drying soils. Plant more thickly, too – you can always thin later if plants are too thick. Rabbits will be out in full force, so consider protecting plants as well. Avoid overhead watering when you can to prevent crusting and avoid fertilizing until you apply a side dress after planting (two weeks later for transplanted crops – four weeks later for seeded crops, using a tablespoon of a high nitrogen/low Phosphorous/Potassium fertilizer per plant.
Ross Mosteller, District Extension Agent
Celebrating 75 Years of 4-H Camp in Kansas

At the time of writing this, I’ve just returned home from Rock Springs Ranch and the annual trip to 4-H Summer Camp. The overnight camping experience is one of the longest-lasting and impactful 4-H experiences in the lives of many youth. Kansas 4-H is celebrating the 75th year of organized camping at Rock Springs and will be transitioning to a different camp delivery model in 2022. There appears to be many false assumptions and myths surrounding Kansas 4-H Camp 2022 and beyond, so it feels timely to share this information with the public, as we move to a new 4-H Camp model.

Based on the great work the 4-H Camping task force performed, information acquired from many KSRE professionals and other stakeholders during the Rock Springs master planning process (2018), and the directive from the university level and Kansas 4-H Foundation to address impact, access and risk, a decision has been made to move to a more centralized model for state 4-H camp at Rock Springs Ranch. This new model will benefit our youth and professionals in a number of ways.

Pre-teen youth will be provided an enhanced camp experience with professional counselors trained to create an impactful experience in all parts of camp. Teen youth will participate in age-appropriate leadership development. Extension professionals will no longer be tasked to provide programming outside their areas of expertise. Risk management practices will be standard, and youth across the state will have greater access to 4-H camp on their schedules.

By the 2022 camp season, we plan for the Kansas 4-H Camp program to build upon the incredible tradition of Kansas 4-H camp and be even more consistent, accessible, and impactful than it already is. This plan will enable Rock Spring Ranch to also meet ACA Accreditation standards for a residential camp. This camp model includes an enhanced, progressive and accessible residential camp program for 8-14 year old’s, a robust and thrilling Counselor-In-Training (CIT) program for 15-17 year old’s, and Rock Springs providing paid and trained adult counselors age 18-25 for the entire camping season. It is our desire that as this plan is implemented, a vast majority of adult counselors will be a product of the Kansas 4-H system. from Wade Weber, Kansas 4-H Program Leader

Here is a brief go at a few of the myths we’ve heard recently... from Jake Worcester, Kansas 4-H Foundation President/CEO

Myth: Counselors can’t come to camp anymore

Reality: The traditional teen counselor is critical to the Kansas 4-H camp experience. In fact, we’re looking forward to more teen youth at 4-H camp than ever before. New, age-appropriate LEAD and Counselor-In-Training (CIT) programs will build on and enhance the traditional teen counselor model. Youth will be able to provide leadership to younger campers while also having their own community and camp experiences, all with the mentorship and supervision of 18-25 year-old youth development staff. Also, the new model provides a camp experience for all 4-H young people, ages 8-18. There won’t be “gap years,” and now older 4-H youth who don’t want to be a counselor but do want to have a camp experience will have options as well.

Myth: The cost of camp is going way up

Reality: Camp prices will increase. But, we know that families have different abilities to pay, and maintaining access to Kansas 4-H Camp is vital. Families will be presented with a tiered pricing model that allows for selecting the rates that their family can afford. At the subsidized camp rate with a 4-H discount, the all-inclusive cost will be just a few dollars more per day than the current rates charged by camp groups. In addition, a statewide campership program will continue to provide access to those families who need additional assistance.

Myth: Local units won’t camp together anymore

Reality: Local units and entire camp groups may choose to continue to target specific dates to camp together. However, Rock Springs Ranch won’t hold dates with open slots. Camp works best when villages are full and all youth have access to camp. Any youth who can’t attend when their local unit is targeting is free to select from any other camp session. An open enrollment system allows for families to select sessions that not only work with their busy schedules, but provides the opportunity to select a 4-H camp session that is developmentally appropriate for their child(ren).

Myth: Extension agents and other professionals can’t come to camp anymore

Reality: Extension professionals can continue to have a role at camp and are welcome to attend. Rock Springs Ranch staff is excited to work with agents to schedule their attendance dates so they can come. Staying in Leadership Lodge or other retreat accommodations while at camp can also provide a nice upgrade to the traditional accommodations!

Myth: This is the last year for 4-H Camp

Reality: This couldn’t be further from the truth! Kansas 4-H Camp has evolved many times over the 75 years it’s been in existence, and this is simply the next evolution in building on that tradition. Kansas 4-H Camp is being expanded in the new model with hopes of having 4-H camp throughout even more of the summer. We look forward to welcoming thousands of new 4-H campers of all ages every summer!
Barley Straw Pond Project- Meadowlark Extension District & KDHE

Blue/Green Algae is a growing concern for pond owners. This algae can cause toxic blooms that are detrimental to people, pets and livestock. When a pond has a harmful bloom of blue-green algae the water will have a scum that can vary in color from blue-green to gray and even red, orange, or brown. The scum will often resemble paint or a growth mat in appearance, and the water of a pond that has blue-green algae will often smell bad. If signs of a harmful bloom of algae are noticed in a pond, water samples should be taken from the pond and sent to the Kansas State Veterinary Diagnostic Laboratory to be tested.

Until the water has been tested and is confirmed safe, animals should be kept away from the pond. Two weeks from when the algae bloom starts is the average length of time it takes to get rid of the toxin. However, if the pond has a blue-green algae bloom, it can last from days to months depending on the weather conditions. During this time animals should be kept away from the pond and the water should be retested before allowing animals access the pond again to ensure that there are no longer toxins in the water.

In recent years, the use of barley straw has become more common as an alternative method for controlling excessive algae growth. This method has been extensively studied by Dr. Jonathan Newman at the Centre for Aquatic Plant Management in Great Britain. When testing to see if barley straw applied at the proper time and rate, can be a successful algae control technique in Kansas ponds. Barley straw is used for the prevention of algae growth. When barley straw begins to decompose, it releases chemicals into the water that stunt the growth of algae, if used correctly.

Barley straw does not kill existing algae, but it inhibits the new growth of algae. The exact mechanism is poorly understood, but it seems that barley straw, when exposed to sunlight and in the presence of oxygen, produces a chemical that inhibits algae growth.

Barley straw does not reduce the growth of other aquatic plants. In fact, in some cases aquatic plant growth has increased after barley straw applications because algae are no longer present to compete with the aquatic plants.

Barley straw is most effective when applied early in the year prior to the appearance of algae (fall through early spring). When applied to cold water (less than 50°F), it may take six to eight weeks for the straw to begin producing the active chemicals that inhibit algae growth.

The most common application is about seven bales per surface acre of pond. The depth of water in the pond is not important. In ponds that are frequently muddy or those that have a history of heavy algae growth, two or three times this recommended dose may be required for the initial treatment.

However, overdosing the pond with barley straw may cause fish kills because the straw deoxygenates the water as it decays. This is especially a problem if the pond is overdosed with straw during a prolonged warm spell.

Baseline water samples were taken prior to the barley straw installation. The Kansas Department of Health and Environment will take water samples monthly. They will be testing for Temperature, Ammonia, Conductivity, Dissolved oxygen, Kjeldahl Nitrogen, Nitrite, Nitrate, Orthophosphate, total Phosphorus, Microcystin, Anatoxin, Saxitoxin and Cylindroperminopsin.

This spring we are partnering with KDHE and have installed bales in 10 ponds throughout northeast Kansas. With some excess straw bales, an additional seven ponds have been treated as demonstrations.

Pond Turn Over?

In pond management, a turnover is a natural occurrence that describes vertical movement of water of differing temperatures and oxygen levels. This occurs normally in spring and fall as air temperatures warm or cool. This gradual mixing of the water layers has little effect on fish. However, if certain conditions during the summer cause a rapid turnover, depleted oxygen levels in the water can result in a fish kill.

The water in a pond is divided into horizontal layers. The top layer is the most fertile and oxygen-rich. This is the layer where phytoplankton, microscopic plant life, grows. Phytoplankton is beneficial to ponds and like other plants, phytoplankton produces oxygen. When there is a good phytoplankton bloom, this upper water layer will be highly oxygenated and will take on a green appearance due to all the phytoplankton.

This green color blocks sunlight from reaching the bottom of the pond and helps prevent the growth of unwanted plants. Phytoplankton is also important in the food chain of a pond. If more phytoplankton is present, there is more food for fish to eat. Thus, more oxygen and more food mean more fish in the top layer of the pond.

The bottom layer of a pond is colder and less fertile. The phytoplankton in the top layer block light from reaching the lower layers, reducing the temperature and restricting plant growth.

The cooler water is heavier than the warmer water, keeping it in the lower portion of the water column. With few or no plants to carry on photosynthesis, there is little oxygen available in this layer. A turnover occurs when the top layer (warm, fertile, highly oxygenated) and the bottom layer (cold, infertile, and poorly oxygenated) are suddenly mixed together. When these layers mix, the dissolved oxygen is depleted in the upper layer of the pond where fish generally occur. With little dissolved oxygen, the fish become stressed and often move to the surface to gulp air. If nothing happens to improve oxygen levels, a fish kill can occur.

The percentage of fish that actually die varies greatly depending on how extreme the turnover is, and how quickly the pond is able to recover. Sometimes, less serious turnovers kill only a handful of fish. Severe turnovers will kill every fish in the pond. In some summers, conditions that cause pond turnover never occur. In other summers, they may happen repeatedly.
Pie Baking in Disposable Pans

With county fairs gearing up soon, so are bakers to bake a prize-winning pie. But getting the pie to bake properly in a disposable aluminum pan can be a challenge. Aluminum does not hold heat and bakes slowly. Here are some tips to prevent soggy bottom crusts.

* For blind baking, increase baking time up to 10 minutes or until golden brown.
* For double-crust pies, place pie pan on a preheated baking sheet or baking stone.
* For double-crust pies, set the pie inside a glass or stoneware pie pan for more heat transfer.

Source: Cook’s Illustrated, July 2021

Reusable Water Bottles…Fill’em Up But Keep’em Clean

As the weather heats up, so does our need to stay hydrated. Experts suggest drinking at least eight 8-ounces glasses of water per day, and more if you’re exercising. The reason is that liquids consumed are vital for keeping all bodily systems functioning properly including our brain which is 85% water. One of the least expensive, easiest and most environmentally responsible ways to get all that water is by using a refillable water bottle.

Reusable water bottles come in metal, glass, and safe plastic, not to mention a variety of shapes, sizes and designs. But the one thing all water bottles have in common is that you need to keep them clean. Bacteria can build up in water bottles if they are left full, especially if you are using them for beverages other than water, and can actually make you sick if the bottles are not kept clean. Here are some key points to good, clean, (healthy) drinking!

* Wash and disinfect your water bottle at least every few days, if not more often. It’s simple---just add a few drops of dish soap to your water bottle, fill about half full with warm water, screw on the top and shake!. Rinse the bottle thoroughly and leave open to air dry.
* If your bottle is in need of deeper cleaning (think---to remove an odor?) after you wash with soap and water, use a vinegar soak of 1/5 white vinegar and 4/5 water. Let it sit in the bottle overnight, then rinse thoroughly with water in the morning.

* Disposable plastic water bottles aren’t designed to be used more than once. Continuously reusing and washing disposable water bottles may begin to break down the plastic exposing the user to harmful chemicals which can pose a health risk. So, use disposable plastic bottles as they are intended and remember to protect our environment by recycling them after use.

How to Tell if Your Freezer Power Was Off When You Were Away

A gentleman had been traveling during a time when the electricity was off for several days in many homes in his community. When he returned home, his electricity was working and everything in his freezer was frozen solid.

He proceeded to eat some food from the freezer and got sick. What happened?

In this case, his electricity had been off for about a week, and then came back on. Everything in his freezer had thawed and been at unsafe temperatures for several days. As the food froze again when the electricity returned, he was unaware there were an food safety problems.

Here’s a simple way to help detect this problem. Store an ice cube or two in a sealed plastic bag or small container in the freezer, a sealed bag/container is important so the ice cube doesn’t evaporate and disappear. If the ice cube has melted down from it’s original shape, you’ll know the power was off for an extended period of time. If in doubt, toss the food out as it’s not worth getting sick over unsafe food!

Source: University of Nebraska Food, Institute of Agriculture and Natural Resources, March, 2021

Patriotic Fruit Salad---Yield: 2 servings. This red, white and blue healthy sweet food is low in fat and very low in sodium. It is a good source of vitamin C and fiber.

1 medium red, crisp, tangy apple
½ medium banana, peeled
¼ cup fresh or frozen blueberries
¼ cup non-fat vanilla yogurt
1 teaspoon poppy seeds, if desired

Wash your hands and work area. Wash apple under cold running water. Let drain. Core apple, but do not peel. Slice apple and banana into bite size pieces. Combine all ingredients in a serving bowl. Stir gently. Serve soon after preparing it, so the fruit does not turn brown. Cover and refrigerate leftovers within 2 hours. To make it more of a family cooking activity, have the children wash the apple and stir the mixture. Be sure that everyone helping with the cooking washes their hands with hot, soapy water for at least 20 seconds.
Keys to Longevity
In 2005, explorer Dan Buettner reported in National Geographic five areas of the world where people seemed to be living longer and healthier.

In each of those places, he discovered traits that seemed to explain people’s longevity, and he termed the locations ‘Blue Zones.’ In addition to diet, exercise and rest, other lifestyle and social factors may contribute to their longevity.

Buettner’s travels led him to Blue Zones in Italy, Costa Rica, Greece, Japan and California. The traits include:

• **Move naturally.** We all know that exercise is incredibly important to our overall health and wellness but within these Blue Zones, people aren’t going to the gym or running marathons. Instead they move naturally throughout their day. They may walk to the grocery store or garden every day. You won’t see escalators and elevators in some of these areas because people are naturally going to take the stairs. People continue to garden and work their land well into their 90’s.

• **Know your purpose.** They have a purpose for why they wake up in the morning, the reason why they’re living their life and why they want to live a healthier life.

• **Downshift.** In America, we talk a lot about mindfulness and stress relief. But in Blue Zones, this is a natural practice for people. For example, in Okinawa, Japan, people take a minute every day to remember their ancestors. In Greece, it’s an afternoon nap. In Italy, a happy hour. All of these people across the Blue Zones have some sort of practice that help them naturally relieve stress. It’s naturally built into their day.

• **The 80% rule.** This means that you should stop eating when you feel you are 80% full. It takes a while for our brain and stomach to communicate. Healthier people over-eat less, avoiding calories that the body does not necessarily need. People in the Blue Zones eat more plant-based foods, such as beans and nuts and leafy green vegetables. Their diets do not exclude meat products, but meat is included in moderation. People are eating things that are in season and naturally grown in their area. There is a lot of variation in their diet.

Being around family, including non-blood family, is incredibly important because they provide a solid foundation on which you can grow. They provide stability, support and all sorts of good things that we want from positive relationship in our lives.

Belonging. In all of the Blue Zones, people identify with some sort of faith-based community. What seems to be important is the sense of community and belonging and support and social network that comes along with faith-based communities.

Many of the people living in Blue Zones are like-minded when it comes to healthier lifestyles. When people around you are also making healthy choices, and your environment supports those choices, it’s a lot easier for you to make healthy choices, and you have the support around you to keep doing that throughout your lifetime.

Healthy Aging Highlight
Research has suggested that maintaining heart health and reducing cardiovascular risk factors, in particular blood pressure control, may slow cognitive decline. A new study, funded in part by National Institute on Aging, examined this association across the adult life course.

Combining data from four NIH-funded studies, researchers looked at late-life cognitive decline and cardiovascular risk exposures in early adult, midlife, and late life. Cardiovascular risk factors, such as high body fat, fasting blood sugar, and systolic blood pressure, across the adult life course were associated with worse cognitive health in later life. Additionally, the lack of cardiovascular risk factors in early adulthood was associated with better cognitive health in old age—even when accounting for midlife and late life cardiovascular factors.

These findings suggest that treatment in early adulthood for cardiovascular risk could help people maintain their ability to think clearly, learn, and remember as they age.
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Upcoming Events

Jackson County Fair July 19-22, 2021
Jackson County Carnival July 28-31
Nemaha County Fair July 22-26
Jefferson County 4-H Fair July 26-29

Tailgate Talks
Summer means the return of the Tailgate Talk forage education series! This year’s schedule has been reduced to a single date – Wednesday, July 14th - with a focus on water, hosted by the Henry and Tracy Hill family northeast of Holton. 

Please RSVP by Friday, July 9th by contacting the Holton Office of the Meadowlark Extension District @ (785) 364-4125 or register online at https://tinyurl.com/tailgatetalk2021 . If you have questions, you e-mail Jody Holthaus at jholthau@ksu.edu or David Hallauer at d hallauer@ksu.edu .