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Siqon - March 2016

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**Antidepressant Microbes In Soil:
 How Dirt Makes You Happy**

Prozac may not be the only way to get rid of your serious blues. Soil microbes have been found to have similar effects on the brain and are without side effects and chemical dependency potential. Learn how to harness the natural anti-depressant in soil and make yourself happier and healthier. Read on to see how dirt makes you happy.



Image: amoceptum
 By Bonnie L. Grant

Natural remedies have been around for untold centuries. These natural remedies included cures for almost any physical ailment as well as mental and emotional afflictions. Ancient healers may not have known why something worked but simply that it did. Modern scientists have unraveled the why of many medicinal plants and practices but only recently are they finding remedies that were previously unknown and yet, still a part of the natural life cycle. Soil microbes and human health now have a positive link which has been studied and found to be verifiable.

Soil Microbes and Human Health

Did you know that there's a natural antidepressant in soil? It's true. *Mycobacterium vaccae* is the substance under study and has indeed been found to mirror the effect on neurons that drugs like Prozac provide. The bacterium is found in soil and may stimulate serotonin production, which makes you relaxed and happier. Studies were conducted on cancer patients and they reported a better quality of life and less stress.

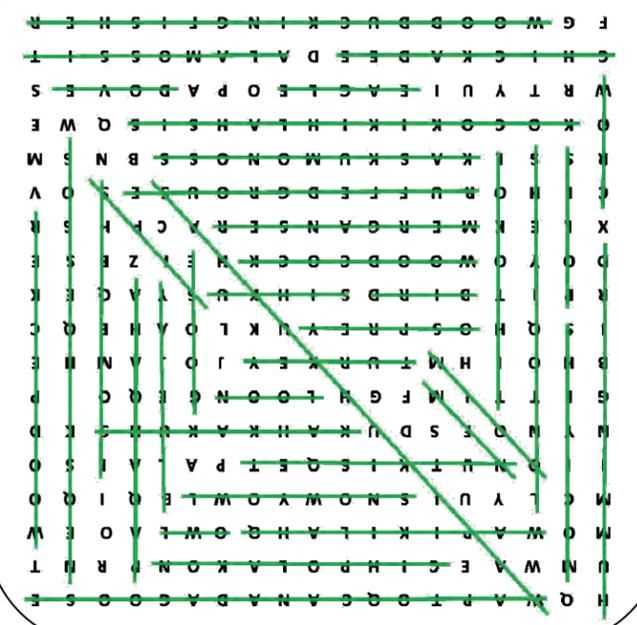


Lack of serotonin has been linked to depression, anxiety, obsessive compulsive disorder and bipolar problems. The bacterium appears to be a natural antidepressant in soil and has no adverse health effects. These antidepressant

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Word Search Puzzle Answers



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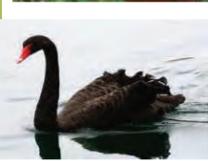
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Colorful Birds Quiz

Now that Spring is here, or nearly here, many birds are returning to their nesting areas and starting to put on their breeding plumage. Can you identify these colorful birds? If you need a hint, the list of colors is at the bottom of this page.

- 1.) One of the bad boys of the bird world, attacking other birds' nests and chasing hawks, this bird is called the _____ jay.
- 2.) With a zebra-striped back and loud chirp, this bird pecks for food on tree limbs. It's called the _____ bellied woodpecker.
- 3.) The bird that drills holes in trees for a nutritious drink is called a _____ bellied sapsucker.
- 4.) The _____ pelican is a large water bird that has a flat bill and a big throat pouch.
- 5.) The biggest North American Swallow might be seen in garden martin boxes or gourd houses. It is called the _____ martin.
- 6.) This tall water bird (that some folks mistake for a crane) is really a Great _____ Heron.
- 7.) This aggressive bird might be seen swooping down into a field and picking up a mouse for dinner. It is called a _____ tailed hawk.
- 8.) Although the bald eagle is our nation's official bird, the _____ eagle has a tiny collar that looks like a precious metal on the back of it's neck.
- 9.) Often laying its eggs in another birds' nests, this bird is called a _____ headed cowbird.
- 10.) Another word for dark blue to purplish blue is the name of the _____ bunting.



11.) A sign of Spring in the Midwest, this bird can be seen throughout the year around the U.S. It's called the _____ winged blackbird and might be spotted standing on cattails in marshes and swamps.

12.) Another word for reddish-orange is the first name of this tiny _____ flycatcher.

13.) The name of the _____ breasted grosbeak begins with the name of a flower or a college football bowl game and parade in California.

14.) Although many swans are a beautiful white, the _____ swan has the opposite coloration.

15.) The itty-bitty _____ throated hummingbird zooms around with wings that beat so fast they are a blur. Its name starts with the name of a precious gem.

16.) Flamingoes, large wading birds often seen in zoos are traditionally _____.

17.) The northern cardinal is the official state bird for seven states: Illinois, Indiana, Kentucky, Ohio, North Carolina, Virginia and West Virginia. What color is the cardinal? _____

18.) Feathers of bright yellow and a head topped with black, the male American _____ finch frequents thistles and sunflowers for food.

19.) The blood red birds with jet black wings and tails are some of the most gorgeous American Birds. They are _____ tanagers.

20.) The male Mallard is the most striking of this duck species because it's head is what color? _____

Colors used in the quiz:

Vermillion - Yellow
 Red - Red - Rose - Ruby - Scarlet
 Golden - Green - Indigo - Pink - Purple - Red
 Black - Blue - Brown - Gold
 Blue - Blue - Brown - Brown - Gold

Geocaching - Fun for the Whole Family



What is geocaching and what is a geocache? The word geocache [GEE-oh-cash] comes

from two words. The first is the prefix *geo*, meaning "Earth". The second is *cache* which is a safe place for hiding or storing something. It can also be the thing which is hidden. For example, the batch of nuts that a squirrel hides for winter is her cache. Your computer keeps the Internet files you are using in a cache.

So a geocache is something that is hidden somewhere on Earth! It is a new word created for the hobby geocaching. People gather up a few little odds and ends and put them in a watertight container. Then they hide it outdoors somewhere, record the coordinates using their GPS receiver, and post the coordinates on the Web.

The first geocache was hidden on May 3, 2000 by Dave Ulmer in the Portland, Oregon area. Jeremy Irish and Mike Teague were instrumental in bringing the hobby to life, via the Web. Jeremy is the founder and operator of geocaching.com, which is the clearing house for most of the geocaching community.

Geocaches are hidden all over. Later, when you go to the geocaching.com web site, you'll be able to find geocaches in your area. There are thousands of them all over the world! Usually, they are hidden on public land or on private land with the permission of the land owner. The geocaches are hidden well enough that people who aren't looking for them usually don't happen to find them. Some geocaches are easier to get to than others. The watertight containers are usually a cubic foot or smaller.

Geocaches are hidden by other geocachers. They get the container and the first few items to put inside. They choose the hiding place and record the coordinates, which are then posted on the geocaching.com web site. Hiding a geocache usually means that you have to check on it once in awhile to make sure it is still there and intact. After you have tried geocaching, you and your family may want to

make one yourselves!

A geocache can have all sorts of things in it. Generally, there are small items of little value. When you go geocaching, you take items to trade with the geocache. For example, you might find a geocache that has a CD, a toy car, trading cards, and other stuff. You might choose to take the car and leave a kazoo. The general rule is, if you take an item, you leave an item. Most geocaches also have a log book where you record the date and your name (or code name--most geocachers have a code name just for fun). Some geocaches even have a camera so that you can snap a picture of yourself. Never take the camera.

<http://www.springhurst.org/geocachingkids/what.htm>

For more information on where / how to geocache in your area check out :

www.geocaching.com

In Maine :

www.geocachingmaine.org

FREE GPS Giveaway!!

Are you a fisherman, hunter, adventurer, or outdoor enthusiast? Then you need a handheld GPS unit! Wait, what is GPS? GPS stands for Global Positioning System. A **GPS navigation device** is a device that accurately calculates your geographical location by receiving information from GPS satellites. Initially it was used by the United States military, but now most receivers are found in automobiles and smartphones.



With this GARMIN eTrex Legend device you would have the ability to begin a geocaching hobby, mark your successful fishing holes so you know where to fish next time, track your hunting route when in unfamiliar territory, and map your favorite hiking trails.

Want to win this GPS?

Email Cara at water@maliseets.com and describe why you want to win and how you plan to use the GPS unit. Be sure to include your name, address and telephone number. All emails received by **April 20, 2016** will be entered in the drawing.

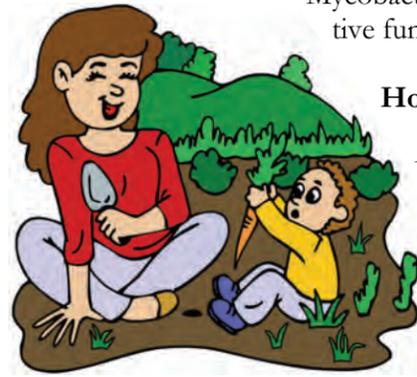
The winner will be drawn on April 21, 2016 in honor of Earth Day and announced on our Facebook page!

How Dirt Makes you Happy (cont'd)

microbes in soil may be as easy to use as just playing in the dirt.

Most avid gardeners will tell you that their landscape is their "happy place" and the actual physical act of gardening is a stress reducer and mood lifter. The fact that there is some science behind it adds additional credibility to these garden addicts' claims. The presence of a soil bacteria antidepressant is not a surprise to many of us who have experienced the phenomenon ourselves. Backing it up with science is fascinating, but not shocking, to the happy gardener.

Mycobacterium antidepressant microbes in soil are also being investigated for improving cognitive function, Crohn's disease and even rheumatoid arthritis.



How Dirt Makes You Happy

Antidepressant microbes in soil cause cytokine levels to rise, which results in the production of higher levels of serotonin. The bacterium was tested both by injection and ingestion on rats and the results were increased cognitive ability, lower stress and better concentration to tasks than a control group.

Gardeners inhale the bacteria, have topical contact with it and get it into their bloodstreams when there is a cut or other pathway for infection. The natural effects of the soil bacteria antidepressant can be felt for up to 3 weeks if the

experiments with rats are any indication. So get out and play in the dirt and improve your mood and your life.

<http://www.gardeningknowhow.com/garden-how-to/soil-fertilizers/antidepressant-microbes-soil.htm>

Maliseet Weather Station



For many years, HBMI's Natural Resources Department has been collecting weather data in conjunction with the University of Maine Presque Isle Cooperative Extension.

Data from our weather station is used to monitor conditions that promote blight in the local potato crops. The information generated helps local farmers manage their crops appropriately.

Just recently our weather station has been added to the Weather Underground network of weather stations. By logging in via the link below, you can view real time weather data here at the administration office.

<http://www.wunderground.com/personal-weather-station/dashboard?ID=KMELITTL4>



Colorful Bird Quiz Answers

- | | |
|------------|---------------|
| 1. Blue | 11. Red |
| 2. Red | 12. Vermilion |
| 3. Yellow | 13. Rose |
| 4. Brown | 14. Black |
| 5. Purple | 15. Ruby |
| 6. Blue | 16. Pink |
| 7. Red | 17. Red |
| 8. Golden | 18. Gold |
| 9. Brown | 19. Scarlet |
| 10. Indigo | 20. Green |



FEATURES OF A GOOD BIRDHOUSE

BUILD A SAFE AND SUCCESSFUL HOME

- IT'S WELL CONSTRUCTED**
 - UNTREATED WOOD**: Use untreated, unpainted wood, preferably cedar, pine, cypress, or for larger boxes (owls) nonpressure-treated CDX exterior grade plywood.
 - GALVANIZED SCREWS**: Use galvanized screws for the best seal. Nails can loosen over time, allowing rain into the nest box. Screws are also easier to remove for repairs or maintenance. Do not use staples.
- IT KEEPS BIRDS DRY**
 - SLOPED ROOF**: A sloped roof that overhangs the front by 2-4" and the sides by 2" will help keep out driving rain, while also thwarting predators. Add 1/8" deep cuts under the roof on all three edges to serve as gutters that channel rain away from the box.
 - RECESSED FLOOR**: A recessed floor keeps the nest from getting wet and helps the box last longer. Recess the floor at least 1/4" up from the bottom.
 - DRAINAGE HOLES**: Add at least 4 drainage holes (1/8" to 1/2" diameter) to the floor to allow any water that enters the box to drain away. Alternatively, you can cut away the corners of the floor-board to create drainage holes.
- IT HELPS REGULATE TEMPERATURE**
 - THICK WALLS**: Walls should be at least 3/4" thick to insulate the nest properly. (Boards sold as 1" are actually 3/4" thick.)
 - VENTILATION HOLES**: For adequate ventilation, there should be two 3/8" diameter holes on each of the side walls, near the top (4 total).
- IT KEEPS OUT PREDATORS**
 - NO PERCHES**: A perch is unnecessary for the birds and can actually help predators gain access to the box.
 - TYPES OF PREDATOR GUARDS**: Although predators are a natural part of the environment, birdhouses are typically not as well concealed as natural nests and some predators can make a habit of raiding your boxes. Adding a baffle helps keep nestlings and adults safe from climbing predators. Below are some time-tested options.
 - COLLAR**: A metal collar of about 1" in diameter surrounding the joint underneath the nest box.
 - STOVEPIPE**: The most complex, and perhaps the most effective. These baffles are generally 8" in diameter and 24-36" long.
 - NOEL GUARD**: A wire mesh tube attached to the front of the nest box. Use this guard in combination with another, or attach it to boxes installed on trees.
 - COMMON NEST BOX PREDATORS**
 - SNAKES**: Many snakes are excellent climbers and can easily ascend an unguarded pole. Snakes most likely to climb into birdhouses are generally non-venomous (such as raters and raccoons) and helpful at controlling rodents. Avoid installing nest boxes next to brush piles.
 - RACCOONS**: Raccoons are intelligent and can remember nest box locations from year to year. They can be abundant in populated areas. Mount nest boxes on a metal pole equipped with a baffle, avoid mounting them on trees or fence posts.
 - CHIPMUNKS**: Chipmunks are both a nest predator and a competitor for nest boxes. To keep chipmunks out, mount nest boxes away from trees on a metal pole equipped with a baffle.
 - CATS**: Cats are excellent jumpers and can leap to the top of a nest box from a nearby tree or from the ground. Mount your box high enough and far enough from trees so cats cannot spring to the top of the box in a single leap. Keep pet cats indoors for their own safety and for the safety of birds.

IT HAS THE RIGHT ENTRANCE SIZE FOR THE RIGHT BIRD

By providing a properly sized entrance hole, you can attract desirable species to your birdhouses while excluding predators and unwanted occupants. Below are the requirements for some common species that nest in boxes.

- DON'T WANT TO GIVE A HOME TO EUROPEAN STARLINGS?** 3 1/4" is the smallest hole size they can fit into, so select a smaller hole size.
- DON'T WANT TO GIVE A HOME TO HOUSE SPARROWS?** 1 1/4" is the smallest hole size they can fit into, so select a smaller hole size.

- IT HELPS FLEDGLINGS LEAVE THE NEST**
 - ROUGH INTERIOR WALLS**: The interior wall below the entrance hole should be rough to help nestlings climb out of the box. For small boxes (wrens and chickadees), plain wood is usually rough enough, but you can roughen smooth boards with coarse sandpaper.
 - INTERIOR GROOVES**: A series of shallow horizontal cuts, like a small ladder, works well in medium-sized boxes meant for swallows and bluebirds. Swallows, in particular, need a little help climbing out of boxes.
 - FOR DUCK BOXES**: For duck boxes, staple a strip of 1/4" mesh hardware cloth from floor to hole to help ducklings escape deep boxes.
- IT MAKES PLACEMENT & MAINTENANCE EASY**
 - EXTENDED BACK**: A few extra inches at the top and bottom of your birdhouse can make it easier to mount on a metal pole. Alternatively, you can pre-drill mounting holes in the back panel before assembly and use a short-handled screwdriver to install the box.
 - HINGED DOOR WITH A STURDY CLOSING MECHANISM**: A hinged side gives you access for cleaning and monitoring your nest box, both of which are important for a successful nesting season. A latch or nail keeps the box securely closed until you are ready to open it.

DON'T FORGET TO MONITOR YOUR NEST BOX AND ENTER THE DATA INTO NESTWATCH!

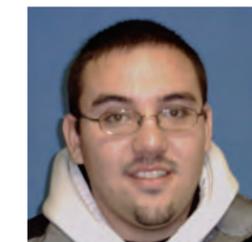
<http://nestwatch.org/learn/all-about-birdhouses/features-of-a-good-birdhouse/>

Staff Updates

Please join us as we wish Water Technician Ben Flewelling a fond farewell. Ben has relocated to Pennsylvania to pursue other career opportunities.



Apc oc nitap!



We are also pleased to announce that Rodney Polchies, Jr. is joining the Natural Resources Department as a Water Resources Technician. Please join us in welcoming Rodney to HBMI.

Kayla Shroul Shines at Houlton High School Science Fair



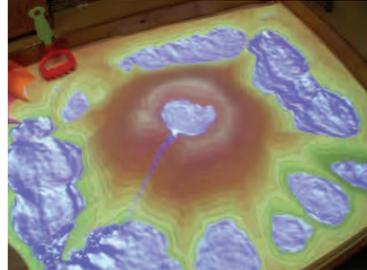
Above, Kayla presenting at science fair, right image from UC Davis.edu

Kayla Shroul, Houlton High School student and HBMI tribal member has been job shadowing the Water Resources Program this fall and winter and has most recently been working on her project for the high school science fair. Kayla created a water cycle simulator using a large box, sand, a computer and a projector. Kayla's project allows you to change the layout of the land by moving the sand and the software immediately shows how that changes the flow of water through the landscape. The impacts of rainfall can also be seen.

Working on this project with Kayla were Ben Flewelling, Cara O'Donnell, Matthew Edberg, HBMI Natural Resources, Andrew Magnus, HBMI Systems Administrator, John Flewelling, HBMI Maintenance Supervisor and Dustin Shaw. This project was funded by the Environmental Program to Stimulate Competitive Research (EPSCoR) and HBMI's Water Resources Program.

For more details about this project visit:

<http://idav.ucdavis.edu/~okreylos/ResDev/SARndbox/>



Winter Wildlife Friends from Slippery Rock Watershed Coalition

Winter is a harsh time for many animals. Some creatures migrate, while others hibernate. Those who remain active can have trouble finding food and staying warm. A safe place to hide from hungry enemies is also a must. Try your hand at the winter wildlife crossword puzzle below.

Across

- 1. The barred ____ calls "Who cooks for you?" and is often heard in January.
- 2. Squirrels and ____ are known for burying nuts and seeds underground.
- 3. Beavers store twigs and branches under pond ____ before it freezes over.
- 5. ____ like the garter hibernate in huge tangled balls under rock piles.
- 7. Turtles and frogs ____ in stream banks or on pond bottoms.
- 9. White-tailed ____ are common sights in winter, eating leaves and twigs.
- 11. A thick blanket of white ____ acts as insulation, increasing the temperature.
- 13. The first and coldest month of the year.

Down

- 2. The northern ____ is a common winter bird, whose bright red color & orange beak are easily seen at bird feeders & in snow.
- 4. One of the first mammals to have young is the ____, who gives birth to cubs in January while still hibernating.
- 6. The ruffed ____, PA's state bird, often buries itself in snow to keep warm.
- 8. Cottontail ____ are not picky eaters and will consume twigs, bark, stems, seeds, fruits, grasses, flowers, and branches.
- 10. It can be fun to follow animal ____, the prints they leave behind in the snow or mud.
- 12. These creatures with black face masks and ringed tails will scavenge in your trash cans for food during the winter months!
- 14. Both the red fox and this "stinky" animal breed in February.
- 16. When this warmer season arrives, the migrating birds return and flowers begin to bloom.



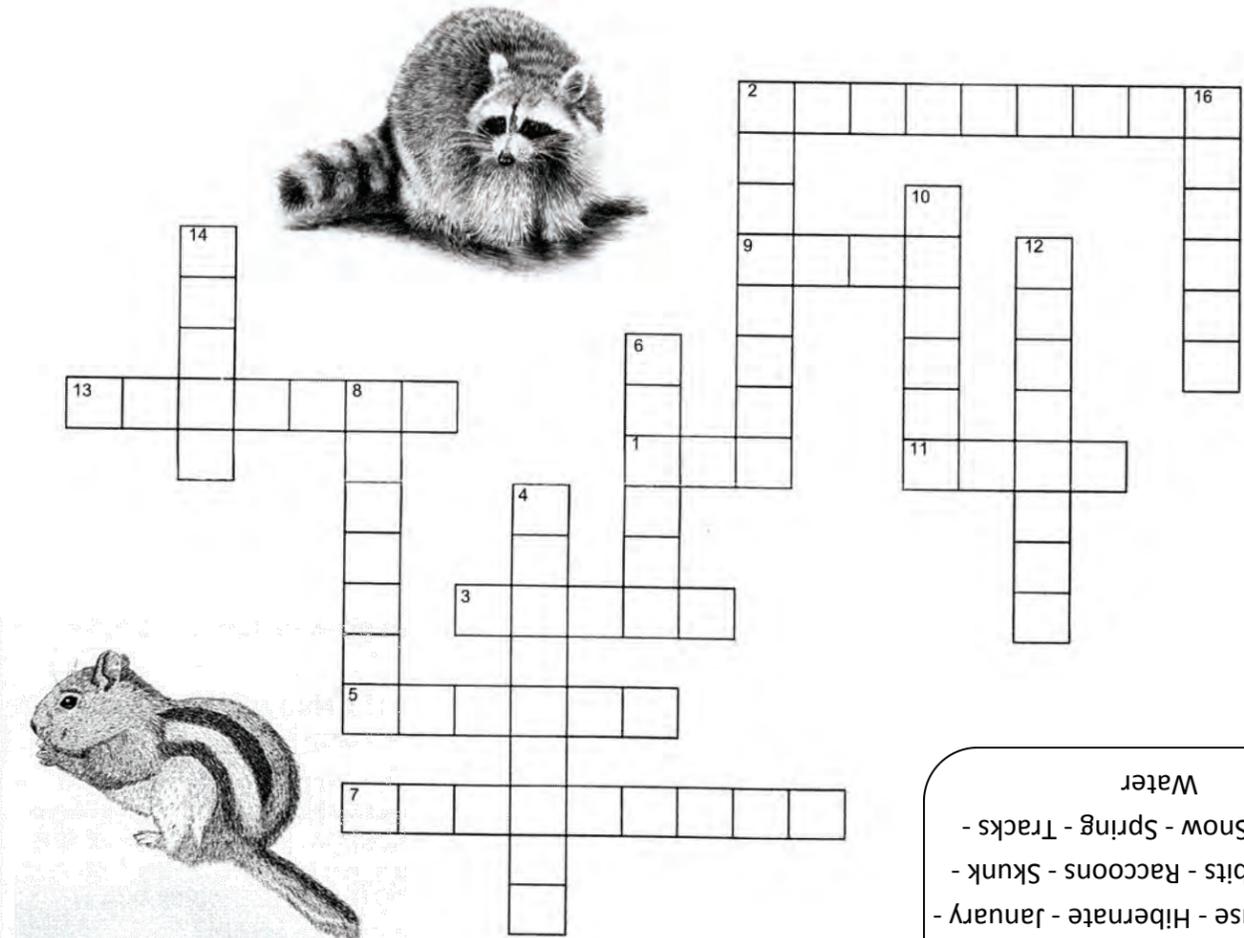
Spring Word Search Puzzle

Welcome back to our feathered friends.

Find these English and Maliseet words hidden in this puzzle

- alamossit hummingbird
- cihpolakon eagle
- isomeqehs osprey
- kahkakuhs crow
- kaskumonoss kingfisher
- kocokikihlahsis chickadee
- lontoqiyehs wood duck
- mociyehs ruffed grouse
- nem turkey
- neqskihqessoss woodcock
- nutkisqet blue jay
- oqim loon
- paqahqaha woodpecker
- poles dove
- sihku merganser
- sips bird
- tihtokol owl
- wapikilahq goose
- wapi-kuhkukhas snowy owl
- waptoq Canada goose

H Q W A P T O Q C A N A D A G O O S E
 U M W A E C I H P O L A K O N P R N T
 M O W A P I K I L A H Q O W L A O E W
 M C L Y U I S N O W Y O W L B Q I Q O
 I I O N U T K I S Q E T P A L A I S O
 N Y N Q E S D U K A H K A K U H S K D
 G E T T I M F G H L O O N G E Q O I P
 B H O I H M T U R K E Y J O J A M H E
 I S Q H O S P R E Y U K L O A H E Q C
 R P I T B I R D S I H K U S Y A Q E K
 D O Y O W O O D C O C K H E I Z E S E
 X L E K M E R G A N S E R A C P H S R
 C E H O R U F F E D G R O U S E S O V
 R S S L K A S K U M O N O S S B N S M
 O K O C O K I K I H L A H S I S Q W E
 W R T Y U I E A G L E O P A D O V E S
 C H I C K A D E E D A L A M O S S I T
 F G W O O D D U C K I N G F I S H E R



- Animals Found in Puzzle**
- Black Bear - Cardinal - Chipmunks
 - Deer - Grouse - Hibernated - January
 - Owl - Rabbits - Raccoons - Skunk
 - Snakes - Snow - Spring - Tracks
 - Water



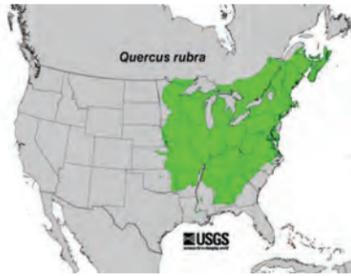
Dendrology Corner

Dendr = tree ology = study of

Prepared by: **Matthew P. Edberg, HBMI Natural Resources Specialist**

Red Oak (*Quercus rubra*) Quercus - the oak, rubra- red, reddish

Native Range: Red oak is a native tree species in Maine and of North America, It ranges from Oklahoma in the west to Nova Scotia, Canada in the East, South to Georgia.)



Habitat: Red oak prefers to grow in rich soils with slight acidity; it typically prefers upland sites but can tolerate a range of well drained sites.

Natural History: Red oak is the most common oak in Maine. The bark is gray, and ridged with flat plates (see photo) the leaves are large and 7-9 lobed, 5-10 inches long and 4-6 inches wide the leaves turning reddish/brown in fall and when emerging. Red oak is a member of the “bristle tip or red oak group” all of which have a pointy bristle at the tip of each lobe of the leaf (leaf insert from “[Forest Trees of Maine](#)”). It can grow up to 100 feet tall with a crown spread of 40-60 feet and commonly 3 feet in dbh (diameter at breast height, 4.5 feet). With some specimens reaching 8 feet in dbh or greater with a crown spread of 90 feet or more, these impressive trees are typically open grown trees. The fruit of the red oak is a true botanical nut called an acorn that is 2 inches long and takes 18 months or 2 years to mature (acorn photo from “[Forest Trees of Maine](#)”).



Special Uses: Red oak timber is very valuable the best trees being used for veneer. The wood is hard and strong and was used for the ribs of ships among many other uses such as fuelwood. Oak bark is high in Tannins (tannic acid) and was used to tan animal hides.

Medicinal Uses: Red oak inner bark tea was used for diarrhea, and dysentery to name a few. Containing tannins the bark has been shown to have antiviral, antiseptic and anti-cancer properties. **Medicinal use info. is not an endorsement of use for medical purposes, use caution as many herbal remedies have not been medically tested and can be dangerous).**

Edibility: Red oak acorns are edible but are very bitter. This bitterness can be leached out by boiling in repeated changes of water and a flour of sorts can then be made.

Note: *When collecting any wild plant species for medicinal or edible use be absolutely sure you have identified the species correctly. Furthermore, be respectful of nature and use a hunter-gather ethic, leave something for the future and for others.*

Utilitarian: Tool handles, mortars, fuelwood, etc.

Ecological Values: Red oak is an important “mast” (any fruit or seed produced by a plant, hard mast nuts & seeds, soft mast raspberries, grapes, etc.) producing species, the acorns being consumed by a wide variety of wildlife species such as whitetail deer, turkeys, and gray squirrels and various insects (such as acorn weevils) to name a few. In addition, many wildlife species nest in oak trees such as grey squirrels and a wide variety of insects feed on the leaves.

Literature Cited

[Silvics of North America Vol. II Hardwoods](#), USDA, Handbook 654

Foster, 1990, [Medicinal Plants](#), Peterson Field Guides.

Peterson, 1977, [Edible Wild Plants](#), Peterson Field Guides.

How do Trees Know When to Leaf Out in the Spring? By Michael Snyder

Thankfully, most northern trees aren't dead in winter. They're dormant – very much alive but relatively inactive. They still burn energy maintaining life, but little goes on in the way of growth. It's just too cold. And water, being frozen, is unavailable. Dormancy is how trees avoid such unfavorable environmental conditions without moving to Florida.

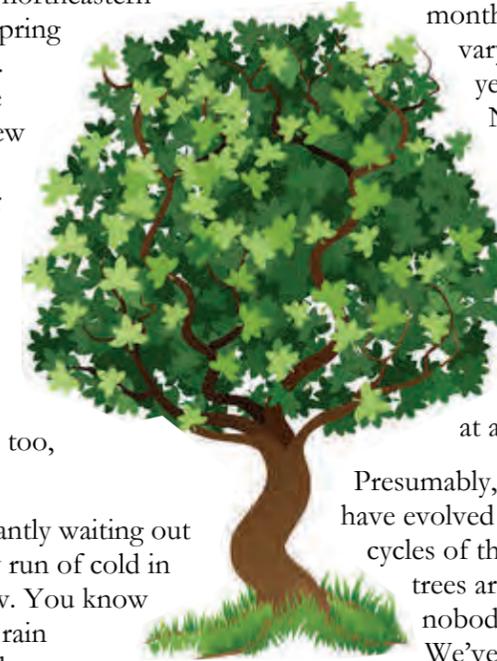
The strategy makes sense. In most northeastern trees, the buds that burst open in spring were formed the previous summer. Inside these buds are the miniature beginnings of this coming year's new shoots. They too were made last summer, but they spend the winter dormant and protected under bud scales until favorable growing conditions return in spring. And in what might well be the height of arboreal prudence, these dormant buds don't even break during midwinter thaws. It's a good thing, too, considering the alternative.

Imagine Joe Q. Sugar Maple dormant waiting out November, December, and a nasty run of cold in early January. Then comes the thaw. You know the kind. It starts with some warm rain followed by spring-like breezes and temperatures above freezing for days. But if that sugar maple, impatient for spring, breaks bud and sends out those fleshy young shoots into the unseasonable warmth, its leaves could get zapped and blackened by the returning freeze. It's a perfect way to lose the coming year's growth, victimized by a cruel winter hoax. Happily, this rarely happens.

Trees avoid such midwinter mishaps not because they are programmed to simply wait a fixed time period until conditions are right. If that were the case, trees would break bud on the same spring day every year and, as we've all seen, the date of bud opening can vary by weeks from year to year. And clearly it's not just warmth that stimulates budbreak, as January thaws demonstrate. Somehow, trees seem to “know” when true spring arrives and respond by breaking bud. Sure, some forest trees get nipped by late frosts, but generally they get it right.

It turns out the all-important environmental cue for spring budbreak is cold. That's right, trees must first go through prolonged exposure to chilling temperatures

(-5 C to 10 C) before subsequent exposure to warmth will force bud break. These environmental cues trigger physiological responses in trees, altering the balance of hormones and enzymes involved in promoting and inhibiting growth. Of course, the exact chilling temperatures and duration of exposure needed to break dormancy vary by species, individual, and geographic location. Some species need weeks of chilling, some need months. Though their actual dates of bud-break vary, you can count on trembling aspen every year, for example, to be among the first in New England to break bud and white ash to be among the last. Sugar maple tends to be in the middle, needing as many as 2,000 hours of exposure to low temperatures before it will flush. And whereas a red maple growing in the Upper Valley may require a few months of cold, the same species growing natively in Florida may require no cold at all.



Presumably, native trees growing on their natural sites have evolved a synchrony with the annual temperature cycles of their site. Everything's just fine so long as trees are not planted out of their natural range and nobody messes with the temperature cycles. We've got the first part reasonably well in hand. Most nurseries, for example, pay close attention to frost hardiness and avoid stocking and selling southern source trees for planting in the north. The second part – messing with temperatures – is a bit more dicey.

Over generations, trees have proved adaptable to gradually changing environmental conditions. It's when environments change rapidly that trees, like most of us, get into trouble. One alarming possibility about global climate change is its potential effect on the timing of dormancy in trees. If the pace of global warming exceeds a native tree's ability to adapt, it may well lead to some very strange things happening in the woods. Some tree physiologists have suggested that certain trees might not receive enough chilling to break dormancy (much like sugar maples from Vermont that don't break dormancy when grown in Georgia). Research continues, and although absolute predictions are few, there are suggestions that different tree species will respond differently to climatic warming and this could seriously alter their competitive abilities, their survival, and, eventually, their regional distribution. Happy spring.

http://northernwoodlands.org/outside_story/article/how-do-trees-know-when-to-leaf-out-in-the-spring



Tribal Cemetery Update

As Spring comes closer, we are one step closer to officially opening our tribal cemetery. The Cemetery Commission has been appointed by the Tribal Council and has been meeting regularly to work on

cemetery issues. The HBMI Cemetery Commission is made up of 5 tribal elders and one alternate. Serving on the commission are Bill Tomah - Chairman, Rose Tomah, Henry Bear, Margaret Sabatis and Dolores Crofton-McDonald - Secretary and Brenda Commander - Alternate.

Last fall, Brown Development put in the cemetery's road and rerouted the farm road so that farmers could access the fields behind the old Lowery Farmhouse without driving through the cemetery. They will be coming back this Spring to complete the roadwork and seed the surrounding areas.

Once the frost is out of the ground and the ground dries up, we will be re-installing the cemetery sign. The sign was removed after the dedication last fall to protect it from damage while the road work was taking place.

We have also begun working with the Department of Veterans Affairs, National Cemetery Administration in Washington, DC to help us establish a veterans section in the cemetery. This section is for the burial of deceased veterans and eligible dependents. The grant will pay to erect a veterans memorial wall, assembly and flag area as well as landscape the veteran's section of the cemetery. Below you will find a revised cemetery plan map showing the planned veterans area.

The seals of the 5 branches of the United States Armed Forces (Air Force, Army, Coast Guard, Marines and Navy), will be attached to the memorial wall. An assembly area will be constructed for use during veteran funerals and other memorial events. A lit flag area will consist of 3 flag poles to display the United States flag, a POW/MIA flag as well as HBMI's tribal flag. The US flag will be lit with a solar LED light.

We are very excited about moving ahead with this project. Once the veterans section is complete, HBMI will be home to the first tribal veterans cemetery east of the Mississippi! We'll keep you

7 Plants You Can Grow With Kitchen Scraps - Growing garden vegetables is just a dinner or lunch away - by Mick Telcamp (HGTV)



Instead of throwing kitchen scraps into the compost bin, re-grow them!

Many of us have had the experience of reaching into a bag of onions to find new growth as fresh green shoots have sprouted within. Plants love to grow and it's easy to simply cut away the new sprouts and get on with dinner, but for the intrepid gardener, the new growth possible from vegetable scraps or an unexpected

surplus of produce is an opportunity to get a jump on propagating new crops. Before relegating kitchen scraps to the compost pile, consider these anxious growers and repopulate a bountiful garden using parts of the vegetable usually left behind.



Celery

Cut celery stalks from the base as usual, but instead of tossing that base away, place it in a shallow cup of water on a sunny windowsill, leaving the top exposed. In a

matter of days, you'll notice fresh green growth emerging from the center. Change the water every couple of days and watch the plant flourish, even as outer stalks lose their color and fade. Once the new growth has established, transfer the growing celery into the garden or a pot of soil to continue its development.



Green Onions

Use the white root normally discarded to effortlessly provide a steady and renewable source of green onions. Simply place the roots in a glass, leaving the cut end above water. Left on the kitchen windowsill, the green shoots will continue to grow. Change the water occasionally and an endless supply of this cooking staple is always at hand. This same method may be used to keep fresh leeks or fennel always within reach.



Cabbage

Like celery, cabbage (as well as bok choy and romaine lettuce) can be regrown from the root base. Although cabbage can also be started in water, starting out in shallow soil is sometimes more effective. Make sure to keep the soil especially damp for the first week or two to encourage new growth.



Potatoes

A favorite grade-school project, the eyes of potatoes readily sprout new growth (sometimes even in the pantry). Cut potatoes into pieces and nurture the sprouts in water. Once new sprouts are established, plant in damp soil to grow your own potatoes.



Avocados

That golf ball-sized pit is a giant seed ready to grow into your very own avocado tree. Press three toothpicks into the pit along its center and suspend it in a glass with water covering the bottom half. Change the water regularly and after a few weeks stems will form.

Growing this tree is a little more challenging than some other kitchen scrap projects, but is worth the effort.



Garlic

Plant a clove of garlic in a pot of damp soil and place it in a sunny location. As the garlic scapes (stalks) grow, cut them back to divert the plants resources to developing that glorious root. Garlic scapes are a treat in their own right and the peppery stalks can be roasted or used in pesto.



Ginger

Ginger rhizomes (the "root" used for cooking) are easy growers inside the house, but take a little longer. Plant a piece of the rhizome in damp soil and place in a sunny room, but out of direct sunlight. Shoots will become evident fairly soon, but it will take several months before there has been enough growth to harvest. Once the ginger has developed sufficient growth, pull the plant from the soil for use. Don't forget to cut off a piece to re-plant!

See more at: <http://www.hgtvgardens.com/vegetables/7-plants-you-can-start-from-kitchen-scraps#sthash.pYt9GScs.dpuf>

Also check out: <http://www.diyncrafts.com/4732/repurpose/25-foods-can-re-grow-kitchen-scraps>

And <http://www.cheapvegetablegardener.com/growing-vegetables-from-kitchen-scraps/>

Proposed Maliseet Veterans Cemetery

Maliseet Burial Grounds Proposed Design A "Wolastoqewi-Muduxnekeag-Puskonikonihauk"



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|---|--------------------------|-------------------------------|
| MEDICINE WHEEL PLANTINGS | TREE PLANTINGS | Cedar, Paper Birch, Red Maple |
| White: Boneset, Pyrola, Spirea | FAMILY PLOTS: | 20 with 24 Burial Plots Each |
| Yellow: Sunflower, Coltsfoot, Yellow Twig Dogwood | INDIVIDUAL SITES: | 740 |
| Red: Coneflower, Cardinal Flower, Wild Bergamot | VETERAN SITES: | 50 |
| Blue: Giant Hyssop, Little Bluestem, Blue Flag Iris | | |

