



CLASSROOM The ^ Garden

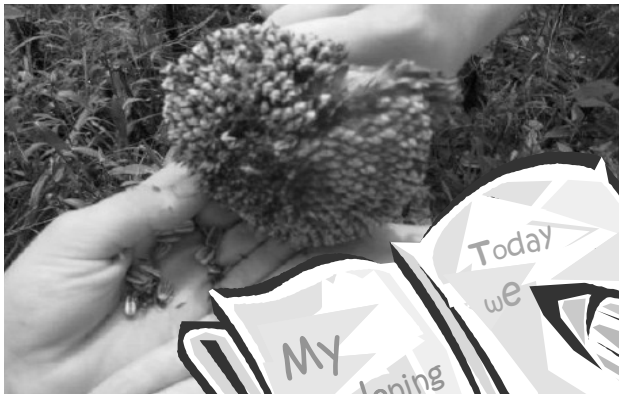


A Seasonal Garden Guide For New Jersey Teachers

Editor / Author: Regina McAlonan, NJAS Horticultural Consultant

How to Harvest Sunflower Seeds page 3

Encourage A Closer Look page 4



Journal Your Journey page 6

The Scientific Method page 4

PLUS :

- List Of '06 - '07 Participating NJ Schools page 2
- Roasting Sunflower Seeds page 3
- Top 6 Trees For Small Spaces page 5



Check Out
Magic
Egg Plants page 6



NJAS

This newsletter is distributed by The NJ Agricultural Society. NJAS is a non-profit organization whose mission is to inform the non-farm public about the contributions agriculture makes to the state's economy and quality of life. The Learning Through Gardening Program supports the use of gardening and agriculture in the classroom. This project's goal is to increase a student's understanding of many science, social studies, mathematics and literature concepts using a garden for hands-on approaches and problem solving techniques.

LETTER FROM THE EDITOR

Writing this newsletter is a lot like building a garden. It is a never-ending process, requiring hard work and creativity. To keep this publication lively, informative and interesting, I look for ideas beyond what I can dream up on my own. I turn to web sites, gardening magazines, newspaper articles, gardening books, horticultural journals and even 100 lb encyclopedias. Reading and research is always the best starting point, but like building a garden, I need to get outside too. I need to SEE, DIG, PLANT, SMELL, TOUCH, HEAR and TASTE a gardening project to truly get inspired.

But you know what? That's not enough. As hard as I might try, I can't write this newsletter alone. What I need most of all, is **YOU**. You are my most valuable resource. I invite each school, teacher, parent, and garden volunteer to contribute to the newsletter this year. Your letters, pictures, lesson ideas, questions and comments will help The Learning Through Gardening Program grow... because there is so much we can learn from each other!

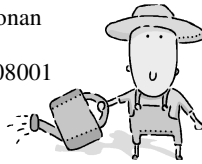
Please send your correspondence, gardening questions, tips, ideas and photos to: njsgardenhelp@aol.com



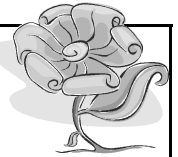
— Regina McAlonan, NJAS Horticultural Consultant

You can also mail information to:

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Alloway, NJ 08001



Welcome Back!



The New Jersey Agricultural Society would like to welcome back the following schools to the Learning Through Gardening Program:

Third Year Schools:

- Walter M. Schirra School, Old Bridge.
- Nellie Bennett School, Point Pleasant.
- Ocean Road School, Point Pleasant.

Second Year Schools:

- Bradford School, Montclair.
- Lawrenceville Elementary, Lawrenceville.
- Somerville School, Ridgewood.
- Madison Park School, Parlin.



Welcome Aboard!

NJAS is also proud to welcome the following list of schools into our program:

First Year School:

- Belmar Elementary School in Belmar.
- Elms Elementary School in Jackson.
- Monument Elementary School in Trenton.
- William H. Ross in Margate.



Achievement Highlight From Last Year's Graduates

The following schools completed their 3rd year in the Learning Through Gardening program last June. Each of these schools successfully integrated their gardens into their curriculum, and were shining examples of commitment, growth and innovation!

- **Brooks Crossing**, Monmouth Junction.

When this school joined the LTG program, they were a brand new school with very little landscaping — let alone a garden program. They certainly came a long way in three years! BC developed a strong gardening program both indoors and out. They built a WWII Victory Garden, a Milkweed Garden (for Monarchs they raised indoors), and set a goal for establishing gardening beds for each grade level. Their 4th graders even created an innovative composting system using worms. They recently added a beautiful stepping stone path to their courtyard garden which they created with slate, tempera paint and lacquer. The pictures they shared at the workshop were really beautiful! NJAS is very proud BC's hard work and their dedication to establishing a gardening program.

- **Rand Elementary**, Montclair.

Rand has been such an inspiration to the LTG Program. The best word to describe their garden is CREATIVE. This school consistently shared

recipes, photos and lesson ideas for this newsletter. Here are just a few of the ideas they submitted over the years: a basil pesto recipes, dish garden gift ideas, beautiful scarecrows (and a scarecrow *auction* idea), a unique outdoor weaving loom, and a ladybug release program. They also created "The Rand's Garden Stand" where 5th grade students developed small business skills by selling produce they grew. They also built a wonderful "Secret Garden" which brings literature to life (this garden ties in with the book *The Secret Garden*, by F H Burnett). Thank you Rand for all your wonderful ideas — we hope to keep hearing from you!

- **Willard**, Ridgewood, (Bergen County)

Willard's presentation at the Best Practices Workshop was very inspiring. A few highlights of their achievements include: a well established gardening program throughout the school, an amazing yearly plant sale (which generates funds AND interest for the garden). A tree program, where 5th grade students study trees as well as plant them throughout the grounds. Willard also established a very unique *Plant Club*. This club is comprised of students who love gardening so much, they volunteer their time at recess and on Saturdays to care for the gardens. NJAS thanks you for your hard work, and wishes you the best of luck on your new endeavors!



Harvesting Sunflowers With Your Students

It's time to harvest your sunflower seeds! Depending on the variety, and when they were planted, the harvest of sunflowers will *usually* begin in September and will run through October. Before you begin, have your students check the flower head for signs of maturity;

1. Are the heads of the flowers pointed down, as if they are looking at the ground?
2. Look closely at the florets in the center of the flower disk. Are they brown and shriveled?
3. Scratch away some of the florets and look at the seeds. Remove a few from the edge and squeeze them, do they seem plump? If they seem hollow, it indicates that your seeds may not have been pollinated and therefore will not be viable.
4. Your students *might* also notice that the seeds on the outside rings of your sunflowers are larger and plumper than the seeds in the center. This can be caused by drought (or lack of watering) over the summer months. You can still harvest seeds from these flowers, just save the plump ones and discard the ones that did not develop.
5. Your students should also look for insect damage. The most common insect to damage sunflowers is a moth. The moth's larvae tunnels through the head of the sunflower, eating the seeds. If you notice these small caterpillars, discard the sunflower. Tip: Do NOT put insect infested plants in your compost pile.

How To Save The Seeds



If you have determined that your sunflowers are healthy and are ready for harvest you will need to cut the seed heads. Be sure to leave about a foot of stem **still attached**. Young children will need assistance with this step, it is sometimes difficult to cut larger stems.

Place your flower heads in a paper bag. Be sure that the bag has holes (a hole puncher makes this step fun and easy). Secure the bag with a twist tie. Hang your flowers (stems up) in a warm, dry, well-ventilated area. The paper bag will catch falling florets and seeds as they drop during the drying process.

How To Tell If The Seeds Are Dry

The length of drying time for sunflowers will vary, depending on the size of the flower head, the stage of harvest, and the humidity levels. The best way to determine if *your* seeds are ready is if they can be easily rubbed from seed heads... if they can, then they're ready! Collect all your seeds, place them in an airtight container and store in a cool, dark and dry location until you are ready to plant.

Sunflowers Are Compound Flowers



Be sure to point out to your students that sunflowers are **COMPOUND FLOWERS**, meaning they are made of several smaller flowers grouped together. These smaller flowers are called **FLORETS**.



Dandelions are compound flowers too. Look around your school grounds, you **might** be able to find a few dandelions to compare to the sunflowers.

Single flowers are flowers with a normal amount of petals present, arranged in a single row. Daisies are a good example of this type flower. If you have daisies in your garden there may still be a few in bloom that your students could compare to the compound arrangement of the sunflowers.



How To Roast Sunflower Seeds

1. Use raw unshelled mature seeds.
2. Place seeds in large pot of salted water (two quarts of water to 1/4 to 1/2 cups salt).
3. Bring to a boil, and soak overnight.
4. Drain and dry on absorbent paper.
5. Put sunflower seeds in a shallow pan in 300 degree oven for 30 to 40 minutes or until golden brown, stirring occasionally.
6. Take out of oven, toss with a little melted butter and add more salt to taste.



Botany Review

Take A Closer Look

1. In mid-September...

take your class outside to be "scientists" and "good observers." Tell the students that they will be drawing a picture of their observations for their journal.

Supplies Needed:

- Garden or some type natural area
- Garden journals
- Hand lens or magnifying glasses
- Colored Pencils



2. **Once outside**, instruct the children to look around the garden. Help them get focused by pointing out objects in the garden, such as insects, moss, shadows, flowers, vegetables, grass, trees, clouds, etc.

3. **Encourage children to share their observations** with the group, this will help to excite the rest of the class. For example if a child finds a hole in the soil, try to get the whole group to take turns guessing what could be inside?

4. **Once your students have found an object**, have them date their journal entry and allow them at least 10 minutes to draw their observations.

5. **When you get inside**, give students an appropriate amount of time to write about their picture. Instruct them to elaborate on their observations.

6. **Approximately one month later**, mid-to-late October, pose the question, "How do we know it is Autumn?" Create a list together as a group. Once you are outside prompt the class with questions such as, "What's happened to the garden?"

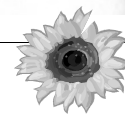


7. **Have the children revisit the spot** of their original observation, and reread their journal entry from September. Is their object still there? Has it changed? Is it gone? Has it been replaced? They should record all observations in their journal.

8. **Encourage children to look for other changes** in the garden such as temperature, colors, and the falling leaves. Be sure to make new journal entries.

Idea Source: <http://hea-www.harvard.edu/ECT/journalsk2.html>

This project will achieve:



STANDARD 3.2 (WRITING)

ALL STUDENTS WILL WRITE IN CLEAR, CONCISE, ORGANIZED LANGUAGE THAT VARIES IN CONTENT AND FORM FOR DIFFERENT AUDIENCES AND PURPOSES.

STANDARD 5.1 (SCIENTIFIC PROCESSES)

ALL STUDENTS WILL DEVELOP PROBLEM-SOLVING,SKILLS, REFLECTED BY.... CONDUCTING SYSTEMATIC OBSERVATIONS....AND COMMUNICATING RESULTS.

The Scientific Method

The Scientific method is the **process** of thinking through the **possible solutions** to a problem, **testing** each possibility and **finding the best solution.**

The scientific method involves the following steps:

- Doing research and asking questions
- Identifying the problem
- Stating a hypothesis
- Conducting project experimentation
- Analyzing data and reaching a conclusion



When your students explore the garden, when they explain what they see happening, when they draw conclusions based on what they see, hear, touch, feel and even taste in the garden — they are truly taking their first step into the world of science!





Journal Your Journey

Here are some topic ideas for your student's garden journals:

1. Mark a few pages in the journals for special entries which you can add to throughout the year:
 - An Insect Page—describe, identify and draw insects. What were they doing? Are they beneficial or bad?
 - An Animal Page— identify and draw animals. What were animals doing? Were they visiting the garden, eating seeds, plants, insects? Do they live there?
 - A Reptile Page—record reptiles and amphibians you see.
 - Weather Charts— wind speed, rain fall & snow.
 - Record changes to **one** specific tree, shrub or perennial in the garden throughout the seasons.
2. Keep a record of all activities that occur in the garden.
3. Make comparison charts, between different types of plants.
4. Write about special and happy moments in the garden (smells, tastes, things they discover, grow, share).
5. Write about “not so happy” moments, disappointments, failures, challenges or vandalism.
6. Make up stories and poems that are inspired by the garden.
7. Record stages of butterfly development.
8. Write down ideas and plans for upcoming gardens.
9. Press and dry flowers from the garden—glue into journal.
10. Take photo's of the different seasons, tape or glue to pages.



Suzanne Macauley
NJAS Education Coordinator

Reminders

⇒ **Poster & Essay Contest** entries are due by October 20, 2006. Classroom teachers should choose the **TOP THREE ENTRIES** and send to:

NJ Agricultural Society
C/O Suzanne Macauley
5 Plasner Court,
Jackson, NJ 08527

⇒ Don't forget to complete **Lesson Tracking Sheets** each month.

⇒ Be sure and take pictures of your garden in the fall, so that your students can see the changes as they occur throughout the seasons.

If you have any questions please call Suzanne (732) 730-0075

Six **small** Flowering Trees, Perfect For A **small** New Jersey Garden

Dogwood ~ *Cornus florida*. Zone 5-8.

Part Shade. This small tree is a beloved favorite, attracting attention all year long. In spring, it's covered with abundant white or pink flowers (depending on the variety). In summer, birds flock to the ornamental red fruit. Fall, the scarlet leaves cheer the garden and the beautiful branching stems catch the snow fall throughout the winter .



Star Magnolia~ *Magnolia stellata*. Zone 6-9. A compact multistem tree that will grow 10 to 15 feet tall. The flowers are very fragrant and are among the first to bloom early spring. Provide rich organic soil (with peat moss mixed in) for best results.



Silver Bells ~ *Halesia carolina*. Zones 3-9.

This small tree is native to the Eastern United States. It grows to 25 feet. This tough little tree likes moist and acidic soil. It is highly disease resistant and will grow well in sun or part shade. Blooms mid-spring.



Serviceberry ~ *Amelanchier*. Zone 5-9.

This charming tree prefers a partly shady spot with moist soil. In the spring it is covered with white flowers, followed by green fruit which birds happily devour all summer. It's fall color is yellow to red, but the leaves quickly fall, exposing beautiful gray bark for winter interest.



Smoke Tree ~ *Cotinus coggygria*. Zone 5-8.

This multistem small tree typically grows 10-15 feet. Flowers bloom in the summer and range from white to pink to red (depending on the cultivar). These flowers have long hairs which extend from the panicle, giving the plant it's fuzzy and smoky appearance.



Golden Chain Tree ~ *Laburnum x wateri*. Zones 4-7.

This tree will do best in full sun and fertile soil, and will get reach 25 feet at maturity. Early summer the entire tree drips with beautiful chains of delicate yellow flowers. This tree is a show stopper, and will make a wonderful focal point in your garden.





Magic Egg Plants, Surprisingly Fun!

What did YOU do over summer vacation? Our family stumbled upon Egg Plants, and had a surprisingly fun time growing these magic beans. My children (8 and 10 yrs) spotted the purple

boxes sitting by the check out register at a toy store, right where that awful candy sits. "Can we get them, please-please-please, can we get them?"

In this type of situation I (almost) always say no, but it was a *horticultural* toy, and in a moment of weakness I found myself buying two of these eggs, for two children who were unbelievably excited about silly seeds which could hatch from an egg... and then promised to reveal a secret message. (Oh please!) Obviously, I was skeptical about the whole thing and didn't expect it to work. We took the eggs out of the boxes and inspected them. The directions said to fill the cups with water and wait for the eggs to crack. After a night of soaking we woke up to two cracked eggs. We chipped the tops off of the plaster eggs (which the directions told us to do) and found a big bean, I mean a really BIG BEAN, inside.

This is when I started to have fun. What type of bean was it? The box and the directions gave absolutely no reference as to what type of plant we were growing. So the research began! One story I found on-line about this product was very interesting. It turns out that Chen Zhen-che, a 34 year old man from Taiwan developed the product idea. He was the son of a farmer, and had worked for years trying to develop a "magic bean" that would reveal a secret message as it grew. He tried all types of seeds and every possible way to get a message to appear on them. He tried writing on them, ironing the message, carving on them... but year after year his attempts failed. At last Chen tried the **swordbean** (*Canavalia gladiata*) and found a way to inscribe the messages. The technique that finally worked was a **laser** beam, which inscribed the message.

We looked closely at our beans. We saw where the laser beam had written on the seed, but it was hard to read because it was backwards. However once the seed germinated and the cotyledons emerged from the seed, you saw the message clearly written on the leaves. The message was kind of weird, (That's hot!) but I have to admit, it was pretty neat!

We are not exactly sure why, but only **one** (out of two) of our beans germinated. The other succumbed to rot. We think we might have added too much water to that one? However, our

other bean really took off. In fact it is still growing in our little cup in the bathroom and has gotten to be almost 2 feet long. We plan to pot it up in a larger container soon.

Should you come across this product, look in toy stores and on the Internet, I think it would be worth buying and growing with your students. It is a quick and easy project. Everything you need (except for the water) can be found right in the box. Just be sure to look for a good price, our beans were on sale, two boxes for 5.00... I have seen other types of "magic beans" that cost more than 12.00! I also recommend that you *buy at least two or three* — in case one does not grow.

As skeptical as I was about the whole project, I have to admit they can be educational:

- They are a wonderful subject to spark imaginative short stories and creative writing.
- They offer an opportunity to observe seeds, germination, roots, shoots, cotyledons, true leaves, and vines.
- Practice measuring and growth charts.
- Older students can research the sword bean. This bean is common in Asia, where it is often used for green manure and cover crops. Some cultures eat the younger pods.
- You can discuss and study other plants in the Legume Family. These type of plants have a unique ability to fix Nitrogen. Be sure to discuss how legumes are often used as **cover crops** to improve the soil for farmers.
- Don't forget to share the story about Chen Zhen-che, the inventor of this product. How he came up with an idea, how he tried for years to develop a product, how he constantly failed but never gave up on his dream. This could lead into discussion about perseverance, hard work and reaching for your dreams.

Wow, there are a lot of lessons you can teach with this silly little egg. Just be sure everyone understands the beans are not *really* hatching from an egg!

If you try these magic beans, please send a note with your results. — Regina



This project will achieve:

STANDARD 5.5
CHARACTERISTICS OF LIFE. ALL STUDENTS WILL GAIN AN UNDERSTANDING OF THE STRUCTURE, CHARACTERISTICS, AND BASIC NEEDS OF ORGANISMS AND WILL INVESTIGATE THE DIVERSITY OF LIFE.

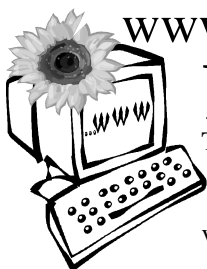
STANDARD 4.2
(GEOMETRY AND MEASUREMENT) ALL STUDENTS WILL DEVELOP SPATIAL SENSE AND THE ABILITY TO USE GEOMETRIC PROPERTIES, RELATIONSHIPS, AND MEASUREMENT TO MODEL, DESCRIBE AND ANALYZE PHENOMENA.

STANDARD 3.2
(WRITING) ALL STUDENTS WILL WRITE IN CLEAR, CONCISE, ORGANIZED LANGUAGE THAT VARIES IN CONTENT AND FORM FOR DIFFERENT AUDIENCES AND PURPOSES.

Source:

* Chen Zhen-che's story can be found at:

<http://www.taipeitimes.com/News/biz/archives/2005/03/07/2003225868>



www.njagsociety.org

Did you know that you can view this newsletter on-line? The current newsletter (as well as last year's issues) are available to read and download. Be sure to visit NJAS's web site!

There's so much we can learn from each other!

Send in your garden photos, lesson ideas, favorite plants, garden tips, fund raising ideas and any garden questions you may have. All correspondence will be shared in the upcoming newsletters. Send your information to: njagardenhelp@aol.com