

The NEBLINE

March 2009

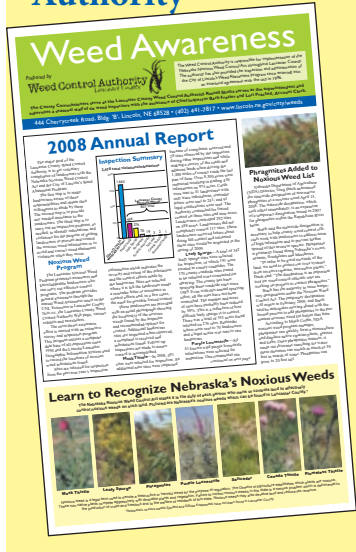
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Special Pullout Section

WEED AWARENESS
Prepared by the Lancaster County Weed Control Authority



4-H Embryology

More Than Just a Science Project!

Soni Cochran and Marty Cruickshank
UNL Extension Associates

Nearly 3,900 third graders in 165 classrooms in 52 schools in Lancaster County know exactly what time of year it is! It's time to hatch eggs in their classrooms as part of the exciting school enrichment project 4-H Embryology.

UNL Extension in Lancaster County has been bringing 4-H Embryology to local classrooms for over 30 years. Along the way, the program has adapted to make sure the curriculum meets state science standards, continues to be updated with current research and has stayed on top of technology. But learning about how life begins, the



Extension Associate Marty Cruickshank (right) candles eggs in Lancaster County classrooms as part of the 4-H Embryology School Enrichment program.

process of hatching eggs and caring for chickens hasn't changed.

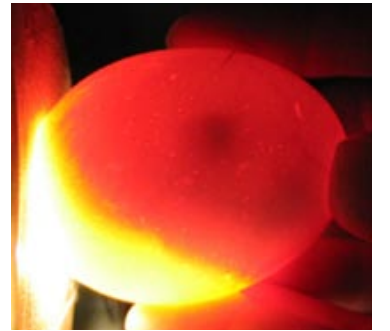
It is a shared experience for thousands of children. The 4-H Embryology program

continues to be one of the most memorable, hands-on learning experiences for both students and teachers. Many teachers have creatively used math, poetry, art and music to reinforce science-based concepts.

Marty Cruickshank, 4-H Extension Associate coordinates the scheduling of classrooms, supplies and staff to help make deliveries and presentations. She works with Richard Earl from the Lincoln Northeast Kiwanis who picks up the fertilized eggs from a hatchery in Spencer, Iowa. Earl works closely with the hatchery who donates the eggs so he can supply the 4-H Embryology project. Due to the number of schools, three sessions are scheduled each spring so all



After about 21 days of incubation, chicks begin to break through the shell (called pipping). It usually takes several hours for chicks to break out of their shells.



By holding a fertile egg up to a light (called candling), students can see how the embryos are growing. Pictured above is a chicken embryo after incubating seven days.

third grade classrooms can participate in the project.

When extension staff enter into the classroom for the first presentation, the atmosphere is electric. Students can not wait to start their embryology project. In this first visit, students learn about the study of embryos (embryology), where the eggs come from, the parts of an egg like the "germ spot", the difference between fertile eggs and eggs in the grocery store and how the students will need to care for their eggs. The eggs are then set in the incubators. Once the eggs are set, the children take full responsibility for the care of the eggs. They turn the eggs, rotate the eggs, keep them warm and keep humidity in the incubator.

One week later, extension staff return to the classrooms where students review what they've been doing to take care of the eggs. Students learn more about how the embryos develop in an egg, how chicks hatch and tips on caring for the chicks after they hatch. The eggs are then candled in the classroom.

see *EMBRYOLOGY* on page 12

New this Year! 4-H EGG Cam features a live streaming view!

The 4-H Embryology Web site at <http://lancaster.unl.edu/4h/embryology> features resources on incubation, candling and caring for poultry. You'll also find educational photos, amazing video clips and 4-H EGG Cam.

What is 4-H EGG Cam? In 2002, UNL Extension in Lancaster County set up a Web cam and directed the view into an incubator. It was an instant hit! In five years, nearly 1 million hits were recorded on 4-H EGG Cam and the office could barely keep up with the traffic to the site especially when birds were hatching. People from all around the world have tuned in. Classrooms, child care centers, home school families and poultry enthusiasts of all ages follow the progress of the eggs, watch the chicks hatch and then enjoy the birds on camera.

4-H EGG Cam now features a live streaming view. The UNL Communications & Technology department has been providing technical support for the project to help make this new view possible and help the office better manage traffic to the site. The community has also been supportive of the live streaming project. 4-H EGG Cam is available live 24/7 from January to early summer. Check it out at <http://lancaster.unl.edu/eggcam>

There's also a **4-H EGG Cam Fan Page on Facebook**. Become a Fan-Join us. You can take part in discussions, get the latest info on hatchings, upcoming events, post to the Wall and so much more. It's free and fun! Learn more at <http://lancaster.unl.edu/eggcam>

Thank You

There are many people and organizations who help support the 4-H Embryology program. Thank you!

- **Richard Earl** of the **Lincoln Northeast Kiwanis Club** for picking up the fertilized eggs from Hy-Line Poultry Farms in Spencer, Iowa (which donates the eggs for this project)
- **Lincoln Northeast Kiwanis Club** for donating \$400 to support equipment for the live streaming video
- **Willie Strickland** and the folks at **GQF Manufacturing Company** in Savannah, Georgia for creating a special lid for the Hova Bator incubator on 4-H EGG Cam
- **Nebraska Department of Agriculture, Poultry & EGG Division** for supporting Lancaster County 4-H Embryology with incubators for local classrooms and 4-H EGG Cam
- **Hy-Line/Hy-Vac** for providing the Embryo Development posters for classrooms
- Faculty, staff and support folks at:
 - **University of Nebraska-Lincoln Extension**
 - **UNL Extension in Lancaster County**
 - **UNL Communications & Information Technology** for everything from setting up the camera, taking care of the incubators, caring for the chicks to helping us get live stream video this year for the viewers of 4-H EGG Cam.



Richard Earl of Lincoln Northeast Kiwanis Club

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Lancaster County 4-H Council
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