



Low-cost "brood pen" (above and above right) holds 30 chicks. Ritz says it can be 30 degrees outside but 95 degrees inside. Ritz also has 60 of egg laying boxes for his 300 chickens (right) made out of 5-gal. buckets.



Low-Cost Tips For Raising Backyard Chickens

"I had an old cooler without a lid which I converted into a mini brood pen for baby chicks," says Bill Ritz, Burkesville, Ky.

To create a lid, he cut a 55-gal. plastic drum in half lengthwise. The drum lays over the cooler on a wooden frame that extends out. Ritz then cut a 4 by 6 in. hole in one end of the cooler for a door made out of scrap wood and wire. A rope attached on each side to a wooden base holds the whole thing together.

A lamp on a dimmer switch and a \$3 thermometer make it easy to regulate the temperature inside.

"I can raise 30 chicks inside and keep it at 95 degrees F when it's 30 degrees F outside."

For layer hens, Ritz created egg-laying boxes out of 5-gal. buckets set on their sides on short lengths of 2 by 4's. "I just throw in a little straw or wood chips for bedding," he says.

He cuts a hole in the bottom of each bucket just big enough to grab the eggs. A hinged wood door covers the hole.

Ritz also drilled four 1/4-in. holes in the bottom of each egg-laying bucket for ventilation and drainage.

He has about 60 buckets set up for his 300 chickens.

Contact: FARM SHOW Followup, Bill Ritz, 1300 Carter Branch Road, Burkesville, Ky. 42717.

How To Start Your Own Hatchery

"We sell incubators to individuals who breed all kinds of chickens, ducks, quail and other poultry," says Ernest Dickey of Millen, Ga. "Quality and reliability are the two most important characteristics to look for when buying an incubator. When you own a Dickey incubator, if an egg doesn't hatch, it was never going to."

Dickey's Incubators manufactures mid-sized individually hand-built units made from 1/2-in. plywood with cypress framing. The quality wood construction insures long life durability, with no sheet metal to bend or rust.

The units feature mercury hygrometers and thermometers easily visible through a 6 by 12-in. acrylic window in the door. A digital version is optional. Standard features on the incubators are an automatic egg turner, circulated air fan, dual wafer thermostats, clean-out pan, and a 110 volt, 225 watt heating element.

"There are three turning trays and one hatching tray. Each tray holds up to 96 chicken eggs or 400 quail eggs," Dickey says. Incubators sell for \$404.

Standard procedure is to incubate just enough eggs each week that they can be transferred to the hatching tray, making room for a new batch of eggs, and continue the cycle.

He says it's also possible to produce birds using only an incubator with no hatching trays by using one of two methods. For an incubator full of eggs, wait until three days before the eggs are ready to hatch, and then level the trays, turn the automatic turner off, remove the eggs from the egg positioners, and place them in wire bottom trays.

For people who want to produce larger



Dickey makes incubators and hatching units designed for smaller producers.

numbers of birds more quickly, adding a hatcher to the system is the way to go. Each hatcher has five trays with covers, a fan to insure proper air circulation, and a clean out pan. They are priced at \$370.

Dickey says he also makes a complete line of ostrich and emu/rhea incubators and hatchers.

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By Janis Schole, Contributing Editor

He Built His Own Hydroponic "Mini Farm"

John Duckworth of Weaverville, N.C. runs a year-round 280 sq. ft. of greenhouse space. The key to his success is the hydroponic growing system that he designed.

Nutrients, light, water and air temperature are all carefully controlled, and plants produce year-round, unlike in outdoor growing environments.

The key components of Duckworth's system are a reservoir tank with nutrients, and rows of 3-in. dia. PVC pipes with holes cut in them for plants.

The "closed loop" system continuously recycles the nutrients. He monitors nutrient levels with an \$89 handheld electronic tester, and the pH of the solution is checked with litmus strips (\$4 per 100).

"I built a system that's just as good as I could buy, and for about one-tenth the cost," he explains. "Most of the hardware consists of PVC pipe. It cost only \$2.30 per 10-ft. section and is very durable. The reservoir tank is a 110-gal cattle-watering trough that cost \$45. Two \$89 Little Giant pumps and a few lengths of 1/2. and 1-in. PVC pipe gets the nutrient solution to the plants."

The only things Duckworth had to purchase from a hydroponics supplier were some 1/4-in. rubber tubing, 1/4-in. tubing connectors, a cycle timer, 1 1/2-in. rock wool cubes (for the plants to grow in), and the nutrients.

He bought the Quonset-style greenhouse,

complete with plastic covering, from Farm Tek (www.farmtek.com) for about \$500.

"The total cost for this hydroponic operation was less than \$1,000," he says.

Duckworth found vast amounts of information on setting up a hydroponic system on the internet, and points out that some plans can be downloaded for free.

He harvests 120 heads of loose-leaf lettuce per week, as well as several pounds of tomatoes, squash, beans and herbs.

He sells produce at a slightly lower price than stores and has developed a network of "subscribers" who place weekly orders with him at local farmers' markets.

"We've seen roughly an \$8.50 return for \$1 invested in the entire system, and paid back our original investment in just a few months. Our only ongoing costs are seeds, nutrients and electricity.

Total family labor input is 15 to 30 hrs. per week. This covers planting, daily maintenance, harvesting and packing, but not marketing.

For a 44-page plan book detailing Duckworth's home hydroponic system, including a materials list, photos, illustrations and instructions, send \$27 by check or money order, plus \$3 shipping and handling inside the U.S. (for anyone outside the U.S., S&H is \$5).

Duckworth says he has already sold 258 plan books.



Key components of Duckworth's system are a reservoir tank with nutrients and rows of PVC pipes with holes cut in them for plants. He says he's seen about an \$8.50 return for every dollar invested.

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