

for producing strong eggshells. If you feed the high-calcium layer feed to your chicks, the excess calcium may cause developmental problems, such as weak legs, reproductive or kidney damage, or even death.

And while the calcium in commercial layer feeds is usually enough for mature hens, it's still a good idea to supplement with calcium-rich oyster shell.

"Commercial formulations assume the chickens are confined and eating only the commercial feed," Ussery says. "If your birds are foraging outdoors, they are taking in other things besides their feed, so it's possible they will need more calcium. By offering oyster shell, free choice, they will take only what they need. It's cheap insurance."

There are other reasons to give layers oyster shell, too. "The actual amount of dietary calcium required by any individual layer varies with her age, diet, rate of lay and state of health," says Gail Damerow, author of *The Chicken Encyclopedia*. "Older hens, for instance, need more calcium than younger hens because laying depletes their bones of calcium. And with layers, a calcium supplement such as oyster shell can double as gizzard grit."

—Vicki Mattern, Contributing Editor

What's the Big Deal With 40 MPG?

Why do some people and automakers talk about 40 miles per gallon like it's some kind of miracle? My beloved Geo Metro got that easily, and that was decades ago.

Simply put, comparing today's high-mpg cars with the high-mpg cars of a few decades ago is neither accurate nor fair. Modern cars are much heavier than their predecessors because of federally mandated safety and emissions equipment and consumer-demanded amenities. All of this makes it much more difficult to reach 40 mpg.

If we look back at the first-generation Honda Civic from the mid-1970s, for example, it didn't have air bags, a catalytic converter or anti-lock brakes. It weighed only 1,500 pounds and could achieve 40 mpg. The smallest car Honda offers in the United States today is the Fit. At 2,496 pounds, the 2012 Fit is 1,000 pounds heavier than the 1973 Civic. The Fit also has a lot of safety equipment that wasn't around in the 1970s. The body is consider-

ably stronger, and there are six air bags, active head restraints, anti-lock brakes, and a vehicle stability system with traction control.

Automakers are trying to control this weight gain with lighter-weight materials and smarter engineering, but every ounce adds up. Lighter-weight materials are also generally more expensive to produce, so they often don't fit the budget constraints of a small, economical car.

The other factor is that the Environmental Protection Agency (EPA) changed its fuel economy test in 2008 to reflect "real-world" mileage. The testing became more aggressive,

with three additional test cycles that included running the air conditioning, harder acceleration and an 80-mph blast. As an example, the 2007 Toyota Prius had a rating of 51 mpg on the highway, 60 mpg in the city and a combined rating of 55 mpg. Under the 2008 test procedures, the same car's numbers dropped to 45 mpg on the highway, 48 mpg in the city and 46 mpg combined.

The old EPA test procedure needed to be updated, but some think the 2008 change dumbed it down too much and lowered consumer expectations about gas mileage. With

Sustainable Woodlot Management for Home Heating

How big a woodlot would I need to heat my home with wood for the entire winter?

According to an old rule of thumb in woodlot management, a healthy, well-managed woodlot can yield half a cord of wood per acre per year. But there's more to consider, says John Gulland, a wood heat expert and MOTHER EARTH NEWS contributing editor. The size of your home, the efficiency of your woodstove, your climate and length of winter, the wood species that grow where you live—these will affect how many cords you'll need and how large your woodlot should be.

A well-insulated, modest-sized home using a high-efficiency woodstove may need only two cords of hardwood, cut from 4 acres, per season. On the other hand, if you live in a cold location where softwoods are predominant, you will need more wood and a larger woodlot. (Softwoods produce less energy than hardwoods, which are denser.) For a rough idea of how many cords you'll need to heat your home all winter, check with others in your area who burn wood as their primary heat. Gulland suggests.

In any case, you will want to manage your lot sustainably to maximize your long-term firewood harvest. You'll foster a healthy ecosystem for all of the species that coexist on your land. According to Gulland, sustainable woodlot management means selective harvesting—thinning dense stands and removing poorer-quality trees—while maintaining the site and soil, and leaving a diversity of seed trees as well as some standing dead trees for wildlife. For more info, see "Heating With Wood—Why Wood Heat Is Renewable Energy" at goo.gl/RG4tE, and visit Gulland's website, www.woodheat.org. —V.M.



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Woodlot size is just one consideration in calculating sustainable management yields.