Is serving size the same as portion size? Understanding the Nutrition Fact Label
By: Lydia Kaume

The U.S. Food and Drug Administration (FDA) Nutrition Facts label appears on most packaged foods and informs us how many servings are in a box or can. When consumers understand the food label, they can use nutrition information to make quick, informed food choices that contribute to a healthy diet.

- **Serving size** varies from product to product and provides information on how many calories are in one serving size. A **portion size** is how much of that food we choose to eat at one time. In some cases, serving sizes and portion sizes match but at all times an individual determine their portion size. Ask, how many servings I am consuming?

- **Calories** and calories from fat tell us how much energy we get from that food.

- **% Daily Value** informs us if a serving size of food is high or low in a nutrient. As a guideline, 5% or less is low and 20% or more is high

- **Nutrients**: Limiting Fat, Cholesterol, and sodium can reduce the risk for cardiovascular disease, cancer and diabetes

- **Nutrients**: Select foods high in fiber, Vitamin A, Vitamin C, Calcium, and iron to help your body fight diseases and support healthy body functions

- A **Footnote** is found only on larger packages and does not change from product to product.

The Nutrition Facts label is a very important tool for us to:

- Keep track of how many calories we eat based on the number of serving sizes we choose to eat as a general guide, based on a 2,000 calorie diet, 40 Calories is low, 100 Calories is moderate and 400 calories or more is high.

- Use in choosing healthy foods and selecting items lower in fats, salt, and sugar and higher in fiber and vitamins.


For more information on nutrition, go online to [http://extension.missouri.edu](http://extension.missouri.edu) or contact one of the nutrition and health specialists working in the Ozarks: Dr. Lydia Kaume in Barton County, (417) 682-3579; Dr. Pam Duitsman, in Greene County, (417) 881-8909; or Cammie Younger in Texas County, (417) 967-4545
Who Gets Grandma’s Yellow Pie Plate?
By: Janet LaFon

Okay, so there may not be a special yellow pie plate in your family. But we all have personal belongings that are valued or have meaning to us and/or family members. Have you thought about who you would want to have those belongings someday? Non-titled personal property transfer issues are frequently ignored until a crisis occurs. Often, the issues are assumed to be unimportant because the property doesn’t have a title or may not have a high financial value.

Non-titled property is a term referring to personal items without a legal document (such as a title) to indicate who officially owns the item. Non-titled property includes items such as guns, tools, photos, furniture, dishes, books, jewelry and collections.

Decisions about the transfer of both titled and non-titled property are important. When dealing with non-titled property, these decisions can present some special challenges. Here are some factors to consider when transferring personal property:

Understand the sensitivity of the issue. It’s important to recognize the sentimental value personal property may have to both the owner(s) and receiver(s). To some, it may just be “stuff.” To others, it has emotional value.

Determine what you want to accomplish. What’s most important to you? Is a co-owner involved? Come to an agreement. What are your goals?

Determine what fair means in the context of your family. Fair does not always mean equal, such as an equal number of items, equal value, or equal in terms of emotional value. Sentimental value varies from individual to individual.

Identify the meaning of objects. What special personal belongings are in your family? Do they have special meanings to others? Make no assumptions about what someone else will value and why.

Recognize distribution options and consequences. It’s important for individuals involved to discuss, identify and agree upon a method or methods of transfer before beginning the distribution process. If decisions are made prior to death, it eliminates misunderstanding of the owner’s wishes.

Agree to manage conflicts if they arise. Discuss and clarify problems. Make a commitment to work toward a solution. Perhaps the most important thing to remember is to listen to one another.

Transferring personal property can be a time to celebrate a person’s life, an opportunity to share memories and stories, and a way to continue traditions and family history.

Adapted from: “Who Gets Grandma’s Yellow Pie Plate?” Minnesota Extension Service.
The Importance of Lime
By: Jill Scheidt

Lime is one of the most important additives a producer can apply to a field or pasture. Lime is a soil conditioner that allows other nutrients to become more available through optimizing the soil pH. Taking a representative soil sample is imperative to receiving accurate soil test results and that is the first step in correcting soil pH.

Soil samples should be taken every 3-5 years. At least 10-20, 6 inch deep cores should be collected from every field. Producers should avoid sampling soon after fertilizing, liming or applying manure. Nutrient availability in soil can fluctuate with soil moisture. Sampling at the same time of year will provide more consistent soil test results. In pastures, avoid sampling within 150 feet of shade areas, watering points and field edges, where livestock may congregate and crop fields end.

Lime is graded according to the effective neutralizing material (ENM). Most lime companies in southwest Missouri have an ENM ranging from 400-450. The finer the lime is ground, the higher the ENM; finer grinding of limestone improves breakdown and speeds reaction with the soil to change pH levels. Limestone is more effective when incorporated in soil because it is not very water soluble, therefore reacts slowly with soil.

Priority on a limited fertilizer budget should go to correcting soil pH through liming. Lime increases the efficiency of fertilizers like phosphorus and many micronutrients, by increasing their availability to the plant (see illustration). Soil structure, microbial activity, activity of soil incorporated herbicide applications and legume persistence are all improved with a proper soil pH. The illustration demonstrates nutrient availability to the plant according to pH level of the soil. The ideal pH range for cool-season grasses is 5.5-7.0; for legumes 6.0-7.5; for row crops 6.0-6.5.

Many common fertilizers acidify the soil but the impact on soil pH is relatively small. For example, nitrogen fertilizers have long been known to acidify the soil. According to John Lory, MU Plant Sciences, it takes about 180 pounds of calcium carbonate to neutralize 100 pounds of nitrogen added as anhydrous ammonia. At this rate, less than 1 ton/acre of pure lime is needed every 5 years, to offset an application of 200 pounds/acre/year of nitrogen. If producers have a corn-soybean rotation, only 1 ton/acre of lime is needed every 10 years to offset that same nitrogen application. Nitrogen fertilizers vary in their ability to acidify the soil. Ammonium sulfate is the most acidifying nitrogen fertilizer; the impact of urea will be similar to anhydrous ammonia.

Given the slow effects of fertilizers such as nitrogen on soil pH the best way to manage acidification by fertilizers is to monitor soil pH using soil testing. Sampling fields every three to five years will allow you to monitor trends in soil such as soil pH and identify fields where soil pH is close to dropping below optimum.
Renovating Pastures? Try Frost Seeding
By: John Hobbs
The benefits of establishing clover in grass pasture are well-known. They can include increased forage yield, improved forage quality, reduced nitrogen fertilizer costs, dilution of toxic fescue, and good livestock performance. The practice of frost seeding has long been used by forage producers as an effective means to improve pasture yields or change forage species composition. Frost seeding is a relatively low-cost practice that, when implemented at the correct time and managed properly, can yield successful results.

Steps for Successful Frost Seedings

1. Site Selection Frost seeding can be used at any geographical location but is particularly effective where tillage can create potential erosion problems. Sites where maximum seed-to-soil contact can be achieved are essential. Thinning grass stands have been a preferred site to use frost seeding. A bunch-type grass, such as fescue, offers a more favorable environment for frost seedings than does a sod-forming species, such as bluegrass. Regardless of the current grass species present, the site should be closely grazed in the fall or winter to open the stand and expose soil. A chain drag or light disking can also be used to help open the stand. This will increase the opportunity for seed-to-soil contact.

2. Soil Fertility Proper soil pH and fertility are essential for efficient forage production. Soil tests should be taken every 3 to 5 years to determine nutrient status. Tests should be taken at least six months prior to seeding to allow for corrective measures. For optimum production, soil pH should be maintained above 6.0. Regardless of the seeding method used, corrective applications of phosphorus and potassium should be applied prior to seeding. If you are frost seeding a legume, applications of nitrogen should not be made the year of the seeding because of the potential for increased competition from grasses. Frost seeding should not be considered as a substitute for poor fertility management. If a poor pasture is the result of low fertility, frost seeding will not remedy this situation.

Minimum Fertility Recommendations

<table>
<thead>
<tr>
<th>Forage</th>
<th>pH</th>
<th>Phosphorus soil test Pounds per acre</th>
<th>Potassium soil test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>6.5</td>
<td>40</td>
<td>300</td>
</tr>
<tr>
<td>Red Clover</td>
<td>6.0</td>
<td>25</td>
<td>250</td>
</tr>
<tr>
<td>White Clover</td>
<td>5.5</td>
<td>25</td>
<td>250</td>
</tr>
<tr>
<td>Birdsfoot trefoil</td>
<td>5.5</td>
<td>20</td>
<td>250</td>
</tr>
<tr>
<td>Lespedeza</td>
<td>5.0</td>
<td>20</td>
<td>200</td>
</tr>
</tbody>
</table>

3. Species Selection
Historically, most frost seedings have been made to introduce or increase a forage legume species into an established grass stand. The producer needs to select the legume best suited to the soil conditions and intended use. Forage quality is improved when legumes are added to grass stands. Quality improvement is seen in increased palatability, intake, digestibility, and nutrient content. Research has proven that legumes will improve animal growth rates, milk production, and reproductive efficiency. Red clover has widely been accepted as the legume of choice for frost seeding. Red clover has high seeding vigor and is somewhat tolerant of a wide range of conditions relating to pH and fertility, drainage, and drought. While work is being done to improve the persistence of red clover varieties, it must be treated as a biennial and will probably require reseeding every two years. Red clover has proven highly effective as a means to improve the productivity of fescue stands. Fescue is recognized for its vigorous seedlings, responsive growth with adequate fertility, and as a superior species for use in stockpiling programs. However, fescue is also associated with complications arising from infections of the endophyte fungus, poor palatability, and low production in the summer months. Research has shown the benefits of introducing red clover to grass stands. Research conducted at the University of Kentucky (Taylor et al, 1978) compared renovating a fescue pasture using red clover at 6 lbs/acre compared to fertilizing the grass with 90 or 180 lbs/acre of nitrogen. Red clover growth with fescue produced higher yields than fescue fertilized with nitrogen at either level. Other legumes can be added to grasses through frost seeding. Birdsfoot trefoil is difficult to establish but is bloat-free and when established, does well in a wide range of conditions. Ladino clover will last somewhat longer than red clover, but is less tolerant of low fertility, drought, and overgrazing. The high cost of alfalfa seed, makes it a less desirable option for frost seeding and is not compatible to the rocky, shallow Ozark soils.

Regardless of the species, all seedings should be made with high quality seed. While frost seeded is an economical practice, there is no justification to use low quality seed. The economics will be in favor of high quality seed when you consider the entire lifetime of a stand. There is less experience with trying to establish cool-season grasses through frost seeding. It does appear that grasses do not establish with the same level of success as do legumes. Broadcasting grass seed can present some problems when mixed with legume seed, as the grass seed will not spread as far. Therefore, it is recommended that grasses be seeded separately from legumes when using a broadcast seeder. Minimal work or success rates have been reported with attempts to add grasses to established grass stands through frost seeding. Work done at the University of Wisconsin (West and Undersander, 1997) compared frost seeding establishment of several cool-season grasses into older established alfalfa stands. Results from this two year trial showed that perennial ryegrass and orchardgrass exhibited the best establishment success, while reed canarygrass and timothy had the least success.

Continued on Page 5....
4. **Seeding Rates**

<table>
<thead>
<tr>
<th>Forage Species</th>
<th>Seeding Rate (lb/A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Clover</td>
<td>8</td>
</tr>
<tr>
<td>Birdsfoot Trefoil</td>
<td>6</td>
</tr>
<tr>
<td>Ladino Clover</td>
<td>1 to 2</td>
</tr>
<tr>
<td>Alsike Clover</td>
<td>3 to 4</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>10</td>
</tr>
<tr>
<td>Annual Lespedeza</td>
<td>20</td>
</tr>
<tr>
<td>Orchardgrass</td>
<td>2 to 5</td>
</tr>
<tr>
<td>Perennial Ryegrass</td>
<td>3 to 5</td>
</tr>
</tbody>
</table>

These stated seeding rates are based on traditional establishment methods. Frost seeding may require higher seeding rates depending on the given location and desired level of production.

5. **Seeding Time and Method**

The basic principal behind frost seeding is the "honey-combing" action that is created by alternating freezing and thawing cycles in late winter. This activity helps to incorporate broadcast seed into the soil surface. To take advantage of these environmental changes, frost seeding should occur in late winter in southwest Missouri. The trampling effect of high livestock densities can also be effective to ensure seed-soil contact. Use caution when frost seeding on top of snow as rapid meltdown of snow may result in the runoff of seed. Frost seeding can be accomplished with any broadcast type seeder. Tractor 3-point hitch mounted seeders have been typically used. In recent years, seeders mounted onto all-terrain vehicles (ATVs) such as four-wheelers have become a popular choice for seeding.

6. **Seed Treatments**

Seed treatments containing nitrogen-fixing rhizobia bacteria are widely available for most common legumes. Rhizobia do survive in soil, so if the legume of interest is present in low amounts in the field to be seeded, rhizobia coating is usually not required. If the legume is not present in the pasture, then a rhizobia seed coating is recommended.

Frost seeding can be an effective, economical means of introducing a new forage species to an existing forage stand or to maintain the current composition of a stand. This practice has been very useful for helping farmers reduce the effects of endophyte-infected fescue. Frost seeding is frequently implemented where tillage is not a viable option because of erosion concerns. Desired results can be obtained when attention is paid to site selection, fertility, species selection, seeding rates, seeding times and method.