

## DR. BOB'S NORTHERN GARDENING TIPS

### Should you use different fertilizers for your plants?

By Robert Gough, Ph.D.,  
Montana State University Extension

There is a specialty fertilizer for just about everything.

T.W., who lives on the Hi-Line, is confused about all the choices. For example, there is a potato fertilizer with the analysis of 15-15-15, a 22-34-11 corn fertilizer and one for strawberries with the analysis of 10-52-17. T.W. cannot afford to buy all of these fertilizers. What can she do?

Well, first of all, various plants use different proportions of nitrogen, phosphorus and potassium, hence the idea behind all of the different analyses. But there is no need whatsoever for a homeowner to purchase all of the different fertilizer blends. Give a plant some 10-10-10 and it'll take up what it needs anyway. If you were a commercial corn grower then you might apply a high phosphorus fertilizer to maximize yields. But a homeowner won't go bust if he misses out on a few ears of sweet corn. Use a good, all around analysis

like 5-10-10 or 10-10-10 for your vegetables, bedding plants, trees or shrubs, and let it go at that.

Visit <http://gardenguide.montana.edu> for more tips from Dr. Bob.

### Few backyard mushrooms a threat to your pet

A moist spring is leading to abundant edible mushrooms, and some pet owners have been asking about possible mushroom poisonings in pets, says Montana State University's Extension plant pathologist.

Jack Riesselman said, "There are certain mushrooms that can cause serious injury to both dogs and cats. Fortunately, most are not found in backyards."

In recent years, Montana has had few problems with mushroom pet poisonings, according to Marc Mattix from the MSU Veterinary Diagnostic Laboratory.

The prolonged drought has not favored mushroom development. But Mattix said that many mushrooms, if eaten by pets, can cause symptoms such as excessive salivation, diarrhea,



reduced pulse rate, disorientation or, very rarely, coma.

Cathy Cripps of MSU is a world expert in mushroom identification. Most highly toxic mushrooms occur in forested mountain areas. They generally appear in larger numbers in July, Cripps says.

When hiking during the summer in forested mountain terrain, Riesselman suggests that you keep close track of your canine companion, especially if it is young and curious or has developed a taste for backyard mushroom.

## JIM DULLEY

### Geothermal scores high in energy efficiency

Dear Jim: Our church installed a geothermal heat pump. The contractor told me they are also the most efficient, comfortable way to air-condition and heat homes. Should I use one for my 2,000 sq. ft. home? *Kyle N.*

Dear Kyle: Even if an analysis of your home shows the payback from installing a geothermal heat pump is the same as a less expensive standard heat pump, consider other factors.

By using less electricity a geothermal system causes fewer emissions from generating plants and reduces the peak summertime electric load for the utility companies and this reduces the need for long-term electric rate increases.

The U.S. Environmental Protection Agency has found geothermal heat pumps in homes produce the lowest year-round utility bills of any central heating/cooling system. Other advan-



tages are high durability and low-maintenance. Since outdoor air is not needed with a geothermal heat pump, an outdoor condenser unit is not used. The entire unit can be indoors and the only sound is a quiet compressor.

To give you an idea of how efficient geothermal heat pumps are, if it now costs you \$300 a month to cool your house, your monthly cooling electric bills would be cut to less than \$100. If you now use a electric furnace during winter, the savings may be more.

Almost every geothermal heat pump offers an optional built-in desuperheater. During summer, any heat pump or central air conditioner draws heat from the air inside your house and transfers it outdoors. Instead, a desuperheater diverts this heat drawn

from inside your house to your water heater for basically free hot water. With a large family, this can save another \$100 per month for water heating. During winter, some geothermal models are also designed to heat water efficiently when your house thermostat is not calling for heat.

Geothermal heat pumps use the thermal mass of the earth instead of the outdoor air. During winter, the ground temperature stays warmer than the outdoor air, so it is easier for the geothermal heat pump to draw heat into your home. During summer, the ground stays cooler than the outdoor air, so the geothermal heat pump can dump the heat more efficiently.

A typical 3-ton (36,000 Btu) geothermal heat pump will cost several thousand dollars more than a gas furnace and central air. It will pay you back in about eight years and last 20 years or more.

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