

QUESTIONS

1. What three elements make up a complete fertilizer?
2. What is meant by a 10-6-4 analysis?
3. What is the percentage of Phosphate expressed as P₂O₅ that is found in Super Phosphate?
4. How many lbs. of Potash in a ton of 5-10-5? In 15-5-10?
5. What is the percentage of Nitrogen in Ammonium Nitrate?
6. What is the percentage of Nitrogen in Ammonium Sulphate?
7. What does P.M.A.S stand for?
8. What is the percentage of Potash in Super Phosphate?
9. In order to apply one pound of actual Nitrogen per 1,000 square feet, how many pounds of Urea are required per acre?
10. Approximately what percent of actual Potash is in Muriate of Potash?
11. What is the average percent of Nitrogen in the Ureaform fertilizers?
12. How many yards of topdressing material are required to apply 1/4 inch to a 5,000 square foot green?
13. If a truck carries 10 yards of soil, how many truckloads would be required to cover a 5,000 square foot green with one foot of topsoil?
14. Approximately how many pounds in a yard of dry sand?
15. Would you get more sand in a yard of sand, or in a ton of sand?
16. If your spray boom is 20 feet wide - how many yards would you have to travel to cover one square acre?
17. Approximately how many square feet in an acre?
18. Approximately how many acres in a fairway 400 yards long and 50 yards wide?
19. How many gallons (American) of water in a cubic foot?
20. Approximately how many gallons in an acre inch of water? (American)
21. In warm weather - which will expand more, plastic or steel piping?
22. How much greater is the expansion of plastic pipe as compared to steel pipe. 10 times - 5 times - or 2 times?
23. How many times more water will a 2" pipe hold, as compared to a 1" pipe?
24. How many pounds pressure per square inch will be exerted at the base of a water tower 100 feet high?
25. What is the friction loss of 100 feet of 1" hose at 30 gallons per minute - 5 lbs. - 15 lbs. - or 30 lbs.?
26. Which holds more water - a 5 gallon can, or a cubic foot?

Turn the pages for the correct answers.

IN YOUR GARDEN

Thin Bark Trees Need Winter Protection

Winter is hard on newly planted young trees. Last year even established plants of varieties with thin bark were severely injured. Maples, lindens and locusts were particularly hard hit.

Winter injury is caused during bright winter days when the sun stimulates the inner bark to grow. This usually happens on the south or southwest side of the tree. When the sun sets, the temperature inside the trunk suddenly drops to that of the outside air which may be well below freezing. The newly formed tissues are killed, causing the bark to loosen.

Prevent winter injury by wrapping the trunk of newly planted trees or trees winter-injured last year.

To wrap the trees, use forty pound kraft paper or a tough crepe-type asphalt impregnated paper. Using three to four inch widths, start at the base and spirally wrap the tree trunk, tying with a soft cord to hold the paper in place. The paper should overlap perhaps 1/2 to 1 inch for more complete protection.

Another good practice is mulching the soil around the base of the plants. This prevents the bad effects of freezing and thawing which can heave and tilt the tree. Soil moisture relations are also favorable through the winter on mulched soil.

Ground corn cobs, bark, dried grass clippings, or shredded leaves are some recommended winter mulch materials.

The mulch should be six inches deep and extend one foot past the edge of the hole. Most of these materials can be left in place as a summer mulch for the next season.

James A. Fizzell
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MUMS NEED LITTLE CARE TO LIVE THROUGH WINTER

Q—Our garden mums were beautiful this fall. Is there any way to preserve them for next year's garden?

A—Most garden mums are quite hardy and will live thru the winter with a little care. When frost withers their blooms and foliage, cut the tops of the plants back to just above ground level. After the ground freezes, cover the plants with a light, airy mulch to keep the shallow roots from heaving out of the soil during temperature fluctuations. In early spring, lift the plants out of the ground and divide them. Each basal shoot taken from a clump will develop into a new plant.

Q—What causes leaves of a vigorous trumpet vine to curl at this time?

A—Aphids undoubtedly are finding the vine attractive. You can spray the vine with a contact insecticide to get rid of them, but it is so late in the season this hardly seems worth while since leaves will die off anyway.

Q—Can you advise me how to save some fibrous begonias over the winter?

A—If dug and potted before frost, begonias will thrive indoors by a sunny window. Cuttings from these plants will root easily in moist vermiculite.

Q—Would you advise cutting back a silver lace vine this fall?

A—I always prefer to wait until spring to cut back these strong growing vines. The reason for this is that if the winter is mild, die-back will be less severe and you can cut back accordingly. Pruning now may result in loss of portions of the vine that have lived thru the winter.

Q—When is a good time to fertilize some large shade trees on our property?

A—Fall or early spring are equally good times to feed the trees.

Q—Why do new leaves on my philodendron become progressively smaller? They look healthy and green.

A—When a plant produces smaller leaves than usual, it usually indicates the plant is being grown in too dark or too cool an environment. Altho philodendrons do not require sunlight, they do need good light and a temperature range of 60 to 70 degrees for best growing conditions.

Art Kozelka
Garden editor

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ANSWERS

1. Nitrogen - Phosphorus - Potassium.
2. 10% Nitrogen - 6% Phosphoric Acid - 4% Potash.
3. 20%.
4. 100 pounds, 200 pounds.
5. 33½%.
6. 20%.
7. Phenyl - Mercuric - Acetate Solution.
8. None.
9. 100 pounds.
10. 60%.
11. 38%.
12. Four (4) yards.
13. 18½ Truckloads (between 18 or 19).
14. 2,800 pounds.
15. More sand in a yard of sand.
16. 730 yards.
17. 43,560 square feet (or 44,000 sq. ft.).
18. 3½ to 4 acres.
19. 7.48 (or 7½ gallons).
20. 27,000 gallons, to cover an acre one inch deep.
21. Plastic piping.
22. 10 times.
23. Four (4) times more water.
24. Approximately 43 lbs. per sq. in.
25. 30 lbs.
26. One cubic foot holds 7½ gallons.

WINTER CARE FOR ROSES

Our modern day roses are sensitive to winter cold, but according to James A. Fizzell, University of Illinois Horticulturist, rapid temperature changes, especially in late fall and early spring cause most of the damage to roses in Northeastern Illinois. For this reason, winter protection is usually necessary.

Hilling the plants with soil mounds of 10 to 12 inches is the most commonly used protection. If the roses are closely spaced and this method is used, soil should be brought in from outside the rose bed. If soil is scraped up from surrounding plants, injury can occur to the shallow roots of the roses.

In addition to the soil mounds, you can put bushel baskets over the roses. All leaves should be stripped off and the plants sprayed with a fungicide before covering with the baskets. The baskets protect the plants from drying winds and help level off sudden temperature changes. Since they are not air tight, they allow for ventilation and reduce the possibilities of fungus disease.

When roses are hilled with soil, the soil mound should be allowed to freeze solid and then a layer of mulch put on top to keep the soil frozen and prevent injury from freezing and thawing. Climbing roses can be over wintered pretty successfully by removing the plants from their trellis, laying it along the ground and mounding soil over the whole plants. Don't forget the layer of mulch after the soil is frozen.

Rose cones are becoming increasingly popular. Buy cones with a vent in the top or punch some holes near the top to let out hot air. Mulching inside the cone will increase the insulating value. Keep the cone in place with a brick on top.

For those who have tree roses, a bit more care and expertise is needed. One method is to drive three stakes around the plant, mound soil at the bottom, wrap the whole plant with insulating material, such as straw, and then put tar paper around the outside with a cover on top. Or, lift one side of the root system with a shovel, lay the entire plant on the ground and cover with soil.

Light pruning can be done in the fall, but only to reduce the size of the plant if using bushel baskets or rose cones. In spring remove all dead cones and weak branches.

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