

# Create Drought-Resistant Landscape And Conserve Water

**UNIVERSITY PARK (Centre Co.)**—Many plants need ample moisture throughout the growing season. Even if we don't have a drought this summer, creating a landscape that is more resilient in dry weather can cut back on maintenance time and help conserve water.

"To develop a drought-resistant landscape, start by conditioning the soil," says Dr. J. Robert Nuss, professor of ornamental horticulture in Penn State's College of Agriculture Sciences. "Soil with organic matter holds water like a sponge."

"Before planting, incorporate about five bushels of compost, peat, rotted sawdust or similar material into the top 10 inches of soil for every 100-square-foot area. In addition to retaining water, this organic matter will provide nutrients and create air pockets important for healthy roots."

When you're ready to plant, select annuals, perennials, shrubs and trees that tolerate dry soil, and ask the supplier if they have been hardened off. "Hardened-off plants receive less and less water prior to sale, so they are used to drier conditions," says Nuss. "If you grow your own seedlings, gradually cut back on water before planting them outside."

Buy only dark green, sturdy plants. "Tall, spindly plants with

pale leaves won't tolerate dry conditions even if you provide adequate organic matter and mulch," says Nuss.

Drought-resistant annuals include amaranth, pimpernel, nicotiana, geranium, marigold, petunia, spider flower, annual phlox, cosmos, rose moss, annual pink, gloriosa daisy, dusty miller, annual baby's breath, strawflower, verbena, lantana and zinnia.

Perennials that do well in dry conditions are yarrow, butterflyweed, indigo, coreopsis, gailardia, daylily, ageratum, liatris, flax, lupine, poppy, ground phlox, rudbeckia, soapwort, sedum, prickly pear cactus and many kinds of ornamental grasses.

Drought-tolerant trees and shrubs include box elder, silk tree, gray birch, hackberry, osage orange, Japanese black pine, bur oak, black locust, sassafras, Siberian elm, Japanese barberry, flowering quince, sweetfern, gray dogwood, witch hazel, juniper, privet, bayberry, bush cinquefoil and staghorn sumac.

After you have installed your plants, one of the most effective methods of water conservation is weed control. "Weeds can consume more water than all your ornamentals put together," says Nuss. "An effective, long-term method of controlling weeds is to put a 3- to 4-inch layer of mulch

around your plants. This limits the need for hand weeding and using herbicides."

Determining the direction of prevailing winds and planting or erecting windbreaks can drastically decrease your landscape's water consumption. "Wind draws a lot of moisture from soil and plant tissue," says Nuss. "Reducing air movement over your plants will reduce moisture loss."

Most windbreaks modify air movement for a distance of about twice their height. For example, a 6-foot screen reduces air flow about 12 to 15 feet in front of it. "If you have plants farther away than 15 feet from your windbreak, make sure your windbreak isn't channeling wind to those plants," says Nuss. "You may need more than one windbreak if you have a large planted area."

If appearance isn't important, a snow fence covered with burlap or plastic sheets can be placed about five feet from plants. "If space permits, a shrub border provides long-term protection and adds to your landscape's beauty," says Nuss.

Shrubs that make good windbreaks include flowering quince (6 feet), mentor barberry (7 feet), pea tree (15 feet), bayberry (10-12 feet), gray dogwood (12 feet) and privet (15-20 feet). Make sure to plant these shrubs at least 5 feet

from your other plants so that they will not draw water from them.

Under extremely dry conditions, you can prevent moisture loss by spraying your plants with an antidessicant. Antidessicants are available at garden centers and are made of a latex-like material. The spray forms an invisible, watertight film over the leaves' surface. This film does not harm plants and wears off after a few weeks.

"Antidessicants are most effective on evergreens and mature foliage," says Nuss. "New leaves will need additional spraying as they grow. Use antidessicant sprays when the air temperature is above freezing, and make sure you cover all the leaves. You will need to spray several times as plants grow and the film wears off."

When watering your landscape,

you may find that the moisture beads and runs off before the soil can absorb it. "Some kinds of soil absorb water with difficulty," says Nuss. "If you can't water your soil uniformly because of high clay or peat content, you can apply a wetting agent to reduce the surface tension of water and allow it to spread over the soil."

Soil wetting agents are available at garden centers. Some are meant for specific crops, so make sure you get the right one for your landscape. They usually are effective for about two months and then must be reapplied.

"It may not be possible to follow all these steps in one season," says Nuss. "But even following one or two can cut water consumption and make your landscape resilient in dry weather."



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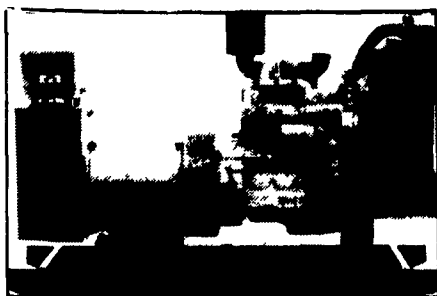
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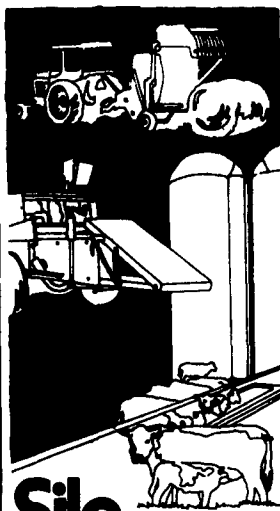
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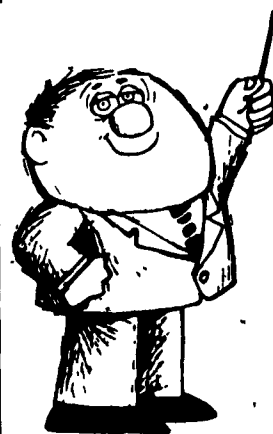
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