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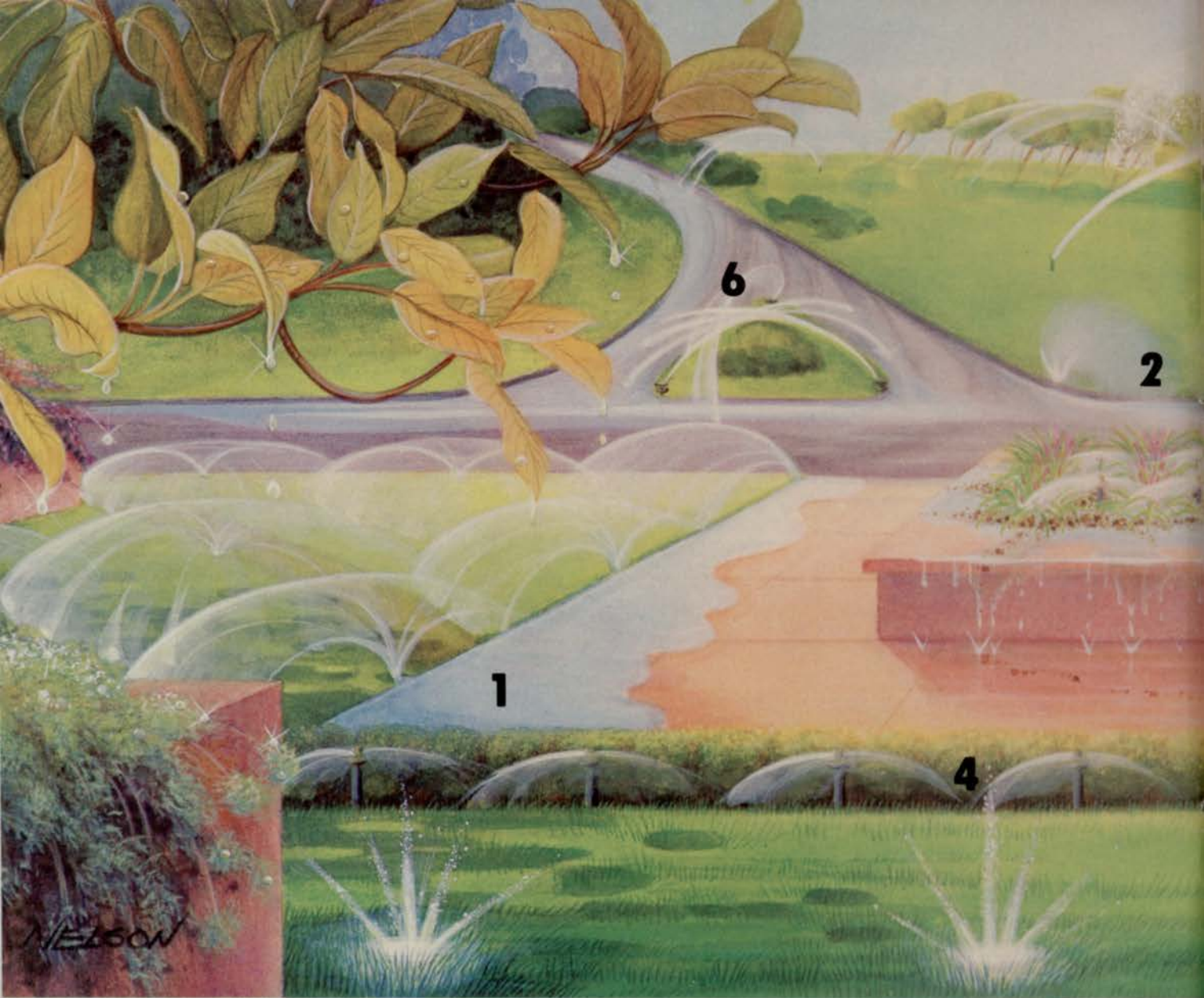
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10 WAYS YOUR SPRINKLER SYSTEM CAN WASTE WATER AND 10 WAYS

Sprinkler systems that waste water don't do your business or the landscape any good. With the possibility of a water shortage looming on the horizon, forced restrictions may limit the amount of water for irrigation. To meet this challenge, Rain Bird is developing better ways to budget water wisely. Look above. There are ten ways your sprinkler system can go down the drain...and ten new water conserving products from Rain Bird that will help you avoid it!

1. Watering too fast, too often. Save water with the precision that comes from having a separate program for each station on the clock. The new ISC "Independent Station Controller" gives you independent control of each valve for exact programming to meet the watering needs of diverse plantings. Available in 16, 24 and 32 station models, the ISC features a unique water budgeting system for instant time adjustments.

2. Misting sprinklers. Stop wasteful misting from over pressurized sprinklers with the new PRS Pressure Regulating modules with Schrader valves from Rain Bird. Taking pressures as high as 200 psi, the PRS modules effectively regulate from 100 psi down to 15 psi (± 5 psi). And they are suitable for all Rain Bird EFA, EP, or PVE Series electric control valves.

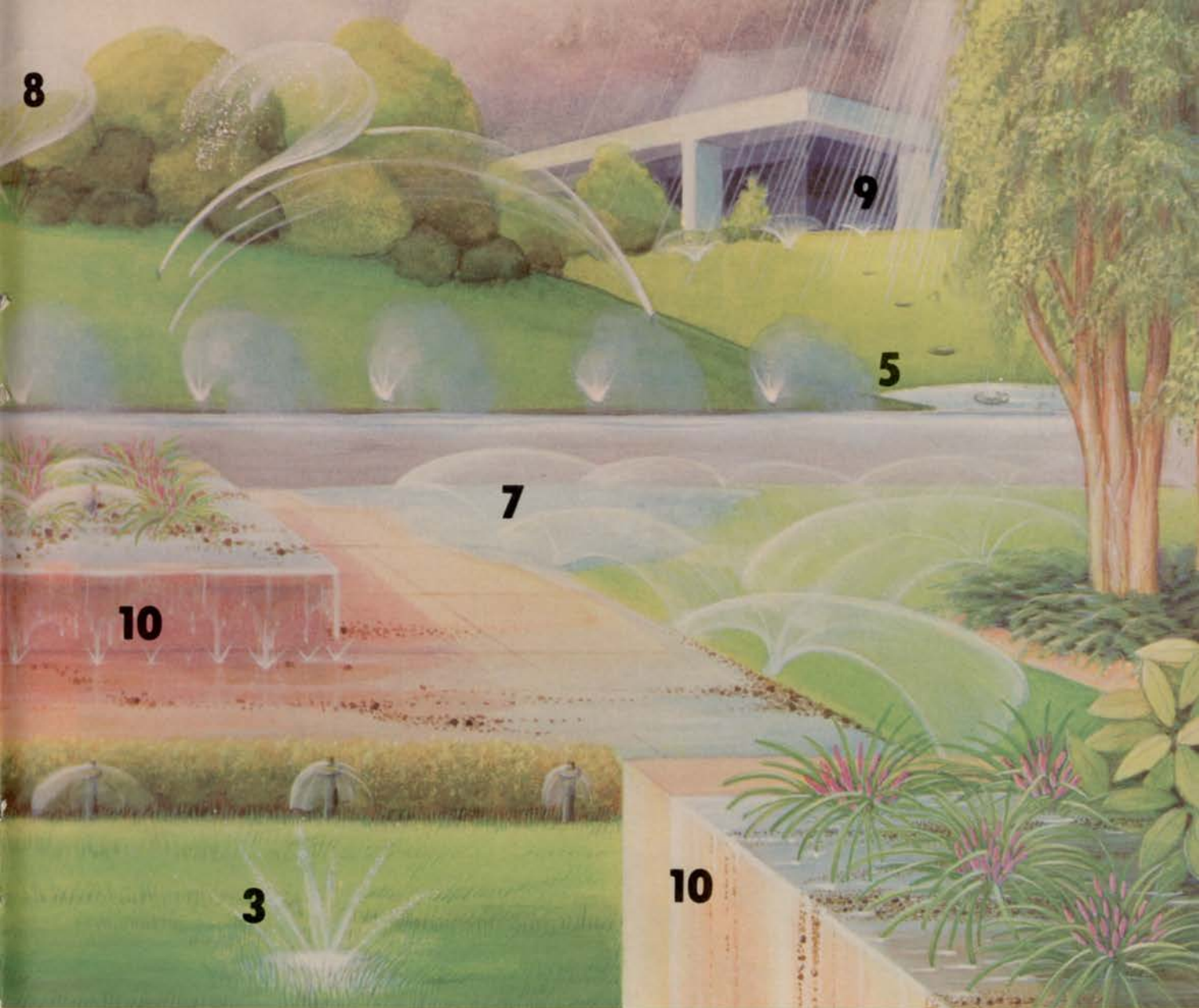
3. Obstructed water distribution.

Reach above taller drought-tolerant turf cuts and ground covers for uniform water distribution with the new Rain Bird 1800 Series high-pop spray heads. The new patented co-molded wiper seal assures positive pop-up and pop-down for the full line of two, four, six and twelve inch models. While a special ratchet device on the six and twelve inch models resists tampering and makes adjustment of the spray simple.

4. Uneven flow from bubblers. Stop water waste caused by changes in water pressure from rolling terrains and friction loss with the new 1400 Series pressure compensating bubblers. Available in constant $\frac{1}{4}$, $\frac{1}{2}$ and 1 gpm flow rates, the 1400 Series fills the gap between drip emitter flow rates in gallons per hour and sprinkler rates in gallons per minute.

5. Low head drainage. Rain Bird introduces a new water-saving 15103 SAM model. The "Seal-a-Matic"™ option on this new MINI-PAW prevents water waste from low head drainage caused by changes in elevation as great as 10 feet.

6. Overspraying. The new "Short Range" MINI-PAW 15103 SR



EM CAN GO DOWN THE DRAIN... TO AVOID IT!

performance gap where spray head coverage ends and small rotors begin, the 15103 SR offers low trajectory throw, low gallonage operation and an adjustable radius from 15 to 25 feet.

7. Wet corners. Eliminate over-watered corners with the new matched precipitation rate spray nozzles. Available in plastic or brass, the nozzles fit all Rain Bird 2800, 1800 and 171G Series pop-ups and plastic PA-8 and brass A-7G shrub adapters to provide uniform coverage.

8. Wind interference. The new Rain Bird P3-PJ sprinklers minimize problems caused by wind interference by throwing a single stream at a slope-hugging 15 degree angle. And with gallonage as low as 1.6 gpm, the precipitation rate resists slope run-off and puddling.

9. Sprinkling in the rain. Avoid the high cost and embarrassment of watering in a downpour with the new rain shut-off device from Rain Bird. When rain water reaches the adjustable sensing probes at a pre-set level, the shut-off device interrupts all power to the electric valves on the controller's next cycle. When the water evaporates, the system returns to normal operation.

eliminates water waste associated with over-spraying. Filling the

10. Forgotten manual system. Left unattended, manual irrigation systems can be major water wasters. Conversion from manual to water-saving automatic control is simpler and more cost-effective with the new line of Rain Bird low cost residential valves. Highlighting the line is the AVA "Automatic Valve Actuator," available in three-quarter and one-inch models for conversion of many Rain Bird and competitive manual valves. Together with the PAS anti-siphon valves and the AGV automatic globe valves, Rain Bird provides the best in low cost residential controls.

Don't let your sprinkler system go down the drain. See your Rain Bird distributor for details of these and other exciting new product introductions.

Write for our free Irrigation System Survival Kit at 145 N. Grand Ave., Glendora, CA 91740.

RAIN BIRD

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PIERIS, LEUCOTHOE, AND DAPHNE BROADLEAF EVERGREENS FOR SHADED LOCATIONS

By DOUGLAS CHAPMAN



Pieris floribunda is a dense, bushy evergreen with white flowers on upright panicles. It is tolerant of shade and high pH.

The group known as broad-leaf evergreens is dominated by rhododendrons. But if one is considering diversity, ease of maintenance, and shade tolerance, then pieris, leucothoe, and daphne should highlight your shade plant list.

There are two pieris readily available—Japanese Pieris (*Pieris japonica*) and Mountain Pieris (*P. floribunda*). *P. japonica* is an upright, broad-leaf evergreen shrub, somewhat compact in habit, with spreading branches, reaching 6 to 8 feet in height and 5 to 6 feet in spread in central Michigan and 9 to 12 feet in height with a 6- to 8-foot spread in central Ohio.

This slow-growing ericaceous plant has lustrous dark green foliage during the summer months

(formed in rosettes), that becomes somewhat dull in winter. When considering leaf color, the most exciting is rich bronze which the new growth displays during mid-April. The perfect, slightly urn-shaped white flowers are effective during mid-April. They are borne on 3- to 6-inch long pendulous panicles. During a cool spring, they can be effective in the landscape for two to three weeks. The flower buds are formed during mid-summer, taking on this pendulous habit which is extremely effective in the landscape for late summer and winter months.

The most significant problems as far as insects include mites and lace bugs—two sucking insects which can easily be controlled if they

build up beyond an economic threshold. Diseases such as Phytophthora or leaf spots can become problems, but with the new pesticides, they are controllable.

This specimen broad-leaf evergreen is extremely effective in border plantings or as single specimen plants, grown in the shade with deep-rooted trees or other ericaceous plants.

Being ericaceous, it has a rather shallow-fibrous root system, rarely extending more than 18 inches into the soil. Therefore, *P. japonica* should be planted in moist, yet

Continues on page 48

Douglas J. Chapman is a Horticulturist at Dow Gardens, Midland, Michigan

Weather-matic Works and works and works and works works and works and works day after day after day week after week after week month after month after month year after year after year

Automatic landscape irrigation systems from Weather-matic are engineered and tested — and proved — to give years of trouble-free service. Costly callbacks for repairs and service seldom bother Weather-matic owners. And with the industry's finest selection of sprinkler heads and its most dependable valves and controllers, you can be sure to put exactly the right volume of water precisely where you want it, when you need it, without waste.

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A photograph of a golf course green with several sand traps and people in the background. The scene is viewed through the branches of trees in the foreground, creating a natural frame. The green is well-maintained, and the sand traps are clearly defined. In the background, several people are visible, some standing and some near a golf cart, suggesting an active golf course. The overall atmosphere is serene and professional.

Daconil 2787.®
It's the
groundwork for
a more
playable
course.



For more and more superintendents that's the case. Because they know effective disease control is the best way to achieve a better looking, more playable course. And that's why Daconil 2787 fungicide is the basis of their fungicide spray program.

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Daconil 2787 is the product of choice on America's tees and greens.

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And you need first rate protection on fairways. Because diseases are mobile and can easily spread from fairways to tees and greens. Especially dollar spot, brown patch and leafspot.

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The flowable formulation of Daconil 2787 allows for fast, easy handling because it flows readily and disperses quickly. So there's no clogging of spray equipment.

And since Daconil 2787 has a built-in surfactant, you're assured of superior sticking power, extended coverage on the crown and sheath of grass blades and excellent fungicide retention even after heavy rains or watering.

All of which adds up to proven residual control when used at recommended rates.

When you consider everything Daconil 2787 has to offer, it's no wonder more and more superintendents are making it the basis of their disease control program. On tees, greens, fairways and even ornamentals.

With a full and regular schedule of Daconil 2787, your turf will be healthier and more vigorous to better withstand traffic and play. And it makes for easier weed control too.

Groundwork like that adds up to a more playable course. And in your business, that's the name of the game.



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Leucothoe transplants easily but is sensitive to late winter desiccation. It is a colorful understory plant.

well-drained acid soils high in organic matter.

It is extremely effective when planted in partial or full shade locations. Pruning is rarely required, making this plant relatively maintenance free.

Mountain Pieris (*P. floribunda*) is an exciting evergreen shrub, bushy in habit, low and rounded, rarely getting over 3 to 6 feet in height and width. It is extremely dense.

The white flowers, which are quite fragrant, are borne on 2 to 4-inch panicles that are held quite upright. One should expect to see this shrub flowering during mid to late April. It can be extremely effective for two to three week periods during cool, moist springs.

Like the Japanese Pieris, it grows well in high organic, acid, well-drained soils but is extremely tolerant of higher pH's. It is outstanding as a specimen or mass-planting.

This ericaceous shrub grows well in companion with deep-rooted plants, such as pine, spruce,

or oak. Of the two pieris, Mountain Pieris is least available, yet for American gardens, it is probably best suited. It requires little maintenance, being a rather upright shrub, rarely succumbing to insect and disease problems. Further, it grows well in a range of pH from 4 to 6.5.

Drooping Leucothoe (*Leucothoe fontanesiana*) is perfect for almost any naturalized or woody landscape. It is probably best grown in a container or planted with companion trees, such as pine or oak.

Leucothoe is a low-spreading with somewhat arching habit, graceful plant, reaching 3 to 5 feet in height and 4 to 6 feet in width. The new growth is bright lime-green, becoming a rich dark green during summer which changes to a light bronze color during the winter months. The flowers, in central Michigan, are not seen until late May and are white, perfect, fragrant, and borne in long axillary racemes under the foliage, ac-

centing the arching-pendulous habit of this shrub.

Leucothoe transplants easily, thriving in well-drained, high organic acid soils. It is particularly sensitive to desiccation by wind or bright sunlight during late winter. Therefore, it must be grown in woody settings. Drooping Leucothoe is outstanding as a park plant or in naturalized areas in individual home landscapes.

There are two daphnes which are readily available while being almost opposites. Rose Daphne (*Daphne cneorum*), a small, ground coverlike plant, and February Daphne (*D. mezereum*), a shrub.

Rose Daphne is a small, low-spreading evergreen shrub, reaching only 6 to 10 inches in height and 2 feet in width. It is most effective in the home landscape, be it in a rock garden or as a woody, almost wild flower plant.

Continues on page 50

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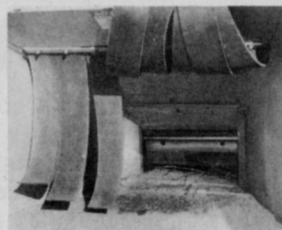
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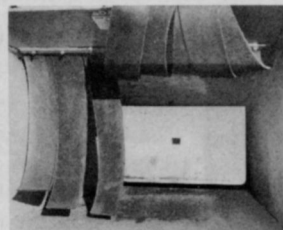
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THE
DIGG'N
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Close up photo shows the wide 16 in. throat of the 1600 Brush Chipper



...And the safety gate "stop action" $\frac{1}{2}$ -second later.



D. cneorum is shade-labile, that is, it must be grown in shady locations. It does extremely well as a companion where rhododendrons are effective. The small leaves are almost needle-like. Being a lustrous green throughout the summer they become an almost dull grey-green through the winter months. The bright pink fragrant flowers often appear during late April or early May.

Some have observed flowering a second time during late summer. These flowers are similar to *Iberis sempervirens*—rather tight clusters, being pink in color.

Rose Daphne is best grown in a container. It transplants successfully when planted in early spring. It should be grown in well-drained high organic soil with a pH somewhere between 6 and 7. If the area is exposed to southwest sun or wind, Rose Daphne soon declines.

The key is planting in medium shade, giving a north to northeast exposure and well-drained soil.

This plant is best when used as a detailed or intimate plant in home landscapes while rarely having a place in the commercial or golf course setting.

February Daphne (*D. mezereum*) is a deciduous shrub with erect branches, reaching 3 to 5 feet in height and width. It is most effective when grown in partial to full shade. In central Michigan, one can expect the lilac or magenta fragrant flowers to appear during early to mid-April. The fruit, which is about 1/3 to 1/2 inch in diameter, is brilliant red and matures in June.

Of the *D. mezereum* cultivars, the most outstanding is *D. mezereum* 'Alba' which has pale yellow to white flowers and exciting yellow fruit. This yellow fruit can be outstanding during summer and fall. The leaves are rosettes near the terminal.

February Daphne does well in high organic, loamy, well-drained soils. It is perfectly hardy to 20 degrees below zero. This shrub has been grown or cultivated in the

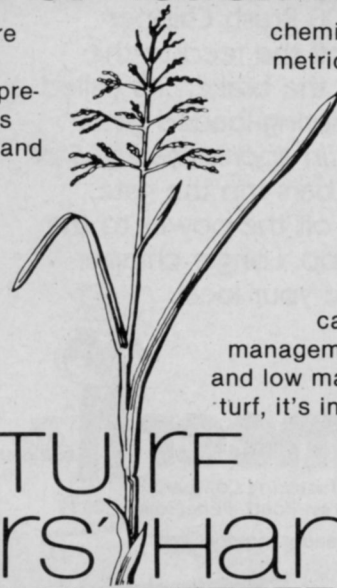
U.S. since colonial days and naturalizes well. One should consider it not only an outstanding specimen or mass planting shrub in the individual home landscape but also one that integrates well into commercial or large-area landscapes as a companion plant for deep-rooted medium-large trees, be they deciduous or evergreen. It is a plant that does extremely well when planted with a north to northeast exposure.

Pieris, leucothoe, and daphne are outstanding broad-leaf evergreens. Certainly leucothoe, with its somewhat pendulous, shrubby habit; *P. floribunda*, which holds its flowers in a very formal, upright manner; and February Daphne are outstanding in woody plantings. Rose Daphne is almost insect- and disease-free, yet a plant that wants to be grown in areas where it receives little or no foot traffic. Foot traffic or heavy use areas soon lead to plants declining. If one has that intimate woody location, these three genera are a must to consider.

WTT

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chemical applications, and extensive metric-imperial conversion. Business and technical aspects of turfgrass management are covered in this 424-page book. Planning, purchasing, hiring, construction, and plant selection are put together for easy on-the-job reference. Markets covered include lawn care, sod production, golf course management, cemeteries, athletic fields, and low maintenance areas. If it concerns turf, it's in the Turf Managers' Handbook.

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