

JOB TALK

Rose garden tests maintenance crews

■ A patch of sun-baked, compacted soil in southern California has been transformed into The International Rosarium, a world class garden of 7,000 roses of 2,200 varieties.

The landscape includes several historical settings, Josephine's Garden, the Victorian Garden, the Mission Garden and the Edwardian Tea Garden.

The five-acre Rosarium opened in May within the 165-acre Descanso Gardens botanic facility at La Canada Flintridge, Calif., 20 minutes north of downtown Los Angeles.

"The Rosarium will be a continuing horticultural experiment for us," says Dr. Steven Cohan, director of Descanso. "We're doing things that haven't been done before in terms of integrating perennials and annuals with roses under the same irrigation regimes, fertilizer programs and pest control."

The Rosarium is located on the site of a once-thriving rose garden developed by former rose hybridizer Dr. Walter Lammert. The Descanso Gardens Guild, a non-profit group, obtained private funding as the second phase of the garden's master plan. Construction began in October 1993 and was completed last May.

"We had a nine-foot layer of compacted clay soil," says Cohan. The roots of the old roses had gone down only a foot and a half before spreading laterally. Much of the soil had eroded as well.

To enhance root development, the hard pan was cultivated to a depth of 30 inches, and nitrogenized fir bark was added at a rate of 4 cu. yds./1000 sq. ft., and 8 lbs./1000 sq. ft. of 12-8-8 controlled release fertilizer was spread in the cultivated soil. Some 12-8-8 slow release Gro Power tablets were placed within two inches of the rootballs of all shrubs and trees at the rates of two per 1-gallon planter, seven per 5-gallon planter, 13 in a 15-gallon planter, and 16 per 24-inch box. Urea- and organic-based fertilizers with 8- to 12-week feeding periods were tested for suitability over the summer.

Irrigation—Four types of delivery systems are used to irrigate the gardens. Low-volume overhead sprayers are used for turf areas; micro-sprayers for the rose companion plantings, underground soaker lines for hedges, and drip emitters for trees, shrubs and roses.

The clay soil requires less water. "We're able to get phenomenal growth in our roses on the drip system with only a gallon of water a week during the first two months after the spring planting," says Cohan. "The recommendation by rosarians is 10 to 12 gallons a week when the roses are in their growing season. With the drip system, the water percolates down slowly, and the clay



An oil funnel over the end of the spray wand makes for easy, drift-free applications of Roundup.

holds the water near the roots."

Battling nutsedge—The turf in the Rosarium is Bonsai dwarf tall fescue, which is a good choice for heat tolerance and low mowing adaptability, according to Cohan.

"The fescues have a deep root system which reduces stress and enables faster recovery than blue or rye," says Cohan.

Then the nutsedge showed up. It's a weed that can quickly overtake a turf stand if left untreated.

Frank Madero, pest control advisor for American Landscape Maintenance, Inc.—consultants to Descanso Gardens—called in Dr. Nelroy Jackson, a product development specialist with the Monsanto Co. They realized Roundup would cause bare spots in the turf, so Jackson suggested treating the turf with Manage, Monsanto's new selective herbicide for nutsedge control. Manage was applied to the turf under an Experimental Use Permit. Within one week the problem was brought under control, with no damage to turf.

Ingenuity—Nutsedge was also visible in the bare soil surrounding the roses and companion plants. The crews were able to use Roundup in the bare soil, but they needed a safer way to apply it once the winds kicked up at about 9:30 in the morning.

"We took an oil funnel and fit it over the end of the spray wand, and now we can just put the cone right over the nutsedge plant and give it a little squirt," Madero says.

The problem will not go away all at once, however. "Even with the Manage eventually being labeled for use with Roundup," says Madero, "the nutsedge will be here for a few years because of all the nutlets already in the ground that will germinate. But we think we have the problem under control."

To reduce insect damage, Cohan is considering using newly-devised sun oils, natural insecticide soaps and predatory insects that feed on bugs that are harmful to vegetation.

"Between the 150 bird species and beneficial insects inhabiting the garden, things should pretty well come into balance," predicts Cohan. "We'll see if we can pursue that with the diversity of plant material in the rose garden."