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A premium homogenous granular product with NAIAD wetting agent.

Source	5
	-

14

18%	
	Meth.Ureas Amm.Phos-Amm.Sul
	Urea
10%	Amm. Phom. Sulfate
1%	Mg. Oxide Sul.Pot-Amm.Sul
1%	Ferrous Sul. Mn. Oxide
	4% 10% 1% 6%

Small -12 +16 54# cubic foot. A full weight, high density product.

This product contains a unique formulation of fertilizer and NAIAD wetting agent to help spread water uniformly over the soil surface and through resistant soil structures. It is designed for use on greens, tees and fairways where a high quality turf is desired. Suggested rates are 1/2 to 1 pound Nitrogen per 1,000 sq. ft. during warm seasons and 1 to 2 pounds Nitrogen per 1,000 sq. ft. rate - you will apply the equivalent of 1.4 quart NAIAD per acre (1 oz. per 1,000 sq. ft.)

Basis one pound Nitrogen per 1,000 sq. ft. - one application.

1,000	Acre	Ton	1-Bag	Average 18 Hole Course
Sq. Ft.		Covers	Covers	Grns-3 Acres Frwys - 45 Acres
5.6#	245#	8.2 Acres	9,000 Sq.Ft.	.37 Tons 5.51 Tons

1. A homogeneous granular non-burning type fertilizer - 90% Drganic Nitrogen, 10.0 units WIN. A balanced ratio for sustained feeding. An imbalance of nutrients usually favors disease development.

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 Excellent to use where phosphorus is high from repeated applications.

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5. Contains magnesium to help prevent deficiencies on sandy soils and to balance the potash required for good, rich turf.

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-12-



Upcoming Events — Mark Your Calendar

Feb. 19-26 — GCSAA Conference, Orlando, FL
March 14 — MAGCS Monthly Meeting at Nordic Hills C.C.
March 15, 16, 17 — Home & Flower Show at Rosemont Expo
March 29 — CDGA Green Seminar at Butterfield C.C.
April 23 — MAGCS Monthly Meeting at Lincolnshire C.C.
May 21 — Joint Association Meeting with Central III. in Peoria
June — MAGCS Monthly Meeting at Mt. Prospect C.C.
June 7-10 — Western Open at Butler National G.C.
June 14-17 — U.S. Open at Medinah C.C.
July & August — We need meeting sites.
September — MAGCS Monthly Meeting at Bull Valley G.C.
October — MAGCS Monthly Meeting at Carillon G.C.
November — MAGCS Clinic

December 4-6 - NCTE in Springfield

The deepest sympathy of the members of the Midwest Association of Golf Course Superintendents is extended to Tracy and Jim and the rest of the Murphy family on the death of Ray Murphy (Lemont Paving Company) on January 5, 1990.

ASSISTANTS NEEDED, APPLY BELOW:

Wilmette Golf Club, Mike Matchen, Supt. (708) 256-9654
Sunset Ridge C.C., Dennis Wilson, Supt. (708) 466-5222
Olympia Fields C.C., Tom Rodems, Supt. (708) 748-0495
Hillcrest Country Club, George Ott, Supt. (708) 540-5146
Oak Brook Hills G.C., Harry Lovero, Supt. (708) 323-7633
Streamwood G.C., Douglas Long, Supt. (708) 289-3130

FOREMAN NEEDED:

Bob O'Link G.C., Bruce Williams, Supt.(708) 432-0088Sunset Valley G.C., Brian Green, Supt.(708) 433-0850

Assistant Superintendent & Mechanic needed at Royal Fox Golf Club. Contact Ernest Corsi, at (708) 377-9491.

Congratulations are in order for: Sheryl and Bob Maibusch on the birth of a son, Kieron Thomas, on Christmas morning. AND - on New Years Eve, Al Frantik and Kelly McBrayer were wed.

On Mike Bavier's 20th year at Inverness C.C. the club gave him a set of clubs, bag and a limited addition painting of Royal Troon Golf Club. Congratulations, Mike!!!

For Sale: Large locker room lockers, also (2) GM3's Toro Mowers. Priced to sell, call Mike or Mel at (708) 358-7030.

The deepest sympathy of the members of the Midwest Association of Golf Course Superintendents is extended to the Dinelli family on the death of their mother (grandmother and great-grandmother) on January 5, 1990. Mr. & Mrs. Frank Dinelli had 7 children, 22 grandchildren, and 21 great-grandchildren. Frank and his wife had been married 67 years and have lived 51 years on the Northmoor C.C. property where he was the Superintendent. Frank died in 1988.

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Pruning Guide

The following is a pruning guide adapted from the September 1989 "Dundee Leaflet" newsletter by Dundee Nursery and Landscaping, and the Minnesota Extension Service publication "Pruning Trees and Shrubs" (AG-FO-0628) by Mervin C. Eisel, Extension Horticulturist.

Common questions asked at the Extension office and at local nurseries is when to prune a particular kind of shrub or tree. Hopefully this guide will aid in knowing the correct time of year to prune for optimum effect. Any dead, diseased, or damaged branches can be pruned as soon as they are noticed even though the time of year may be less than desirable for pruning.

KEY:

- WINTER: December, January, February. This helps prevent possible disease and insect infestations. "Bleeding" of sap doesn't hurt trees.
- 2 SPRING: before growth starts. Usually because flowers on new wood or because plant is grown for foliage effect.
- 3 EARLY IN GROWING SEASON: generally May-early June.
- 4 DURING GROWING SEASON: pines should be pruned before candles (new growth) have fully opened and become woody. Usually in early May.
- 5 RIGHT AFTER FLOWERING: usually done because plant flowers on old wood.
- 6 SUMMER: best time is when it is not rainy or humid. Locust should be done after July 15.
- 7 FALL: best when plant has lost its leaves for the year.

Great Progress in Course Development Year-to-Date

The seven-month course development activity tracked in the NGF data bank seems to suggest that finally the nation may achieve par for the year in filling the new course goal of 400-a-year.

If so, that will be for only one year with 10 more to go to hit NGF estimates of 4,000 additional courses needed by the year 2000. The final results for this year will obviously still be way ahead of the 100 courses added on average each year for the past 10 years ... including the 211 for 1988. 210 new courses have been opened, just one shy of all last year. Courses in planning and under construction through seven months are way ahead as the table shows. Perhaps the most encouraging news is the gain in July over the first six months in 1989 as shown below.

Between 1987 and 1988 the industry added 1.7 million golfers, and total golfers played 53 million more rounds. That dynamic growth rate could suggest that NGF estimates of 30 million golfers by the year 2000, (up from the current 23.4 million) might even be conservative.

In the first seven months of 1989,

	1988 <u>12 months</u>	1989 <u>6 months</u>	1989 <u>7 months</u>
In planning	343	416	494
Under const.	319	375	414
Open	211	159	210
Total	873	950	1,118

PLANT	PRUNE	PLANT	PRUNE	PLANT	PRUNE
Almond, Flowering	5	Elder	2	Plum (fruit tree)	1
Apple	1	Elm	1	Plum (ornamental)	5
Apricot	1,5	Euonymus,		Poplar	1,6,7
Arborvitae	3	(Burningbush)	2	Potentilla	2
Ash	1,6,7	Falsespirea	2 2 2	Privet	5
Aspen	1,6,7	Fir	2	Rhododendron	5
Azaleas	5	Forsythia	5	Rugosa (shrub) rose	2,5
Barberry	2	Ginkgo	2 1	Serviceberry	5
Birch	1,6,7	Hackberry	1	Smoketree	2
Boxwood	3	Hawthorn	1	Snowberry 2	
Buckeye	2,7	Hemlock	3	Spirea (Anthony	
Buckthorn	2	Honeylocust	1,6	Waterer; Goldflame;	
Cherry, Canada Red	1,5	Honeysuckle	5	Curly Leaf; Daphne;	
Cherry, Meteor;		Hvdrangea	2	Froebeli)	2
North Star	1,2	Ironwood	1,2,6	Spirea (Arguta: Fairy	
Cherry, Nanking	5	Juniper	3	Queen; Snowmound;	
Cherry Plum	1,2	Lilac	5	Prunifolia;	
Chokeberry	5	Linden	1,6,7	Vanhoutte; Thunbergi)	
Chokecherry	5	Magnolia	5	Spruce	2
Coffeetree,		Maple	1,6	Sumac	2
Kentucky	1,2,7	Mockorange	2	Tamarack	2
Coralberry	2	Mountain Ash	1	Tamarix	2
Corktree	1	Ninebark	2	Viburnum	5
Cotoneaster	1	Oak	1,7	Walnut	6
Crabapple	1	Olive, Russian	1	Weigela	2
Curant, Alpine	2	Pear	1	Willow	1,6,7
Deutzia	5	Peashrub	5	Winterberry	2
Dogwood	2	Pine	4	Yew	3

The Preemergence Herbicide Barrier Myth

Jim Moore, Agricultural Extension Agent North Carolina State University

From: Pennsylvania Turf Grass Council, Inc. - Winter 1989

A uniform application of the preemergence herbicide creates a herbicidal barrier that kills weeds during germination. If this barrier is disturbed there is a decrease in weed control. The question is, does turf aerification (i.e. coring, spiking) disturb this barrier sufficiently to cause a decrease in weed control?

Current information on this question is contradictory. B. E. Branham (1986) at the University of Michigan found no significant effects on preemergence herbicide control of crabgrass in annual bluegrass fairways from aerification. B. J. Johnson (1987) found similar results in common bermudagrass at the University of Georgia. In contrast many preemergence herbicide labels specifically direct the user not to perform soil disturbing practices (such as aerification) after herbicide application.

Research on the effects of aerification on the performance of preemergence herbicides began in the Spring of 1987 at the NCSU Turf Field Center. This research was for a Masters' Degree Thesis with Dr. W. M. Lewis and Dr. Joe M. DiPaola. Test plots were established in creeping bentgrass, Tifgreen hybrid bermuda and common bermudagrass (fairway conditions). Preemergence herbicides were applied March 25 both years (1987 and 1988). Four weeks after herbicide application and plots were aerified using a Ryan Greensaire II with $\frac{1}{2}$ inch diameter tines. Cores were removed or returned according to treatment designation.

Crabgrass counts were made at monthly intervals beginning in June. A one square meter frame was placed on each plot and the crabgrass plants in that area were counted.

In 1988 counts in bentgrass indicate no significant differences (for any herbicide) between non-aerified plots and plots that were aerified and the cores removed. Although aerifying disturbed the herbicide barrier, it did not create an environment favorable for crabgrass germination.

In contrast, however, when plots were aerified and the cores returned, there was a significant decrease in crabgrass control compaired to aerifying and removing the cores. The process of returning cores diluted the herbicide with untreated soil from the bottom of the core. Ungerminated seed in the cores were able to germinate in the soil returned to the hole.

Turfgrass managers who return cores following aerification can expect an increase in crabgrass populations. Split applications of preemergence herbicides made after aerification improves crabgrass control. Since topdressing after aerification creates a situation similar to returning cores, an increase in crabgrass can be expected unless topdressing material is sterilized.

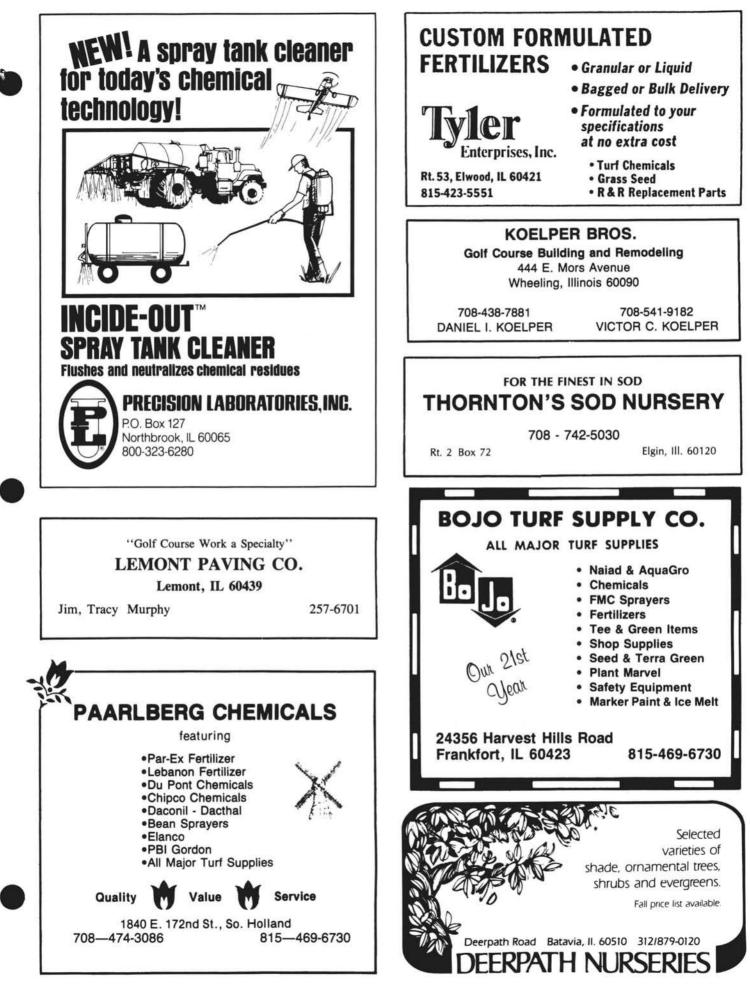


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In Your Garden . . . Flowering Shrubs Can be Forced Indoors Now by James A Fizzell,

Senior Extension Advisor - Horticulture, U of I

This year, spring can come early to your home. How? Just snip some branches from your flowering shrubs and force them into bloom. By now many shrubs have flower buds that are formed and ready to bloom. There has been sufficient cold weather to break dormancy and all that the buds require to burst open is warmth and moisture.

This procedure is quite simple. Anyone, even apartment dwellers, can succeed with this project. Start by selecting branches loaded with flower buds. You can identify the flower buds because they are more plump and more round than leaf buds. When cutting, select branches that have curves or bends that will create interesting blooming arrangements.

Since the branches will be in water several weeks, many of the clean cut ends will have a tendency to heal or form callus. This is not desirable because it restricts the water uptake. To prevent this healing, thoroughly pound with a hammer and shred the cut ends of the branches.

After the ends are prepared, submerge the bundle of branches overnight in a deep pail or tub of water, or wrap them in a damp cloth and put them in a plastic bag for a few days. This moistening and soaking loosens the bud scales and helps them to readily fall away as the flowers expand.

After the moistening operation is completed, stand the branches in a pail of water in a place where you can control the temperature. Sixty to seventy degrees is best for the developing flowers. Although the branches will force at higher temperatures, the color, size, and keeping quality of the blooms will be reduced. For this reason, it is also best to keep the branches out of direct sun.

Most branches will be well on their way to full bloom in two weeks or sooner. They will stay attractive for about one week. So, if you cut a few branches each week, you can have a succession of fresh flowers the rest of the winter.

Some of the most popular shrubs to force are forsythia and flowering quince. Other good plants for forcing are flowering crab, flowering almond, and spiraea, especially the double flowered spiraeas. Magnolia forces easily, too.

Although white flowering dogwood can be forced, it opens slowly and bracts never develop as fully as outside. Lilac, because it is a complex compound flower, is also a challenge to force.

Finally, don't overlook trees when collecting branches for forcing. Red maple has an attractive but seldom noticed flower. Oak branches produce very interesting tiny leaves that change color as they unfold. And don't forget the pussy-willows. They are almost the trademark of spring.

Dr. Fred Grau writes that one of these days you will hear about a new zoysia that has been under test under various degrees of management, mostly without irrigation. So far in 42 years it has not required irrigation, fungicide, insecticide and there is no thatch when properly fertilized. As soon as sufficient sod is produced, they hope to put it in several sport fields because of its toughness.



Toro Dedicates Shrine Gardens to Golf Superintendents at PGA World Golf Hall of Fame

BLOOMINGTON, MN — The Toro Company announced today that it has become the founding sponsor in the development of the Shrine Gardens, located on the grounds of the Professional Golfers' Association World Golf Hall of Fame in Pinehurst, North Carolina. The garden was created to recognize golf course superintendents' service and contributions to the game of golf.

The beautifully landscaped gardens, located near the entrance to the shrine building, include a plaque that dedicated the gardens to golf course superintendents around the world. The project, which began in 1988, and was completed in August 1989, was publicly dedicated on November 2, 1989. The gardens replace a moat that previously encircled the Shrine area.

According to Mike Hoffman, Toro's director of marketing for commercial products, the Shrine Gardens project is an effort to provide golf course superintendents with much deserved recognition. "Golf course superintendents are key members of the golfing industry. They have made and continue to make major contributions to the game," says Hoffman. "It is our hope that they will receive the recognition in this special hall of fame that they have earned through hard work, expertise, and dedication to the game."

The majority of the golf course superintendents in the United States are members of the Golf Course Superintendents Association of America (GCSAA), an organization of golf course superintendents serving more than 9,000 members worldwide.

The Professional Golfers' Association (PGA) of America, the world's largest sports organization, is made up of 16,000 members and apprentices, and is represented at more than half of the nation's 12,000 golf courses. Formed in 1916, the association strives to both elevate the standards and promote interest in the game of golf.

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ASTRONAUT EXPERIENCE



Col. Irwin was selected as an astronaut by the National Aeronautics and Space Administration (NASA) in 1966. Following months of astronaut training, he was assigned to be a member of the astronaut support crew for Apollo 10 and then backup lunar module pilot for Apollo 12. On the Apollo 15 mis-

James T. Irwin

sion (July 26 to August 7, 1971) he served as lunar module pilot. Training for the mission meant preparing his mind, body, and spirit for the flight.

This fourth manned lunar landing mission was distinguished by the first use of a Lunar Rover vehicle. While Co. Al Worden orbited the moon in the command module, Col. Irwin and Apollo 15 commander Col. Dave Scott explored Hadley Rille and the Apennine Mountains of the moon, collecting 180 pounds of lunar surface material, including the Genesis Rock. On the flight of Apollo 15 Col. Irwin logged 295 hours, 11 minutes in space, of which 19 hours, 46 minutes were spent outside the spacecraft.

During the mission, thousands of people on earth were praying for the Apollo 15 astronauts. "I was aware of that on the moon," Jim remembers. "The hours that I spent on the moon were the most thrilling of my life. Not because I was there but because I could feel the presence of God. There were times when I was faced with new challenges, and help from God was immediate."

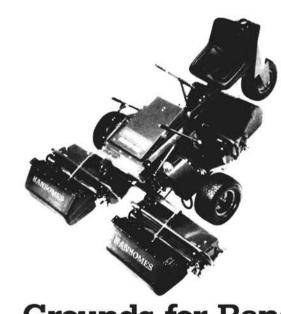
When the mission was complete Jim had hundreds, perhaps thousands of people to thank — those who had helped operate the many systems during the mission. But more important, he thanked God for the mission's success, for allowing him and the other crew members of Apollo 15 to journey into space, explore a portion of His heaven, and return safely to earth."

Jim and his fellow Apollo 15 crew members journeyed into space as technicians — "nuts and bolts types," in Jim's words — and returned as humanitarians. As Jim explains it, "I returned determined to share with others that profound experience with God on the moon, and to lift man to his highest flight through life."

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