Buffalo plays ball thanks to seed company

Buffalo Mayor Stanley M. Makowski operates seeder in ceremony to begin reseeding of the city's 92 ball diamonds. With him, from left, are Glatt Glattly, Whitney-Dickinson representative; Parks Commissioner Gus Franczyk; and Anthony Gioia, chairman, Chamber of Commerce Buffalo Beautiful Committee.

When the City of Buffalo, New York dug out from under the worst winter on record, they found their softball and baseball fields virtually void of grass.

The more than 190 inches of snow had to go somewhere and to make road traffic possible, the snow was trucked to ball fields and parks throughout the city. The trucks and snow piling equipment made a shambles of the ball diamonds on the city's 76 softball and 16 baseball fields.

E. R. Townsend, president of Whitney-Dickinson Seeds, Inc., working through the Buffalo Area Chamber of Commerce, offered to furnish enough Manhattan Perennial Ryegrass to reseed the 92 ball diamonds.

Today the city's ball diamonds are in full use. □

Resistant red oak seedlings isolated

Resistance to oak wilt disease, for the first time, has been observed in red oak seedlings. The screening procedure, which scientists developed and used to identify the resistant seedlings, may insure that red oaks remain prominent in the eastern half of the nation, providing beauty and shade in urban and rural settings. But science has yet to find a way to insure that the species remains as an important hardwood lumber tree.

Scientists of USDA's Agricultural Research Service (ARS) at Madison, Wis., and their colleagues at the University of Wisconsin, screened more than a thousand seedlings from which they found 17 that were resistant.

"These seedlings developed no oak wilt symptoms after we used a hypodermic needle to inoculate them with the fungal-disease causing organism in 3 successive years," said ARS plant pathologist Richard D. Durbin.

Further research is being conducted to find whether the seedlings may still succumb to infections by natural agents such as beetle.

Efforts to identify resistant red oaks in nature are hampered because exacting conditions necessary for disease spread may not be present at many times, says Dr. Durbin. The preliminary screening procedure makes testing of large numbers of seedlings possible in the greenhouse.

"If the promising results of our screening are further confirmed, resistant red oaks could be multiplied in sufficient numbers for the nursery trade within a few years," says Dr. Durbin. But some basic stumbling blocks must be overcome before they can be increased in large numbers.

In their search for ways to mass produce the disease-resistant red oak, the scientists are trying to develop several vegetative techniques including tissue culturing and rooting. "Reproducing the red oak sexually is not a viable alternative," says Dr. Durbin, "because we would have to wait 30 to 40 years for the trees to develop sexual maturity." Genetically, red oak trees are so complex or heterogeneous that many of the offspring would not be resistant anyway.

New techniques for vegetatively propagating the resistant oaks — if they can be developed soon — will be most timely. Dr. Durbin notes that oak wilt has spread alarmingly during the past three decades in eastern and central states where oaks are the leading hardwood timber species and important as shade trees. Some researchers have predicted that within the next 30 years about half of the nation's oak trees will be afflicted. □

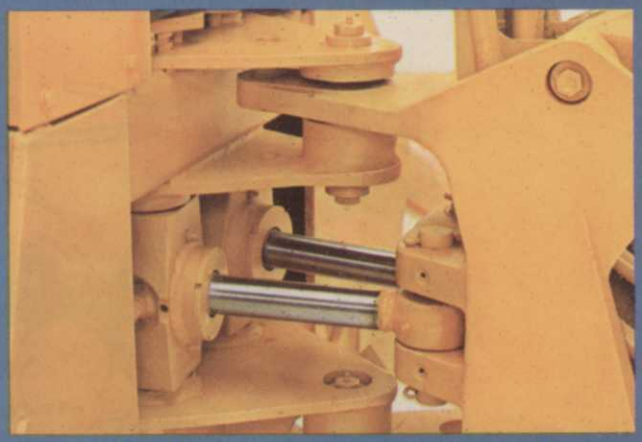
STRENGTH— a plus with John Deere Loader/Backhoes

Strength for enduring the hard knocks of loading and digging is what you can expect from John Deere's 43-, 50-, and 62-net-hp loader/backhoes.

The detachable 9250-A Backhoe with 2-lever control gives you nearly 13 feet 8 inches of digging depth and a 17-foot 5-inch reach. Its dual swing cylinders reduce the number of moving parts in the swing linkage, to aid sidecutting ability and positive swing, even on uphill grades. There are fewer daily grease points, too.

The integral loader has heavy reinforcing at vital stress points. Front mounting of loader is designed for horizontal float so shock loads can be absorbed in the rear axle mounting pads.

Each loader/backhoe is equipped with hydraulic direction reverser, differential lock, and single-lever loader control. Ask your John Deere dealer for all the details. John Deere, Moline, Illinois 61265.



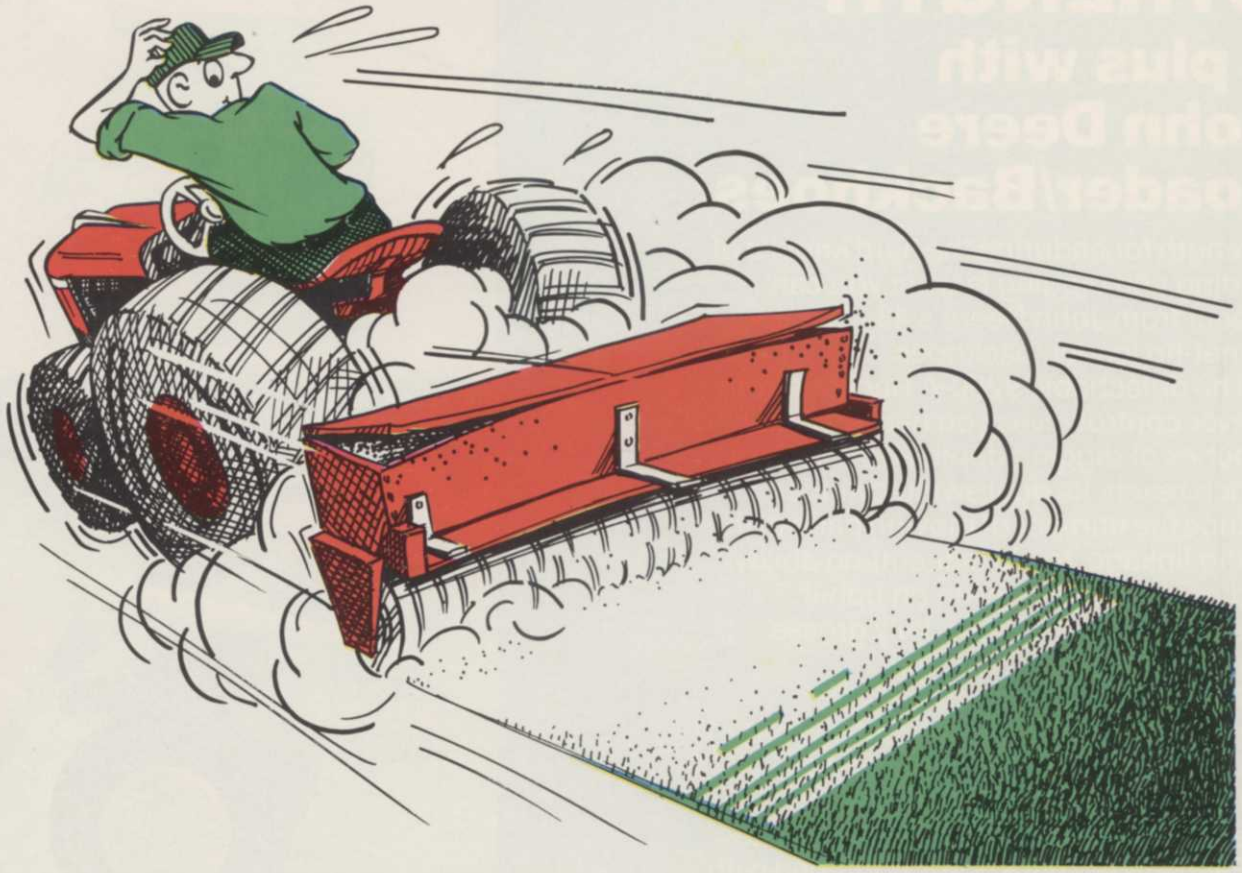
The 9250-A Backhoe utilizes dual swing cylinders that provide 11,083 foot-pounds of swing torque.

Loader booms are reinforced at the arch point with the plate applied to *both* sides of the boom. Slotted mounting point (arrow) permits horizontal float.

Circle 107 on free information card

JOHN DEERE

JOHN DEERE on the move



TOUCHDOWN

...this Elite starts FAST.

Touchdown Kentucky Bluegrass is no slow poke on your fields or fairways. This new variety gives you the quick start not usually associated with Elites—and once it germinates it keeps right on growing sending out vigorous rhizomes and new shoots to quickly give you a turf cover that lets you breathe easy. Faster cover means fewer washouts and blowouts, less competition from moisture and nutrient robbing weeds and a more quickly established turf for sale as sod or play on fairways. Touchdown can be mowed short and its density means you can plant it right up on tees too. You'd expect this with Touchdown's pedigree.

Touchdown was discovered by a professional—Tom Rewinski—Course Superintendent at the famed National Golf Links of America on Long Island. It was first evaluated by Dr. C. R. Funk at the turf grass breeding program at internationally acclaimed Rutgers University. Since Rewinski's discovery, intensive evaluation there and at numerous other institutions Touchdown has received top turf quality ratings.

And it only stands to reason that Touchdown will be a lower cost management grass. More rhizomes and side shoots means growth is directed where you want it—not just mow, mow, mow. Greater levels of disease resistance means fewer costly fungicides and dense aggressive turf means better competition against weeds and Poa annua.

Professional Quality Seed of Certified Touchdown Kentucky Bluegrass is now available.

To find out how great Touchdown is—contact your distributor and try some.

Produced and distributed by

PICKSEEDWEST, Inc.

Box 888, Tangent, OR. 97389 (503) 926-8886

Available from:

Lofts
Pedigreed Seed, Inc.,
Bound Brook, N.J. 08805
(201) 356-8700

Lofts/
New England,
Arlington, Mass. 02174
(617) 648-7550

Lofts
Kellogg Seed Co.,
Millwaukee, Wis. 53201
(414) 276-0373

Lofts/
New York,
Albany, N.Y. 12205
(518) 456-0042

...in Canada: Otto Pick & Sons Seeds Ltd.,

Box 126, Richmond Hill,
Ont. L4C 4X9
(416) 884-1147
Telex: 06 219623

Box 4, Grp. 200,
R.R. 2, Winnipeg, Man.
R3C 2E6
(204) 633-0088

Box 151,
St. Hyacinthe, Que.
J2S 5J9
(514) 799-4586

Effluent water

Continued from page 14

on greenbelt irrigation using sewage effluent performed by Younger of UC Riverside (in collaboration with the U.S. Forest Service), is among the most basic research projects yet accomplished. This investigation, in the famed Lake Arrowhead region of California, demonstrated no evidence of degradation or contamination of surface or ground waters, after 5 years of monitoring. The implications for golf course irrigation are encouraging, and more specific research on turfgrasses will doubtless benefit from this cornerstone work. Figure 3 illustrates a student withdrawing a ground water sample in this Lake Arrowhead project.

Economics of waste water reuse is a subject of secondary importance to most researchers, yet necessarily concerns the average golf course superintendent contemplating use. A more definitive answer may be the result of a new research grant to Younger of UC Riverside from the Office of Water Research & Technology, Department of Interior. Commencing this Fall, two graduate students under Younger's direction will compare costs of processing, piping and discharging effluent using this technique, with the costs of disposing by alternate means (as, to the ocean) and the economic value of water recovered.

In considering the economics of waste water effluent, even on a shirt cuff basis, some credit should be given to the fertilizer ingredients which accompany it when used in irrigation. Thus, as characterized by Dr. Wade L. Berry of UCLA's Department of Nuclear Medicine, a typical urban effluent can add 4 lb. of nitrogen, 2.7 lb. of phosphorus and 2.3 lb. of potassium, for each acre-inch applied. In the Southern California area, where approximately 40 acre-inches of water are needed to replace evapotranspiration losses, this level of use would add 160 lb. of nitrogen, 108 lb. of phosphorus and 92 lb. of potassium each year.

"In most instances," he concludes, "this would supply more phosphorus and potassium than presently used and also most of the nitrogen for low use turf, although additional nitrogen would be needed, especially for high use turf." At today's fertilizer prices, this deduction can be very helpful.

It is true that irrigation lines, pumps and storage facilities may cost additional dollars because of special needs to filter, chlorinate and contain a more corrosive substance. However, even if this waste effluent must be purchased, this expense may be only an estimated 1/3 of domestic water costs. If a separate filter system is required at the golf course site, Laguna Hills superintendent John Polder estimates a cost of $5,400 for a 1,000 gpm automatic system, or $4,000 for a manual

Continued on page 48

Next Month . . .

Chlordane/Heptachlor — What are the alternatives? . . . First Annual Weeds Trees & Turf Outstanding Achievement Awards . . . Effects of Soil Amendments . . . and more.

please correct your mailing label

For FASTEST service attach old mailing label in space below.

If mailing label is not available, print your old company name and address in this box.

Please allow 6 weeks for change to take effect.

Print your correct name, title, business address, and/or other corrections.

NAME_____

TITLE _____

COMPANY _____

ADDRESS _____

CITY _____ STATE_____ ZIP_____

CHECK HERE ☐ if you want to continue receiving WEEDS TREES & TURF Magazine.

IMPORTANT: You must sign below.

Signature _____ Date _____

Mail to:
Circulation Manager
WEEDS, TREES & TURF
9800 Detroit Avenue
Cleveland, Ohio 44102

IF YOU ARE IN THE SOD BUSINESS YOU SHOULD KNOW THESE PEOPLE

Brouwer Turf Equipment Head Office & Factory

This is the team that builds the **BROUWER Sod Harvester** — the **NO. 1** in 9 countries around the world.

Our **NEW Model A3A** will roll, slab or fold sod up to 13,500 sq feet per hour (1500 sq. yards) (1260 sq. metres).

- ★ Installed on standard Ford or Massey-Ferguson Tractors
- ★ Available with large floatation tires - 19.5 x 24
- ★ Cuts 15", 16", 18" and 24" wide turf in various lengths
- ★ Variable Cut-Off Drive (Instantly adjustable)
- ★ Split Connecting Rods (Quick "V" Belt Replacement)
- ★ O.S.H.A. Safety Guards
- ★ Many other refinements

FOR THE COMPLETE STORY — Call or write for the *NEW BROCHURE*

BROUWER
TURF EQUIPMENT LTD.
MANUFACTURER & DISTRIBUTOR

R. R. No. 1, Keswick, Ontario L4P 3C8, Phone: (416) 476-4311

Visit us for a surprise at the A.S.P.A. field day at St. Paul

Effluent water

Continued from page 45

back-flush system (plus installation charges).

"When all these things are weighed," concludes Younger of UC Riverside, "you can't help but conclude that it will be economical." A rather unequivocal statement for most scientists! However, Younger has plenty of specific research behind him to back up this conviction. He believes that this is just as true for a governmental agency, which charges for its effluent water, as it is for the golf course user who must pay for it. No doubt, in drought-plagued California, Younger is as impressed with the need to conserve a precious commodity, as with the relatively low costs and economic attractiveness.

Soil preparation key consideration

Needless to say, soil preparation is important where effluent water is to be used. Sandy loams are generally preferable; clay or sands are to be avoided. If greens are constructed according to USGA specifications, clay soils will be avoided and good percolation and drainage will assure less salt accumulation. Internal drainage lines will help this desirable flow.

As a starting point, Professor Younger highly recommends a thorough soil survey. In some cases, a site may be unsuited to effluent usage. Thus, a shallow soil over rock or hardpan may cause inadequately purified water to move horizontally into surface waters or through rock fissures into ground waters. He advises that infiltration rates and hydraulic conductivity of the soil be determined in advance, so that water application rates can be adjusted to avoid surface runoff or ponding.

A special problem is created by a water having a high sodium absorption ratio (SAR), in the presence of a clay soil. Such soils may lose their structure in time and become very poor for plant growth or water purification. Sodium acts to deflocculate soil, which then becomes compact and a poor hydraulic conductor. Gypsum is sometimes successful in correcting this situation, although avoiding this combination is preferable.

To illustrate how much difference is possible in soil readings following effluent irrigations, we may consider the Laguna Hills Golf Course in Southern California. Here, soil test data kept since 1971 show an increase of up to 125 percent in SAR readings, for a clay soil irrigated with effluent water as compared to irrigation with Metropolitan water. Similarly, increases in EC readings up to 100 percent have been noted, particlarly after summer irrigation with effluent. However, readings for SAR below 5.0 or EC below 3.5 are considered satisfactory by Laguna Hills maintenance personnel.

In setting up a waste water irrigation program, Younger recom-

Continued on page 56

FYLKING IS A SHOO-IN!

0217® brand Fylking Kentucky bluegrass, the famous Swedish beauty, stands out because of its many improved qualities. An outstanding feature is fast germination, rapid growth that makes sod lifting possible sooner than other varieties. Superior density of rhizomes and root system makes an almost impenetrable sod that helps strangle weeds, prevents invasion.

Purity is a prerequisite. Fylking Kentucky bluegrass contains no annual bluegrass *(Poa annua)*, bentgrass or short-awned foxtail. Fylking is your guarantee of physically pure, genetically true seed.

Fylking Kentucky bluegrass seed costs less than most other elite bluegrasses.

Fine-textured, brilliant green turf from early spring to late fall, Fylking is more drought, disease, traffic, heat, cold and smog resistant.

Low-growing, low-mowing characteristics result in fine professional golf tees and home putting greens; can be mowed low as 1/2-inch.

0217® brand Fylking Kentucky bluegrass is a shoo-in for first choice in any lawn seed mix. Specify the Swedish beauty, Fylking, at your local wholesale seed or sod distributor.

THE 44-INSECT INSECTICIDE.