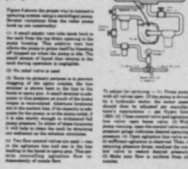


Sprayer Pump Handbook... yours free.

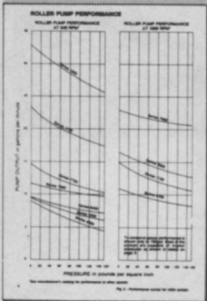
18 pages of helpful information

Hook up diagrams for roller, centrifugal and piston pumps.

How to connect a sprayer with a centrifugal pump



Roller pumps are used in sprayers to draw liquid from a tank and pump it into a spray nozzle. They are used in sprayers with roller pumps to draw liquid from a tank and pump it into a spray nozzle.



Graphs of pump outputs, flow through spray nozzles and pressure drop in hose.

Roller pumps designed for use on 100-psi PTO shafts

| Roller pump model | Flow rate (gpm) | Pressure (psi) | Flow rate (gpm) | Pressure (psi) |
|-------------------|-----------------|----------------|-----------------|----------------|
| Model 100 | 10 | 100 | 10 | 100 |
| Model 150 | 15 | 100 | 15 | 100 |
| Model 200 | 20 | 100 | 20 | 100 |
| Model 250 | 25 | 100 | 25 | 100 |
| Model 300 | 30 | 100 | 30 | 100 |
| Model 350 | 35 | 100 | 35 | 100 |
| Model 400 | 40 | 100 | 40 | 100 |
| Model 450 | 45 | 100 | 45 | 100 |
| Model 500 | 50 | 100 | 50 | 100 |

Roller pumps designed for use on 1800-psi PTO shafts

| Roller pump model | Flow rate (gpm) | Pressure (psi) | Flow rate (gpm) | Pressure (psi) |
|-------------------|-----------------|----------------|-----------------|----------------|
| Model 1000 | 100 | 1000 | 100 | 1000 |
| Model 1500 | 150 | 1000 | 150 | 1000 |
| Model 2000 | 200 | 1000 | 200 | 1000 |
| Model 2500 | 250 | 1000 | 250 | 1000 |
| Model 3000 | 300 | 1000 | 300 | 1000 |
| Model 3500 | 350 | 1000 | 350 | 1000 |
| Model 4000 | 400 | 1000 | 400 | 1000 |
| Model 4500 | 450 | 1000 | 450 | 1000 |
| Model 5000 | 500 | 1000 | 500 | 1000 |

How to select the right pump and sprayer components.



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Proper Turf Fertilization Increases Wear Tolerance

Proper fertilization can increase the ability of turfgrass to withstand daily trampling such as that on a golf course, according to a University of Nebraska-Lincoln horticulturist.

Dr. R. C. Shearman reported to a session of the annual meeting of the American Society of Agronomy recently on studies done with the Toronto variety of creeping bentgrass. He and James Beard of Texas A & M University found that adding nitrogen up to 12 pounds per thousand square feet per season increased the wear tolerance of the turf. Fertilizing beyond that point reduced wear tolerance significantly.

Added potassium also increased the wear tolerance of the grass, with the greatest increase resulting from six to eight pounds pf of potassium per thousand square feet per season. This was on Nebraska soils, which are relatively high in potassium. Dr. Shearman recommends metering out the potassium with two or more applications during the season.

Manganese Stays Soluble In New Patent Fertilizer Use

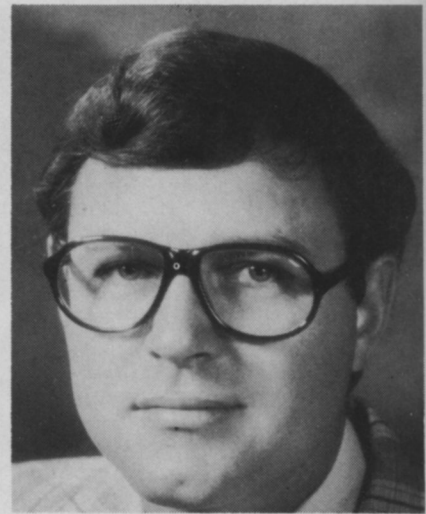
A government patent has been granted to an inventor — Richard J. Windgassen of East Chicago, Ill. — outlining the use of manganese sulfate in conjunction with aqueous NPK fertilizers, in such a fashion that the manganese remains in the soluble state.

The importance of this invention is that it allows manganese to be readily available when applied in liquid form along with NPK fertilizers.

Windgassen said that as a result of the examples presented in his patent, it is apparent that his invention provides a simple and effective means for forming stable manganese solution that can be used as liquid concentrates to furnish liquid manganese in mixed NPK liquid fertilizers.

Gravelly Names Jim Fischer Marketing Vice President

The Gravelly division of the Clark-Gravelly Corp. has appointed James A. Fischer as vice president of marketing. Fischer comes to Gravelly from the Toro Company where he



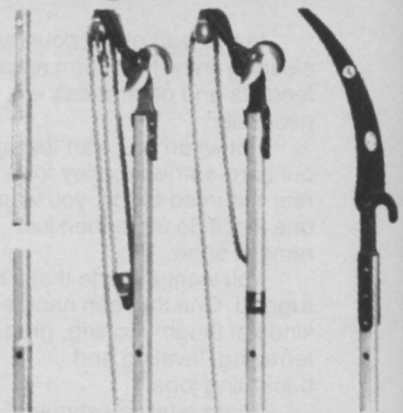
Fischer

was director of marketing for its Turf Products Div. Prior to that, he was district sales manager and then product manager for Toro.

He is a graduate of Purdue University with a B.S. in agronomy. He received his M.S. in turfgrass management from Michigan State University and M.B.A. from the Harvard Business School.

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