

Manure: Valuable Source of Plant Nutrients

CHAMBERSBURG — The term "agricultural waste" has been used to refer to manure in recent years. More often than not, it is also what it has been — something to get rid of. Manure has been considered a necessary evil inherent to all livestock operations.

It need not be that way, according to Stanley Palmer, Soil Conservation Technician with the Soil Conservation Service in Franklin County. He added, "Manure is an agricultural byproduct that should be recognized as a resource to be used in the farm operation."

Palmer gave these reasons why manure should be held in higher regard:

The use of manure on cropland supplies valuable nutrients that can help reduce fertilizer costs. It increases the organic matter content of soil and enhances soil structure. And it reduces the potential for soil erosion.

Manure also improves the water holding capacity of the soil, thus reducing the potential for stress on plants during droughts.

Manure contains many of the essential plant nutrients, with the most important being nitrogen, phosphorus and potassium.

Nutrient contents are highly variable among manure because of variations in animals, feeds, storage, and application method.

Essentially, all of the phosphorus and potassium in manure is available to plants within one year of application. From 70 to 80 percent of the total nitrogen in beef or dairy manure is considered available in the year of application.

The nitrogen availability applies only when fresh manure is injected or immediately incorporated into the soil. The "unavailable" organic nitrogen in manure will slowly decompose in the soil into a

nitrogen form usable by plants.

Assuming that 50 percent of the nitrogen in manure is lost in most farm operations, Palmer says you can estimate the dollar value of manure as a fertilizer.

Using average costs of 28 cents per pound for nitrogen, 25 cents per pound of phosphate and 16 cents per pound of potash, each ton of dairy manure is worth around \$3. Applying manure at a 15-ton-per-acre rate is equivalent to the application of \$45 worth of fertilizer.

"In addition, the manure provides soil improvement values that are difficult to quantify, but nevertheless valid, such as the improvement in soil structure," Palmer said.

Poultry manure has a higher nitrogen and phosphate content than dairy manure. Similar computations on the value of

poultry manure as a fertilizer show each ton supplies \$11 worth of plant nutrients. Spreading poultry manure at a five-ton-per-acre rate on corn ground applies \$55 worth of fertilizer per acre.

The high calcium content of poultry manure also raises the soil pH, thus reducing lime requirements on acid soils.

Some argue that the costs of spreading the manure need to be addressed in an overall cost/benefit analysis. "However," Palmer said, "you would incur expenses in disposing of the 'waste' even if you trucked it to some other suitable location."

He concluded "The nutrients and soil improvement benefits of manure make it more of a resource than a waste. It is an important ingredient for any soil management program."



We'll knock the first \$400 off the implement




It's opportunity knocking! John Deere will give you \$400 credit toward the cost of any new John Deere implement when you buy a new Task Master™ compact utility tractor — 650, 750, 850, 950, 1050 or 900 High Clearance models, 17 to 37 horse power. The implement selected must be designed for use with compact utility tractors. Choose from mowers, loaders, tillage tools, blades, whatever in the long John Deere line. Offer good through June 30, unless cancelled. Come knocking!

JD 950 Tractor

- 4 wheel drive
- Ag tires
- 75 Loader w/54" Bucket

List \$14,262 Package Price **\$11,790**

Receive a \$500 Rebate if no trade-in is involved.

Plus!... 9-MONTH FINANCE WAIVER FROM JOHN DEERE

• Monday, Thursday & Friday 9-5
• Tuesday & Wednesday 11-6 • Sat. 11-3



ELM, PA
Phone
(717) 665-2407

York Co. DHIA

(Continued from Page C6)

Double D Farm						
Y 21	3	9 8	298	17,183	3 8	650
205	3	0 0	305	17,787	4 3	768
Deal Holsteins Farm						
16	3	9-8	305	18,900	3 7	704
George Innerst & Sons						
34	3	6-4	305	18,554	3 7	687
15	3	3-0	305	19,111	3 6	682
41	3	2 1	305	14,661	4 5	667
Jim & Holly McCaffree						
Twinkle	3	6 6	305	20 408	3 7	752
Walter L Amstutz						
Barbara	3	6 7	305	19,248	3 4	659
William Myers						
Deedee	3	0 0	304	23,935	3 2	774
Jamie	3	4 3	305	23,673	3 4	810
Crissy	3	4 2	305	21 054	3 2	664
Joselyn	3	3 2	305	19 658	3 9	757
Dan & Patti Hushon						
Pat	3	5 0	305	19 151	3 5	679
Dawn	3	4 7	296	16,882	3 9	652
Rosale	3	3 4	305	21,417	3 6	768
Melvin Barb Marks						
Maxie	3	2 5	305	19 827	3 6	705
James W Miller						
65	3	6 4	305	18,422	4 0	736
Glenn + Gary Crowl						
Ada	1	0-0	305	15,398	4 3	655
John Wilcox						
159	3	7 10	305	21,426	3 4	730
McRal Dairy Farm						
445	3	8 10	305	21 267	3 4	724
185	3	6 0	305	19,753	3 3	657
339	3	5 0	305	23,659	3 3	772
353	3	3 10	305	19,167	3 7	708
359	3	4 5	305	19,553	3 7	730
425	3	3 8	305	21,820	3 1	673
435	3	2 9	305	22,603	3 4	765
442	3	3 5	305	19,477	4 2	817
501	3	1 11	305	18 250	3 6	657
9106	3	2 0	305	17 352	4 0	686
William Ruppert						
Wendy	3	11 5	305	18 447	3 6	666



Remove heat stress, noxious gases and save energy dollars with Agri-fan.

HELPS TO HEAT IN WINTER!

HELPS TO COOL IN SUMMER!

Fan carries a five-year warranty and features:

- Sealed chrome steel ball bearings
- Totally enclosed motor special moisture resistant silicone treated
- No maintenance
- Displaces 24 000 cubic feet of air per minute (CFM)
- Solid state infinite speed controls
- Uses less energy than 40W bulb at low speed
- 15 amp circuit runs up to 13 fans
- Easy installation, just mount and plug in 32" cord Completely assembled (except blades)
- All metal construction — 60" diameter blade sweep
- Effective up to 60 ft ceiling height
- Aerodynamically designed blades for maximum air delivery
- Down rods available in 10" lengths
- Fans and controls are warranted to be free from defects in materials and workmanship at the time of shipment from the factory and for a period of five years

APPLICATIONS:

• Poultry houses	• Livestock buildings
• Dairy barns	• Processing plants
• Milking parlors	• Warehouses
• Storage buildings	• Machine shops
• Greenhouses	• Homes
• Office areas	• Churches
• Confinement buildings	

COMPLETE SYSTEMS, EQUIPMENT, SALES, INSTALLATION, SERVICE FOR CATTLE, HOGS AND POULTRY.

We Welcome Your Inquiries - Call Or Write

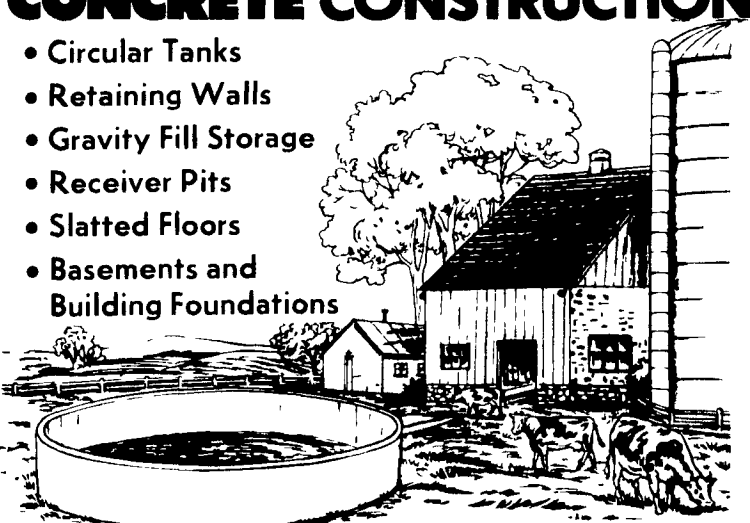
AGRI-EQUIPMENT, INC.

RD 4, East Farmersville Rd., Ephrata, PA 17522
(Lancaster County)
(717) 354-6520

HOURS
Mon.-Fri. 7:30 to 4:30;
Sat. 7:30 to 11:30
(Parts Only)

POURED REINFORCED CONCRETE CONSTRUCTION

- Circular Tanks
- Retaining Walls
- Gravity Fill Storage
- Receiver Pits
- Slatted Floors
- Basements and Building Foundations



SIZES & LAYOUTS TO YOUR SPECIFICATIONS

We are qualified to handle any poured concrete job you may need. We use a practical aluminum forming system to create concrete structures of maximum strength and durability. For a highly satisfactory job at an affordable price, get in touch with us.

POURED FOR DURABILITY

Groffdale

concrete walls, inc.

BRICK CHURCH RD LEOLA PA 17540

FOR SALES & LAYOUT CONTACT
GROFFDALE POURED WALLS (717) 656-2016
JAKE KING (717) 656-7566