

# ***Extension Responds: Katrina's aftermath***

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## **Temporary Grain Storage Resources**

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University of Minnesota PostHarvest:

<http://www.bae.umn.edu/extens/postharvest/>

- Converting Tower Silos for Dry Grain Storage
- <http://www.bae.umn.edu/extens/postharvest/towersilos.html>
- 2000-2001 Grain Storage Ideas:
- <http://www.bae.umn.edu/extens/postharvest/tempstor.html#tempstor>
- Temporary Grain Storage Ideas
- <http://www.bae.umn.edu/extens/postharvest/tempideas.html>
- Storage of dry grain in silo bags:
- <http://www.bae.umn.edu/extens/ennotes/enspr01/storage.htm>
- Using Flat Buildings for Dry Grain Storage
- <http://www.bae.umn.edu/extens/postharvest/flatstor.html>

Mihigan State University: TEMPORARY GRAIN STORAGE RESOURCES

- [http://www.egr.msu.edu/age/aenewsletter/ae\\_8\\_99/temporary\\_grain\\_storage\\_resource.htm](http://www.egr.msu.edu/age/aenewsletter/ae_8_99/temporary_grain_storage_resource.htm)
- Temporary Grain Storage Ideas
- [http://www.egr.msu.edu/age/aenewsletter/ae\\_8\\_99/temporary\\_grain\\_storage\\_ideas.htm](http://www.egr.msu.edu/age/aenewsletter/ae_8_99/temporary_grain_storage_ideas.htm)

Purdue University: Grain Quality Lab: <http://www.grainquality.org/>

- <http://pasture.ecn.purdue.edu/~grainlab//exten-pubs.htm>
- Adapting Silage Silos for Dry Grain Storage
- <http://www.ces.purdue.edu/extmedia/AE/AE-93.html>
- Temporary Grain Storage Considerations
- <http://www.ces.purdue.edu/extmedia/GQ/GQTF38/GQTF-38.html>

Kansas State Univ.

- Emergency Storage of Grain—Outside Piling:
- <http://www.oznet.ksu.edu/library/ageng2/mf2363.pdf>
- Temporary Grain Storage Considerations
- <http://www.oznet.ksu.edu/library/ageng2/mf2362.pdf>

University of Nebraska – Lancaster County

Emergency/Temporary Grain Storage Considerations

- Grain Storage Page: <http://lancaster.unl.edu/ag/crops/storage.htm>

- Temporary/Emergency Grain Storage Options:  
<http://lancaster.unl.edu/ag/crops/in-service/temporary2.html>
- Unconstrained Piles of Grain:  
<http://lancaster.unl.edu/factsheets/FieldCrops/297.pdf>
- Emergency Grain Storage In-Service:  
<http://lancaster.unl.edu/ag/crops/in-service/>
- Using Existing Buildings for Temporary Grain Storage
- <http://lancaster.unl.edu/ag/crops/in-service/temporary-i98.html>
- Engineering Grain Storage and Aeration Systems
- Aeration Management General Grain Quality and Storage Information
- Stored Grain Pest Management

North Dakota State University:

- Temporary Grain Storage:  
<http://www.ext.nodak.edu/extpubs/ageng/grainsto/ae84-1.htm>
- Grain Storage-Steel Mesh Silos
- <http://www.dpi.qld.gov.au/fieldcrops/14196.html>

## Midwest Plan Service

Order the following publications from: <https://www.mwpsHQ.org/catalog.html>  
call **1-800-562-3618** or e-mail **[mwps@iastate.edu](mailto:mwps@iastate.edu)**

### **MWPS-13 – Grain Drying, Handling and Storage Handbook**

Chapter 4, Equations for capacity of piles, Unloading flat storage, Converting corn cribs, Upright silo conversion, strengthening shed walls for grain loads, Aeration systems, Movable grain walls, Plywood bin rings, Maximum moisture for safe storage, Peaking grain in round bins. Table 3-7 – Maximum storage life for shelled corn, Table 6-4 Grain seed densities, Table 6-5-Capacity of level full round bins, Table 6-6 Storage volumes for bulk materials, Table 6-8 Weight of grain to yield a standard bushel, Table 6-10-Static pressure for airflow through corn, Figure 6-8 page 6.10 Areas and Volumes of various geometric shapes.

### **MWPS-29 – Dry Grain Aeration Systems Design Handbook (updated 1999)**

Basic Aeration Considerations, System Components, Design Recommendations and Procedures, Additional Examples, Storage Volumes Densities and Calculations (Maximum moisture for safe storage, Filling Angles of Repose, Areas and Volumes of various geometric shapes, Capacity of level full cylindrical bins), Design Equations, Variable Definitions.

### **AED-20 Managing Dry Grain in Storage (updated 2004)**

Causes of grain storage problems, Table-2. Shelled corn storage time for 0.5% dry matter loss, Preventing grain storage problems (Make sure grain is dry enough, Control grain temperature, Manage fines, Clean storage before harvest, Consider insecticides, Check stored grain), Additional grain management tips, Grain storage safety.

**MWPS-7 Dairy Freestall Housing and Equipment (2000)** Table 9-10 Silage Bag Capacity, Table 9-14 Commodity storage densities and storage requirements, Table 9-15-Storage capacity for round grain bins, Table 9-16 Upright storage capacity for ground shelled corn, Table 9-17 Upright storage capacity for ground ear and whole shelled corn.

**MWPS-1 Structures and Environment Handbook (1983)** Table 534-2 Storage Requirements for feeds, Figure 534-5 Air flow resistance through grains, Table 534-3 Storage requirements of grains, Table 534-4 Storage requirements of silage and high moisture corn, 534-12 Ear Corn crib storage capacity, 534-14 Round bin storage capacity, **Table 534-22 Reinforcing rods for concrete and cast-in-place silos.**

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