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Grain Drying

Brett Olson  
*Iowa State University*, olsonbj@iastate.edu

Michael Shippy  
*Iowa State University*, mjshippy@iastate.edu

Jacob Titmus  
*Iowa State University*, jetitmus@iastate.edu

Todd Van Dyke  
*Iowa State University*, vandyket@iastate.edu

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Grain Drying
Client: Dr. Bern, Iowa State University

Problem Statement
• Mold toxins (Aflatoxin) consumed by children can stunt growth, cause mental impairment and acute poisoning
• Corn left in field is susceptible to loss from insects, rats, birds, and theft

Objective(s)
• Reduce corn moisture from 22% to 14%
• Use Resources available in third world countries
• Main fuel source is wood

Constraints
• Low cost
• Low tech
• Materials
• Ability to be made by rural African villages
• Made with materials available to rural African villages
• Criteria to be met: dry the corn from 22% moisture to 14%

Proposed Solutions
• Use of steel barrels
• Bricks or rocks
• Metal plates
• Wood

Concept #1 made from steel plates
Concept #2 made from steel barrel

Methods
• Dry grain over stable heat source to establish controlled testing

Scope
• Drying Maize quickly and cheaper
• Nothing to do with storage and transportation of maize

Benefit to Client
• Will give the Farmer a quick and easy way to dry maize
• Will increase long term storage
• Will benefit amount to use in markets in Africa