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Grain Drying

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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

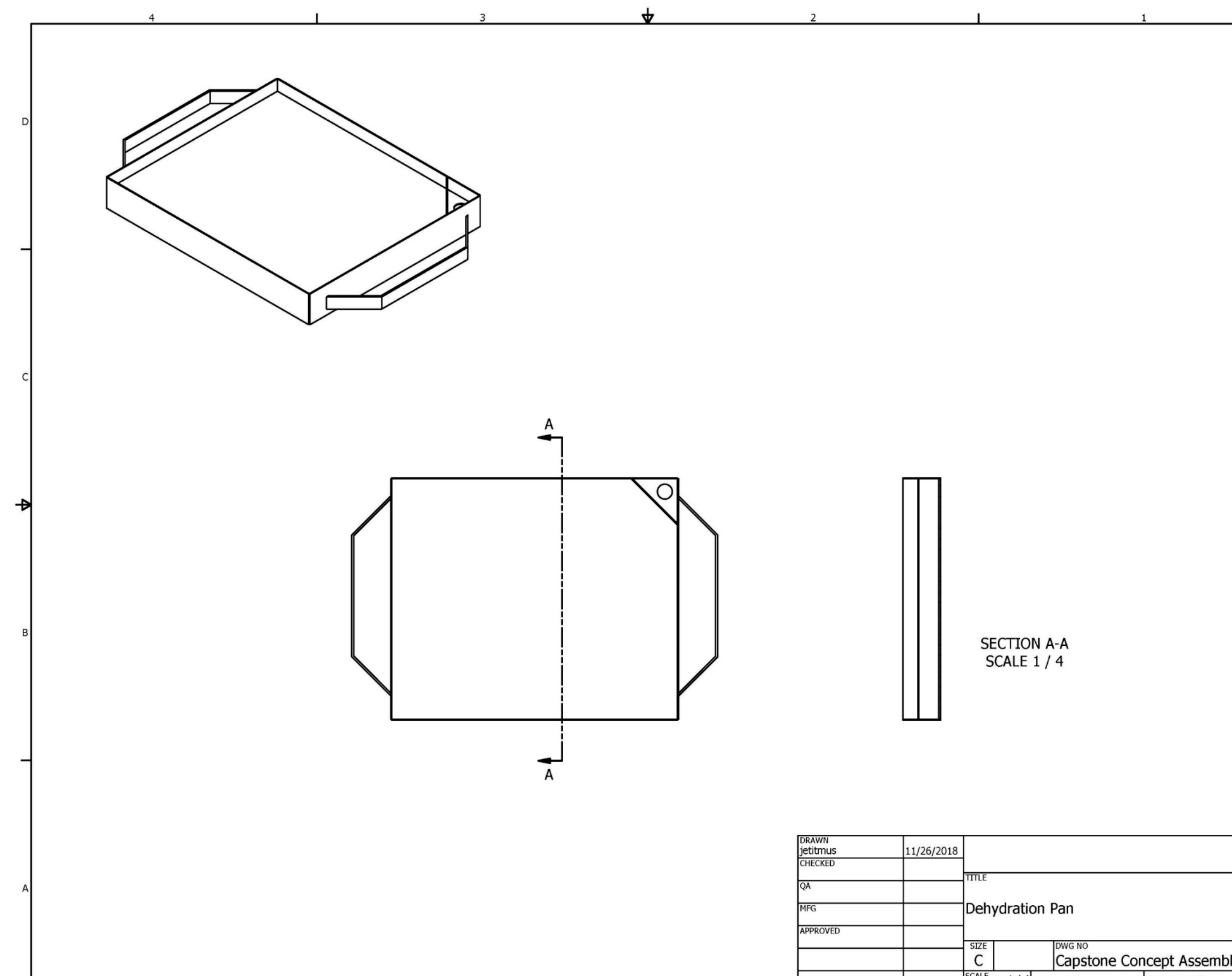
Constraints

- 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%

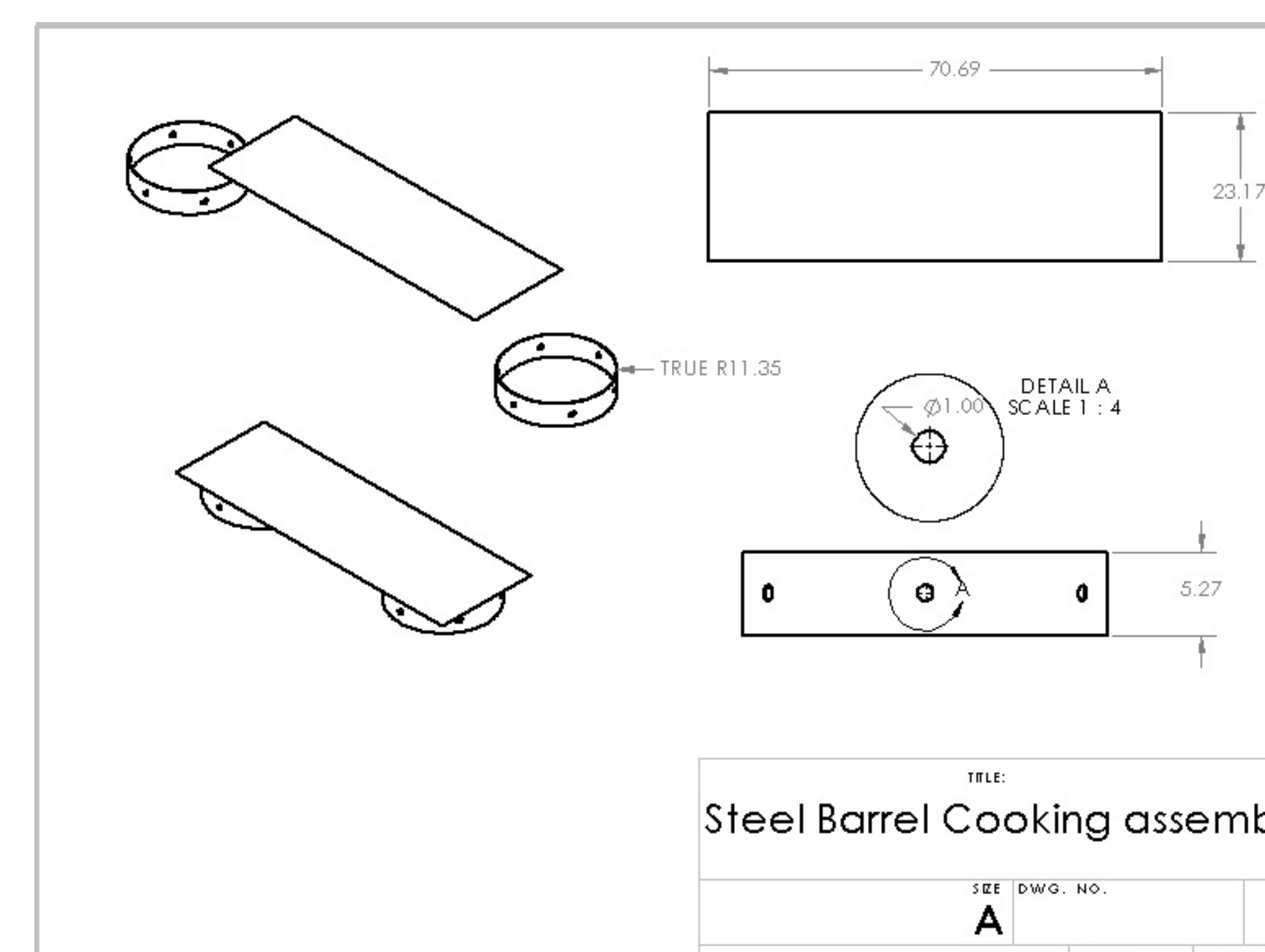
Proposed Solutions

- Use of steel barrels
- Bricks or rocks
- Metal plates
- Wood

Concept #1 made from steel plates

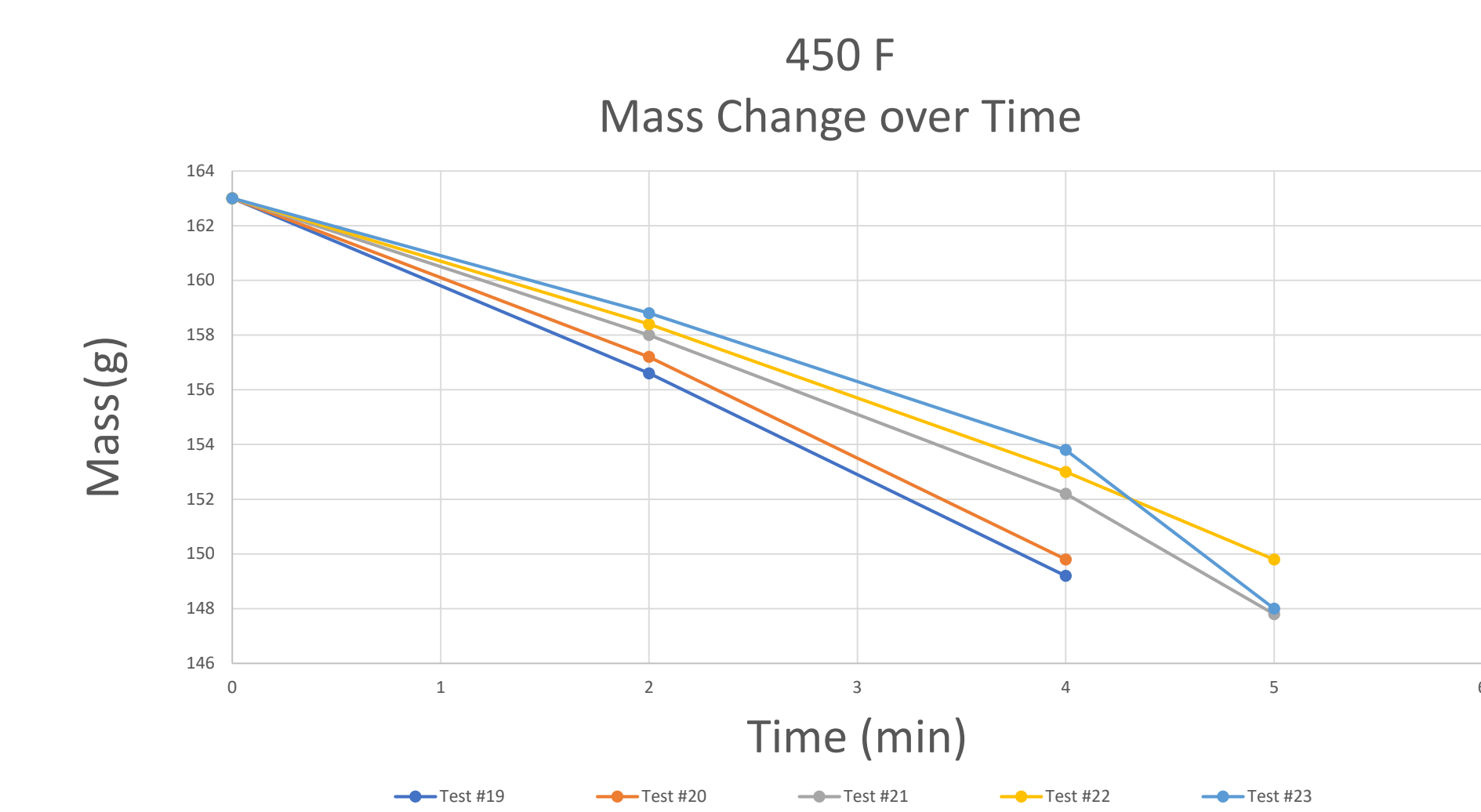


Concept #2 made from a steel barrel



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