Name: _____

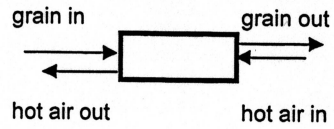
Address: _____

## GRAIN DRYING

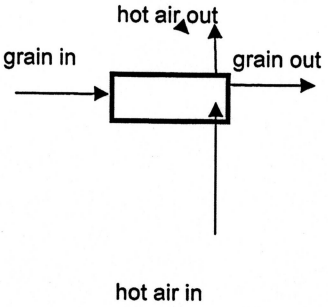
Data needed on present grain drying system:

| | | |
|---|---|---|
| | Bushels per year dried. | |
| | Wt./bushel before drying | |
| | Gallons of propane per year | |
| or | therms of natural gas per year | |
| | cost per gallon of propane | |
| or | cost per therm | |
| | % moisture by wt. before drying | |
| | % moisture by wt. after drying | |
| | percent fines or grain dust, if known | |
| | temperature of atmosphere | if operating |
| | relative humidity of atmosphere | if operating |
| | temperature of air as it contacts grain | if operating |
| | temperature of exhaust | if operating |
| | relative humidity of exhaust | if operating |
| | type of air -grain flow | |

Countercurrent flow



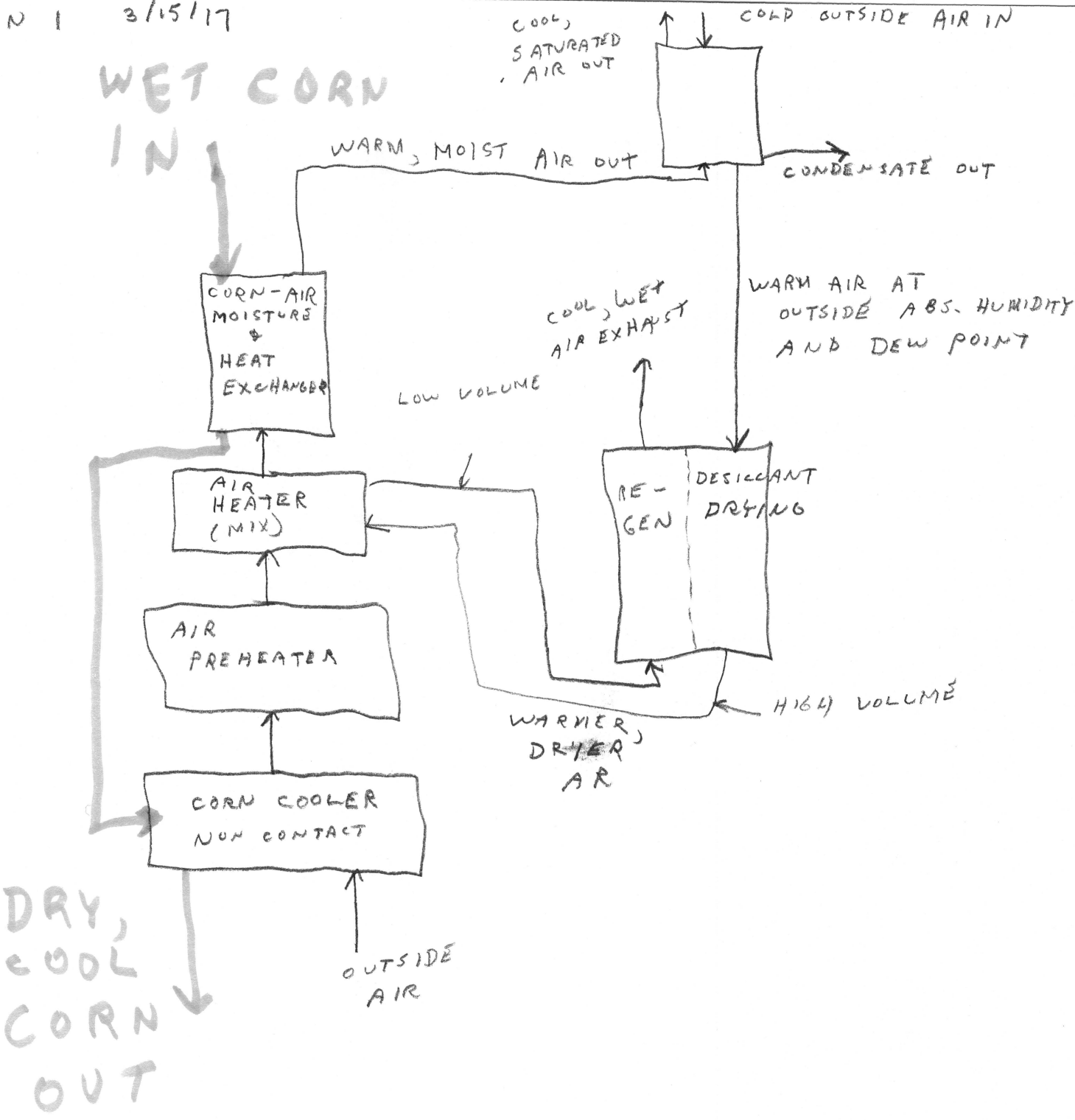

Cross-current flow




**Existing Dryers**

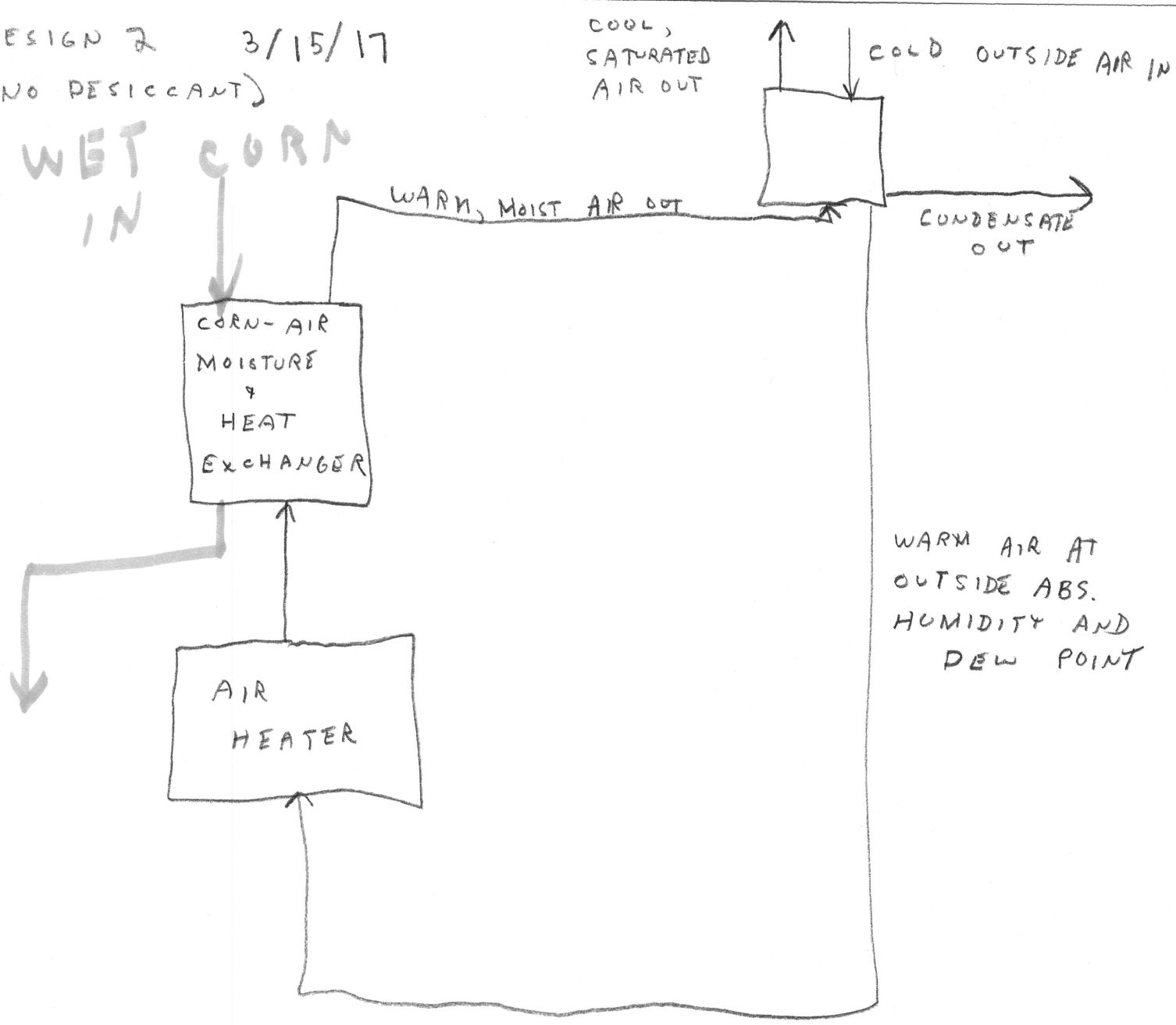
| | Manufacture | Model # | Fuel | Total Running Amps | Burner Capacity (BTUH) | Drying Capacity Corn (bushels/ hour) | Holding Capacity (bushels) |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | | | | | | | |

DESIGN 1 3/15/17



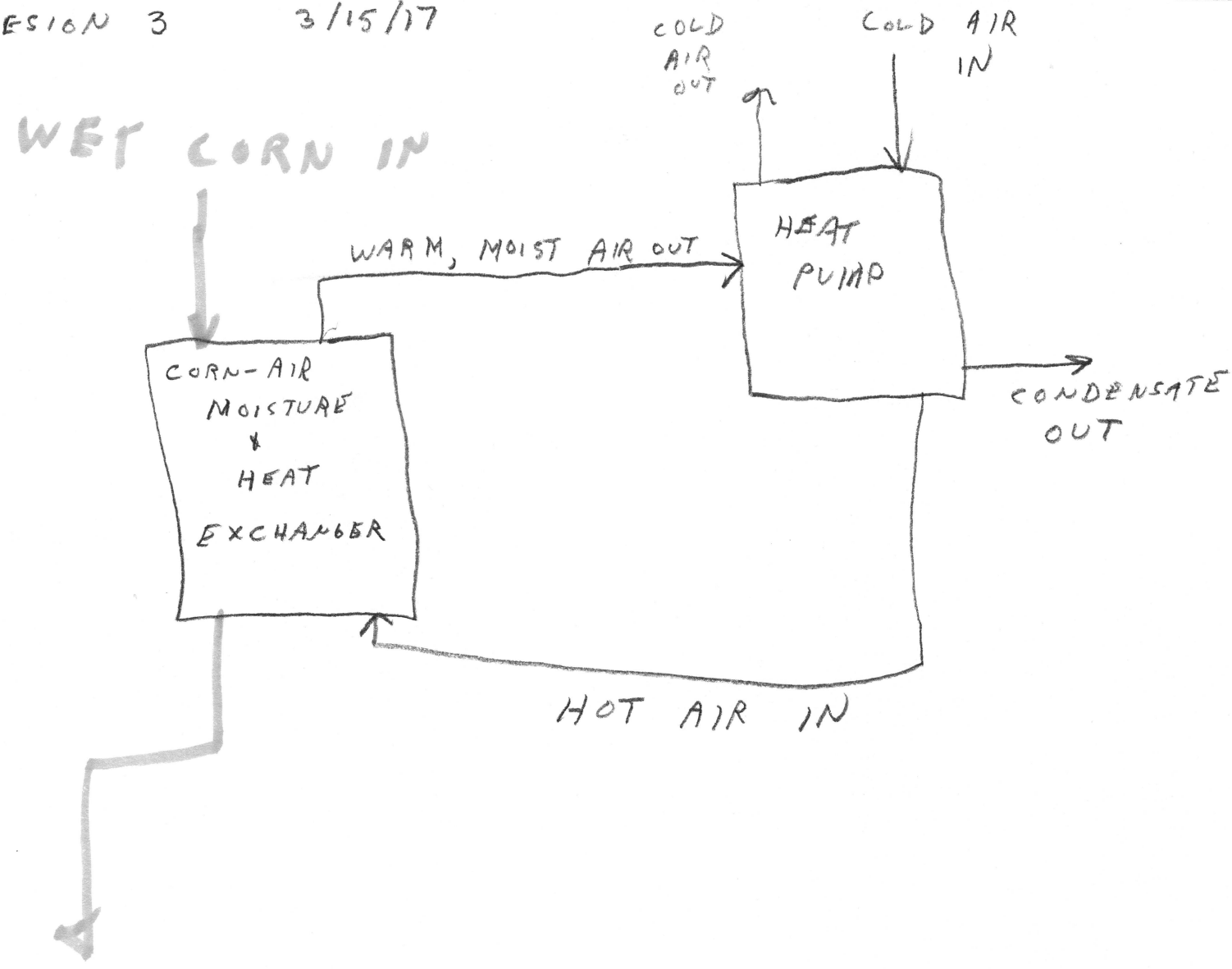
DESIGN 2 3/15/17

(NO DESICCANT)

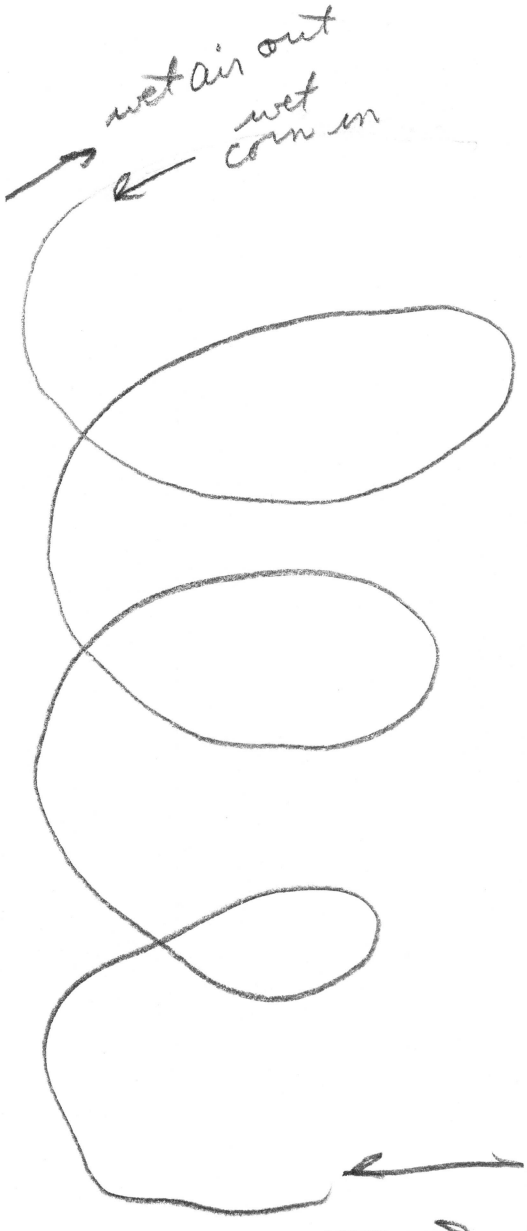



AIR HEATER COULD BE PROPANE FIRED, NATURAL GAS FIRED, OR BE AN ELECTRIC POWERED HEAT PUMP OR A GAS POWERED HEAT PUMP.

DESIGN 3 3/15/17



# Countercurrent Grain Dryer




Bend a large diameter tube into a spiral

Find the angle at which corn will flow down by gravity and not get stuck.

(outside air, perhaps after drying the air with a desicant)

GSI grain dryer

Put the exhaust into a heat pump.

Walnuts need to be dried to 8% moisture after picking in order to be stable in storage.