University of Illinois **Department of Agricultural Engineering**

Bioenvironmental and Structural Systems Lab
Fan Description Form

Project Number: 94046 Series/Test: ____/____

Test Date: March 8, 1994 File Name: _____

Fan

Make: Loyal

Model #: WF48-6C

Serial #: -

Manufacturer: Loyal

Blade Size: 48"

Orifice Dia.: 48.8"

Blade

Number: 3

Shape: propeller

Material: galv. steel

Pitch: 34 deg.

Clearance: .4"

Hub Diameter: -

Shutter

Material: aluminum

Number Doors: 14 per row

Number Rows: 2

Door Length: 26.9"

Location: intake

Motor

Make: Magnetek

Model #: 8-181657-01

Serial #: -

H.P.: 1

Amps: 4.3/8.6

Volts: 230/115

RPM: 1725

S.F.: 1.4

Drive Pulley Dia.: AK28 2.8" o.d.

Axle Pulley Dia.: 10" o.d. AL104

Center Spacing: 12"

Housing

Material: galv. steel

Intake Area: 54"x54"

Discharge Area: 59" dia. cone

Depth: 19"

Guards

Description: plastic coated wire

Spacing: 1.8" concentric

Location: exhaust

Other Attachments

Discharge cone 24" deep, 59" o.d.

TEST RESULTS

LOYAL WF48-6C

Test: 94046

Fan description:
48" belt drive, 1 hp Magnetek 8-181657-01 motor, galvanized steel housing, aluminum shutter, guard and discharge cone

Static Pressure in. water	Speed rpm	Airflow cfm	Efficiency cfm/Watt
0.00	482	20600	27.7
0.05	481	19200	24.5
0.10	479	17700	21.7
0.15	478	15600	18.5
0.20	478	13100	15.2
0.25	478	8100	9.6