University of Illinois Department of Agricultural and Biological Engineering
Bioenvironmental and Structural Systems Lab
Final Report

Project Number: 11215
Test Date: June 29, 2011

Fan:
Make- *Schaefer*
Model- *575CF112G-3-HV-E*
Blade dia.- *57.3"*
Orifice dia.- *57.8"*

Blade:
Number- *5*
Shape- *propeller*
Material- *galvanized steel*
Pitch- -
Clearance- *0.3"*

Drive Sheaves:
Drive dia.- *2.4" o.d.*
Axle dia.- *8.3" o.d.*

Motor:
Make- *Emerson*
Model- *P63SYFGG-4793*
Hp- *1.5*
RPM- *1725*
Volts- *208-230/460*
Amps- *4.7/2.3*
Hz- *60*
Phase- *3*
S. F.- *1.15*

Housing:
Material- *fiberglass*
Intake area- *58.6"x 59"*
Discharge- *57.8" o.d.*
Depth- *28" top*
26.8" bottom

Shutter:
Material- *aluminum*
Doors- *15 per column*
Columns- *2*
Door length- *29.7"*
Location- *intake*

Guards:
Description- *wire*
Spacing- *1.5" concentric*
Location- *exhaust*

Discharge Cone:
Depth- *39"*
Minor dia.- *57.8"*
Major dia.- *67"*

Notes: *0*

Test Conditions:

T(wb):	64.5	Barometric pressure, recorded	29.44
T(db):	77.5	Barometric Pressure, corrected	29.31

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt	SI Units Static Pressure (Pa)	Airflow (m^3/hr.)	(m^3/hr)/W
0.00	**32100**	459	229.7	4.44	1410	**22.8**	0	54600	38.7
0.05	**30700**	458	229.8	4.55	1463	**21.0**	12	52200	35.7
0.10	**29100**	456	229.4	4.68	1514	**19.2**	25	49400	32.6
0.15	**27200**	455	230.3	4.77	1557	**17.4**	37	46100	29.6
0.20	**24700**	455	229.9	4.82	1581	**15.6**	50	42000	26.6
0.25	**22000**	454	230.1	4.84	1590	**13.8**	62	37400	23.5
0.30	**15200**	456	230.0	4.70	1526	**10.0**	75	25900	17