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

Project Number: 06092
Test Date: May 10, 2006

Fan:
Make- *Schaefer*
Model- *486SC1*
Blade dia.- *48.1"*
Orifice dia.- *48.6"*

Blade:
Number- *6*
Shape- *propeller*
Material- *galvanized steel*
Pitch- -
Clearance- *0.3"*

Drive Sheaves:
Drive dia.- *2.6" o.d.*
Axle dia.- *9.3" o.d.*

Motor:
Make- *AO Smith*
Model- *C782*
Hp- *1.0*
RPM- *1725*
Volts- *230/115*
Amps- *4.3/8.6*
Hz- *60*
Phase- *1*
S. F.- *1.4*

Housing:
Material- *galvanized steel*
Intake area- *52.8" x 53"*
Discharge- *48.6" dia.*
Depth- *37.3" top*
23" bottom

Shutter:
Material- *aluminum*
Doors- *14 / column*
Columns- *2*
Door length *26.6*
Location- *intake*

Guards:
Description- *wire*
Spacing- *1.6" concentric*
Location- *exhaust*

Discharge Cone:
Depth- *30"*
Minor dia.- *48.6"*
Major dia.- *63"*

Notes: *0*

Test Conditions:

T(wb):	66	Barometric pressure, recorded	29.05
T(db):	80	Barometric Pressure, corrected	28.92

Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
0.00	**24000**	467	230.2	4.54	972	**24.7**
0.05	**22700**	465	230.3	4.84	1040	**21.9**
0.10	**21300**	464	230.0	5.14	1100	**19.4**
0.15	**18400**	461	230.0	5.61	1197	**15.4**
0.20	**15900**	460	229.9	5.93	1278	**12.4**
0.25	**12600**	458	230.0	6.10	1314	**9.6**
0.30	**9000**	456	229.8	6.34	1367	**6.6**