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

Project Number: 07465
Test Date: November 19, 2007

Fan:
Make- *Better Air*
Model- *LPF-5000C*
Blade dia.- *50.6"*
Orifice dia.- *51.4"*

Blade:
Number- *3*
Shape- *propeller*
Material- *plastic*
Pitch- -
Clearance- *0.4"*

Drive Sheaves:
Drive dia.- *AK44*
Axle dia.- *11.9" o.d.*

Motor:
Make- *FHP*
Model- *A6K17NB16*
Hp- *1.5*
RPM- *1725*
Volts- *115/230*
Amps- *13.6/6.8*
Hz- *60*
Phase- *1*
S. F.- *1.0*

Housing:
Material- *plastic*
Intake area- *59.3"x 59.3"*
Discharge- *51.4"dia.*
Depth- *32.5"*

Shutter:
Material- *plastic*
Doors- *18 per column*
Columns- *3*
Door length- *19.5"*
Location- *intake*

Guards:
Description- *wire*
Spacing- *2"*
Location- *exhaust*

Discharge Cone:
Depth- *23"*
Minor dia.- *51.4"*
Major dia.- *58"*

Notes:

Test Conditions:

T(wb):	64.5	Barometric pressure, recorded	29.3
T(db):	79	Barometric Pressure, corrected	29.17

# Open Nozzle	Noz. Dia. (inch)	Pressure Drop (in.H2O)	Static Pressure (in.H2O)	Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
12	8	2.50	0.00	26770	620	230.1	6.89	1473	18.2
12	8	2.25	0.04	25423	619	230.2	7.04	1508	16.9
12	8	2.18	0.05	25025	619	230.1	7.09	1517	16.5
12	8	1.87	0.10	23178	618	230.0	7.22	1552	14.9
12	8	1.58	0.15	21304	617	230.1	7.30	1561	13.6
12	8	1.26	0.20	19020	617	230.1	7.32	1568	12.1
12	8	0.93	0.25	16289	617	230.1	7.22	1551	10.5
12	8	0.52	0.30	12195	620	230.1	6.77	1453	8.4