

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

Project Number: 07463
 Test Date: November 19, 2007

Fan: Make- <i>Better Air</i> Model- <i>MPF-3800C</i> Blade dia.- <i>36.4"</i> Orifice dia.- <i>37"</i>	Motor: Make- <i>Vostermans</i> Model- <i>8E92</i> Hp- RPM- Volts- Amps- Hz- <i>60</i> Phase- <i>1</i> S. F.-	Shutter: Material- <i>plastic</i> # Doors- <i>12 per column</i> # Columns- <i>2</i> Door length- <i>20.8"</i> Location- <i>intake</i>
Blade: Number- <i>3</i> Shape- <i>propeller</i> Material- <i>plastic</i> Pitch- <i>-</i> Clearance- <i>0.3"</i>	Housing: Material- <i>plastic</i> Intake area- <i>41" x 41"</i> Discharge- <i>37" dia.</i> Depth- <i>27.8" top</i> <i>27" bottom</i>	Guards: Description- <i>wire</i> Spacing- <i>2" concentric</i> Location- <i>exhaust</i>
Drive Sheaves: Drive dia.- <i>Direct</i> Axle dia.- <i>drive</i>		Discharge Cone: Depth- <i>19"</i> Minor dia.- <i>37"</i> Major dia.- <i>44.5"</i>

Notes:

Test Conditions:

T(wb): 65	Barometric pressure, recorded	29.33
T(db): 80	Barometric Pressure, corrected	29.19

# Open Nozzle	Noz. Dia. (inch)	Pressure		Airflow (cfm)	rpm	Volts	Amps	Watts	cfm/Watt
		Drop (in.H2O)	Static (in.H2O)						
6	8	1.90	0.00	11687	690	229.8	3.64	764	15.3
6	8	1.61	0.04	10741	678	230.0	3.72	772	13.9
6	8	1.52	0.05	10435	674	229.7	3.73	778	13.4
6	8	1.19	0.10	9226	670	229.9	3.75	780	11.8
6	8	0.75	0.15	7334	684	229.7	3.67	768	9.5
3	8	1.77	0.20	5632	699	230.0	3.59	750	7.5
3	8	0.65	0.25	3399	680	229.7	3.68	769	4.4
1	8	0.87	0.30	1313	642	229.7	3.87	796	1.6