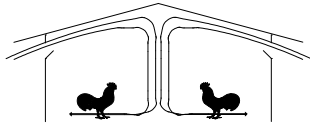




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Poultry Housing Tips

Best Performing Tunnel Fans - 2009

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When building a new house or retrofitting an older one for tunnel ventilation, fan selection is one of the most, if not the most important decision a producer has to make. A house's fans are essentially the engine of the ventilation system and as a result have a significant effect on a producer's ability to maintain the proper environmental conditions throughout the year. Furthermore, with rising electricity prices selecting the right energy efficient fan can save a producer thousands of dollars a year. As a result, when selecting fans it is crucial that a producer compares fans not just on initial cost but on fan performance and operating costs as well.

University of Illinois BESS Laboratory "Agricultural Ventilation Fans Performance and Efficiencies" test booklet is the leading source for agricultural fan performance data (an electronic version of the test booklet can be found at www.bess.uiuc.edu.) Along with a fan's air moving capacity at various static pressures BESS Laboratory provides producers information on a fan's energy efficiency rating (cfm/watt) and air flow ratio (an indicator of how well the fan holds up under high static pressures). A detailed explanation of exhaust fan performance factors can be found in the May 2006 issue of *Poultry Housing Tips*.

Table 1 lists the top performing tunnel fans (48" or larger, single phase, 60 hz) based on the published test results produced by the BESS Laboratory through December of 2009. The fans in Table 1 have an energy efficiency rating of at least 20.8 cfm/watt @ 0.10" static pressure and have an air flow ratio of at least 0.76, thus representing approximately the top 7% of all tunnel fans tested by the BESS Laboratory.

Though fan performance is of course very important, it is important to keep in mind that there are other factors to consider when purchasing a fan, such as quality of construction, local dealer reputation, warranty and type of shutter (some types significantly reduce cleaning requirements). Though it can be difficult balancing all the factors when it comes to purchasing fans for a tunnel-ventilated house, in the long run you will find that it is time well spent.

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PUTTING KNOWLEDGE TO WORK

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Test #	Manufacturer	Model	Cone	Shutter	Cfm 0.05"	Cfm/watt 0.05"	Cfm 0.10"	Cfm/watt 0.10"	Air Flow Ratio
07204	Acme	BDR54J	Y	A	25,100	27.7	23,500	24.5	0.76
07206		BDR54J1	Y	A	27,400	25.4	25,900	22.7	0.81
02207		BDRV54J2-C2	Y	A	27,400	25.5	25,800	22.5	0.79
02210		BDRV54J-C2	Y	A	26,100	25.8	24,400	22.4	0.77
02217		BDRV54J2-C3	Y	A	27,100	25.2	25,400	22.2	0.79
02214		BDRV54J-C3	Y	A	25,900	25.3	24,200	22.2	0.76
04274		DDPSV54J-C	Y	A	25,500	25.4	23,800	22.1	0.77
04278		DDPGV54J-C	Y	A	26,500	25.2	24,700	21.8	0.76
00245		BDR54J-C	Y	A	26,100	24.2	24,500	21.4	0.79
00207		DDPS48J-C	Y	A	20,400	23.9	19,100	21.3	0.77
02209		BDRV54J1-C2	Y	A	27,100	24.0	25,500	21.1	0.77
98142		DDPS48J-C	Y	A	21,400	23.2	20,300	20.9	0.83
06141	Aerotech	WF541TICEJ	Y	A	27,800	25.0	26,000	22.3	0.77
07390		WF541VICD	Y	B	27,800	24.6	25,900	21.7	0.77
06139		WF541TICEP	Y	P	27,400	24.2	25,600	21.7	0.76
06115		WF541TICJ	Y	A	27,300	23.6	25,400	20.9	0.77
05236	American Coolair	MNBRDD52LE	Y	B	24,100	26.1	22,200	22.8	0.76
05233		MNBRDD52LE	Y	B	23,900	25.4	22,100	22.3	0.76
01216		MNBRC52L	Y	A	25,900	24.6	24,300	21.7	0.77
05235		MNBRDD52L	Y	B	25,100	24.2	23,500	21.4	0.78
07230		NBRID52L-SQ	Y	D	24,600	24.3	23,000	21.3	0.76
05234		MNBRDD52L	Y	B	24,900	23.8	23,100	20.9	0.77
09081*	Chore-Time	52157-22	Y	B	27,700	25.3	25,800	22.0	0.78
04336		49451-22	Y	B	21,200	24.8	19,700	21.6	0.76
04326		49515-22	Y	B	21,100	24.4	19,600	21.3	0.77
05192		49511-22	Y	B	26,400	23.9	24,600	21.2	0.76
05186		49519-22	Y	B	26,400	23.6	24,500	20.8	0.76
08250	Hired Hand	6603-7132	Y	B	26,700	24.3	25,200	21.8	0.80
04343		6603-0606	Y	A	27,000	23.3	25,300	20.8	0.78
09081p*	Pro Terra Systems	A52157-22	Y	B	27,700	25.3	25,800	22.0	0.78
04336p		A49451-22	Y	B	21,200	24.8	19,700	21.6	0.76
04326p		A49515-22	Y	B	21,100	24.4	19,600	21.3	0.77
05192p		A49511-22	Y	B	26,400	23.9	24,600	21.2	0.76
05186p		A49519-22	Y	B	26,400	23.6	24,500	20.8	0.76
05203	Val-Co	HGS48G340NGA	Y	A	21,900	25.4	20,300	22.1	0.76

Table 1. Alphabetical listing of best performing tunnel fans as tested by BESS Labs 2009 (Top 7%)
(A=Aluminum Shutter, G=Galvanized Shutter, P=Plastic Shutter, R=Roll Seal Shutter, B=Butterfly Shutter, D=Door)
* new test for 2009

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