

Appendix A

Advantages, Disadvantages, and Costs of Air-purifying Respirators for Protecting Poultry Workers*

Respirator type [†] and APF [‡]	Advantages	Disadvantages	Cost (2004 dollars)
Filtering-facepiece respirator (disposable; dust mask); APF = 10	<ul style="list-style-type: none"> Is lightweight. Needs no maintenance or cleaning. Has no effect on mobility. 	<ul style="list-style-type: none"> Provides no eye protection. Provides no protection against irritant gases such as ammonia. Can add to heat burden. Permits inward leakage at gaps in face seal. Does not have adjustable head straps on many models. Is difficult for a user to do a seal check. Varies greatly in level of protection provided by different models. May make communication difficult. Requires fit testing to select proper facepiece size. May not fit properly when used with some eye-wear. 	\$0.70 to \$10
Elastomeric half-facepiece respirator; APF = 10	<ul style="list-style-type: none"> Requires low maintenance. Has reusable facepieces and replaceable filters and cartridges. Permits use of dual cartridges to protect workers from exposures to particles, gases, and vapors. Has no effect on mobility. 	<ul style="list-style-type: none"> Provides no eye protection. Can add to heat burden. Permits inward leakage at gaps in face seal. Requires cleaning and disinfection of facepiece before reuse and thus poses a contact exposure risk. May make communication difficult. Requires fit testing to select proper facepiece size. May not fit properly when used with some eye-wear. 	Facepiece: \$12 to \$35 Filters: \$4 to \$8 each

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See footnotes at end of table.

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Respirator type[†] and APF[‡]	Advantages	Disadvantages	Cost (2004 dollars)
Powered, air-purifying respirator (PAPR) with hood, helmet, or loose-fitting facepiece; APF = 25	<ul style="list-style-type: none"> ▪ Provides eye protection. ▪ Provides protection for people with beards, missing dentures, or facial scars. ▪ Has low breathing resistance. ▪ Has combination cartridges that can be used for exposures to particles, gases, and vapors. ▪ Creates a cooling effect with flowing air. ▪ Has face seal leakage that is generally outward. ▪ Requires no fit testing. ▪ Permits wearing of prescription glasses. ▪ Permits better communication than rubber half-facepiece or full-facepiece respirators. ▪ Has reusable components and replaceable filters. 	<ul style="list-style-type: none"> ▪ Has added weight from battery and blower. ▪ Is awkward to wear for some tasks. ▪ Requires cleaning and disinfection of components before reuse and thus poses a contact exposure risk. ▪ Requires battery charging. ▪ Requires air-flow testing with flow device before use. 	Unit: \$400 to \$1,000 Filters: \$10 to \$30
Elastomeric, full-facepiece respirator with N-100, R-100, or P-100 filters; APF = 50	<ul style="list-style-type: none"> ▪ Provides eye protection. ▪ Requires low maintenance. ▪ Has reusable facepieces and replaceable filters and cartridges. 	<ul style="list-style-type: none"> ▪ Can add to heat burden. ▪ Has reduced field of vision compared with a half-facepiece respirator. ▪ Permits inward leakage at gaps in face seal. 	Facepiece: \$90 to \$240 Filters: \$4 to \$8 Each nose cup: \$30

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See footnotes at end of table.

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Respirator type[†] and APF[‡]	Advantages	Disadvantages	Cost (2004 dollars)
	<ul style="list-style-type: none"> ▪ Has combination cartridges that can be used for exposures to particles, gases, and vapors. ▪ Has no effect on mobility. ▪ Has a more effective face seal than a filtering-facepiece or rubber half-facepiece respirator. 	<ul style="list-style-type: none"> ▪ Requires cleaning and disinfection of facepiece before reuse and thus poses a contact exposure risk. ▪ Requires fit testing to select proper facepiece size. ▪ May require nose cup or lens treatment to prevent fogging of facepiece lens. ▪ Requires spectacle kit for users who wear prescription glasses. 	
Powered, air-purifying respirator (PAPR) with tight-fitting half facepiece or full facepiece; APF = 50	<ul style="list-style-type: none"> ▪ Provides eye protection with full facepiece. ▪ Has low breathing resistance. ▪ Has face seal leakage that is generally outward. ▪ Creates a cooling effect with flowing air. ▪ Has reusable components and replaceable filters. ▪ Has combination cartridges that can be used for exposures to particles, gases, and vapors. 	<ul style="list-style-type: none"> ▪ Has added weight from battery and blower. ▪ Is awkward to wear for some tasks. ▪ Provides no eye protection with a half facepiece. ▪ Requires cleaning and disinfection of components before reuse and thus poses a contact exposure risk. ▪ Requires fit testing to select proper facepiece size. ▪ Requires charging of battery. ▪ May make communication difficult. ▪ Requires spectacle kit for people who wear prescription glasses with full-facepiece respirators. ▪ Requires air-flow testing with flow device before use. 	Unit: \$500 to \$1,000 Filters: \$10 to \$30

*All respirator types mentioned here meet the minimum requirements for N-95 respirators.

[†]Alternative filter types may be obtained for each type of respirator described here.

[‡]APF = assigned protection factor.