

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.