

Recovery of Farms from Nuclear Disasters

The potential to rebuild an industry or farm after a major disaster depends on the extent of the damage, the indemnity programs in place to finance rebuilding, and the degree to which a damaged reputation (public perception) needs to be restored. Effective recovery from a disaster is possible only if appropriate mitigation and preparedness programs have been implemented before a disaster strikes. Therefore, an all-hazards approach is the best approach to any disaster, including a nuclear accident.

The degree of damage to a farm after nuclear fallout depends on the proximity of the farm to the source, the degree of protection that animals have, and the amount and type of radiation. The principles of protection are similar to those in other types of disasters. Table 30-2 lists the types of radiation exposures, and Table 30-3 shows the time a farm needs to rebuild its stock. Similar values are likely to be applicable in any disease outbreak or in mass deaths caused by floods or other natural disasters.

Disaster mitigation that enhances recovery on a farm includes construction of buildings that can withstand high winds and floods and that are sufficiently large to house all animals. Also vital is the establishment of safe areas to which grazing animals can be moved depending on what type of disaster threatens (i.e., elevations against floods, wooded areas against hail, depressions against high winds).

Farmers should consider spreading out their businesses. This is relatively easy for the poultry, swine, and beef industries; producers can raise animals in several different areas of the United States. If farms are spread out geographically, the impact of any one disaster has a decreased impact on the whole enterprise.

Table 30-2 Types of fallout exposure for livestock

Situation	Type of radiation
Animals sheltered	Gamma
Animals confined in open pens or corrals	Gamma and external beta
Animals grazing on fallout-contaminated pastures	Gamma and internal beta
Animals in the open	Gamma, internal and external beta

Modified from Byrne WF, Bell MC: *Livestock, fallout and a plan for survival*, Oak Ridge, 1978, University of Tennessee Agricultural Extension Service.

Table 30-3 Estimated number of years required to rebuild livestock populations from surviving breeding stock

Population destroyed (%)	Years			
	Poultry	Swine	Sheep	Cattle
90	0.6	1.3	7.0	11.0
80	0.5	1.0	5.0	8.0
60	0.4	0.8	2.8	4.2
20	0.1	0.2	0.8	1.2

Modified from Byrne WF, Bell MC: *Livestock, fallout and a plan for survival*, Oak Ridge, 1978, University of Tennessee Agricultural Extension Service.

Recovery from animal loss involves having appropriate insurance coverage, or better, designing a farm to protect animals and the farm's income against large-scale disasters. Individual farmers take care of insurance. Indemnity programs can be addressed by farmer cooperatives and industry groups, such as coverage for a species that may not be insurable or for which development of a program by the industry is more cost effective. An example of this is the Poultry Indemnity for Delmarva (Delaware, Maryland, Virginia). In this plan a memorandum of understanding between the poultry industry and state departments of agriculture spells out how the industry would be compensated if a large-scale disease outbreak were to occur and millions of birds had to be slaughtered.