***Figure 1:***

Surface

Water

Manure &

(Livestock/ Soil Fruits and vegetables

Wildlife Contamination)

Groundwater

***Figure 2***:

Manure/Fecal contamination

Meteorological & abiotic factors

Aerosol generation

Introduction of pathogens

Rainfall/ Irrigation/ flooding/

Percolation begins

Produce contamination

(Splash dispersal may contaminate fruits close to soil, pathogens may enter through apertures and lateral junctions of roots and flowers

Infiltration to topsoil

(Possible inhibition from soil indigenous bacteria, possible incorporation into injured underground roots)

Runoff to surface waters

Subsoil

Groundwater

***Figure 3***:

**Irrigation water**

Irrigation regime (Source, method, transport, storage, timing), crop type, pathogen load.

Land use & agronomic practices

Abiotic factors, pathogen characteristics, weather, climate,

SoiS

**Manure**

Source, production and treatment techniques, chemical composition

**Soil**

Soil characteristics (texture, structure, presence of antagonistic species, biotic factors, moisture levels, nutrient availability, structure of root system