Agricultural water workshop 2025

Scenario 1: Apples

Grower A operates an apple orchard in central Washington:

- The water source is a lake/reservoir in a mountainous region about 100 miles from the irrigation district. Water is carried from the reservoir by a natural river channel. The river channel water is diverted to a main (lined) canal. The main canal feeds unlined laterals that serve an irrigation district. The main canal and lateral canals flow between protective berms.
- The reservoir and river are not enclosed or fenced to prevent intrusion; the main and lateral canals are fenced in some areas.
- Animal activity is highest near the reservoir, and wildlife pressure is lower in the dryer, flatter land around the growing areas.
- Recreation is a minor use for the reservoir (swimming, fishing, and boating), and there is less recreation in the river. People are prohibited from accessing the canals.
- Grower A periodically collects canal water samples for testing. Results for generic *E. coli* are typically less than about ~115 CFU/100 mL at all three testing sites.
- Grower A knows that there is a 200-head dairy, approximately ¼ mile from the main canal at a location 1 mile upstream from the their turnout.
- There is a blueberry growing operation, immediately upstream from Grower A. ›The blueberry grower's practices include the application of biological soil amendments of animal origin (BSAAO) to the growing area. Due to a conversation with the blueberry grower, Grower A knows that the BSAAO used are properly composted according to National Organic Program (NOP) requirements.
- Grower A provides portable toilets located at key points in the orchard, at least 500 yards from the canal. These toilets are serviced regularly, with increased frequency during harvest. Handwashing stations with water, soap, and hand sanitizers are provided near the bathrooms and field stations.
- Grower A exclusively uses drip irrigation in their apple orchard.
- Grower A uses overhead-sprayed water from the canal to cool apples when temperatures rise above a threshold (90F). The last application of cooling water occurs in August.
- In August:
    - The growing region has an average of approximately 3 days of light rainfall (cumulative 0.2 inches of precipitation), relative humidity at approximately 40 percent, and a UV index1 of approximately 5. Temperatures average a high of 89F and a low of 57F
    - The area around the reservoir is characterized by approximately 7 days of rain (cumulative 1.5 inches of precipitation)
- Grower A harvests in October

Scenario 2: Cherries

Grower B operates a cherry orchard in central Washington:

- The water source is a lake/reservoir in a mountainous region about 100 miles from the irrigation district. Water is carried from the reservoir by a natural river channel. The river channel water is diverted to a main (lined) canal. The main canal feeds unlined laterals that serve an irrigation district. The main canal and lateral canals flow between protective berms.
- The reservoir and river are not enclosed or fenced to prevent intrusion; the main and lateral canals are fenced in some areas.
- wildlife pressure is highest near the reservoir and river, where access is unrestricted. The cherry-growing area experiences lower wildlife activity, but some localized animal intrusion has been noted along unprotected sections of the lateral canal.
- Recreation is a minor use for the reservoir (swimming, fishing, and boating), and there is less recreation in the river. People are prohibited from accessing the canals.
- Adjacent to Grower B's orchard is a pasture used for rotational grazing of sheep. During the cherry growing season, sheep graze in this area, which slopes slightly toward the irrigation lateral.
- A composting facility processing yard waste and food scraps is situated approximately 1 mile from the main canal, upstream of Grower B's intake. The facility operates under state and local composting regulations.
- Grower B routinely tests water from the lateral canal for generic *E. coli*. Results are typically below 100 CFU/100 mL; however, occasional spikes have been recorded following rain events, with levels ranging from 135 to 200 CFU/100 mL.
- Grower B provides portable toilets located at key points in the orchard, at least 500 yards from the canal. These toilets are serviced regularly, with increased frequency during harvest. Handwashing stations with water, soap, and hand sanitizers are provided near the bathrooms and field stations.
- Grower B uses micro sprinklers in their cherry orchard, and the water typically does not contact the fruits, even those growing on the lower branches.
- Grower B uses water from the canal to mix plant protection products (PPP) in the production of cherries. Depending on the year, Grower B may spray for fruit fly control or to control mildew infections up to 3 days prior to harvest. In addition, PPP may be sprayed to reduce cherry cracking if rain occurs close to harvest.
- Grower B harvests cherries in May.
- In May:
    - The growing region is characterized by an average of approximately 4 days of rainfall (0.5 inches of precipitation), relative humidity at approximately 50 percent, and a UV index1 of approximately 5. Temperatures average a high of 74F and a low of 46F

- The area around the reservoir is characterized by approximately 14 days of rain (2 inches of precipitation)