A Perspective on Antibiotic Resistance in the Environment

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**Scientific method:** A method of procedure that has characterized natural science since the 17th century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses.

**truth·i·ness**

/ˈtrōTHēnəs/

*noun* informal

the quality of seeming or being felt to be true, even if not necessarily true.
Comment

• Fecal material is a substantial reservoir of antibiotic resistance
• Antibiotic use does not always lead to higher levels of resistance in fecal material
• Antibiotic stewardship in the environment means better treatment and disposal of fecal material
Final Comments

• More research on antibiotic resistance in the environment
• Less manure/sludge, more land
• More treatment before land application, especially high temperature treatment