Plant-derived compound and oxytetracycline: a combination against avian pathogenic Escherichia coli (APEC)

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Hello, Angèle!
Your assignment for today involves APEC, a bacterium that causes colibacillosis in laying hens. It poses a threat to 7.2 million hens and is becoming increasingly resistant to antibiotics.
Your assignment: to test whether a plant-derived compound combined with oxytetracycline could help better control this bacterium.

To do this, you'll have the following at your disposal:

Oxytetracycline (OTC)

plant-derived

96-well plates

APEC Strains

You'll also have access to the CRSV lab to conduct your experiments.



Let's get started!!
I suggest we determine the minimum inhibitory concentrations (MICs) of the products before combining them.



MIC of OTC

MIC of plant-derived







Variable concentration of OTC

Variable concentration of plant-derived

Strain	MIC plant-derived	MIC OTC	Association (FICI)
1	7800	4	0,56
2	7800	4	0,19
3	7800	8	0,12
4	7800	256	0,63
5	7800	256	0,56
6	7800	512	0,56
7	7800	512	0,53

Synergistic effect <0.5
0.5 < Additive effect > 1

The FICI is the ratio of the difference in CMI when the elements are used separately or together

I think this combination should help us keep APEC under control



Good job!
See you for the next mission...

