

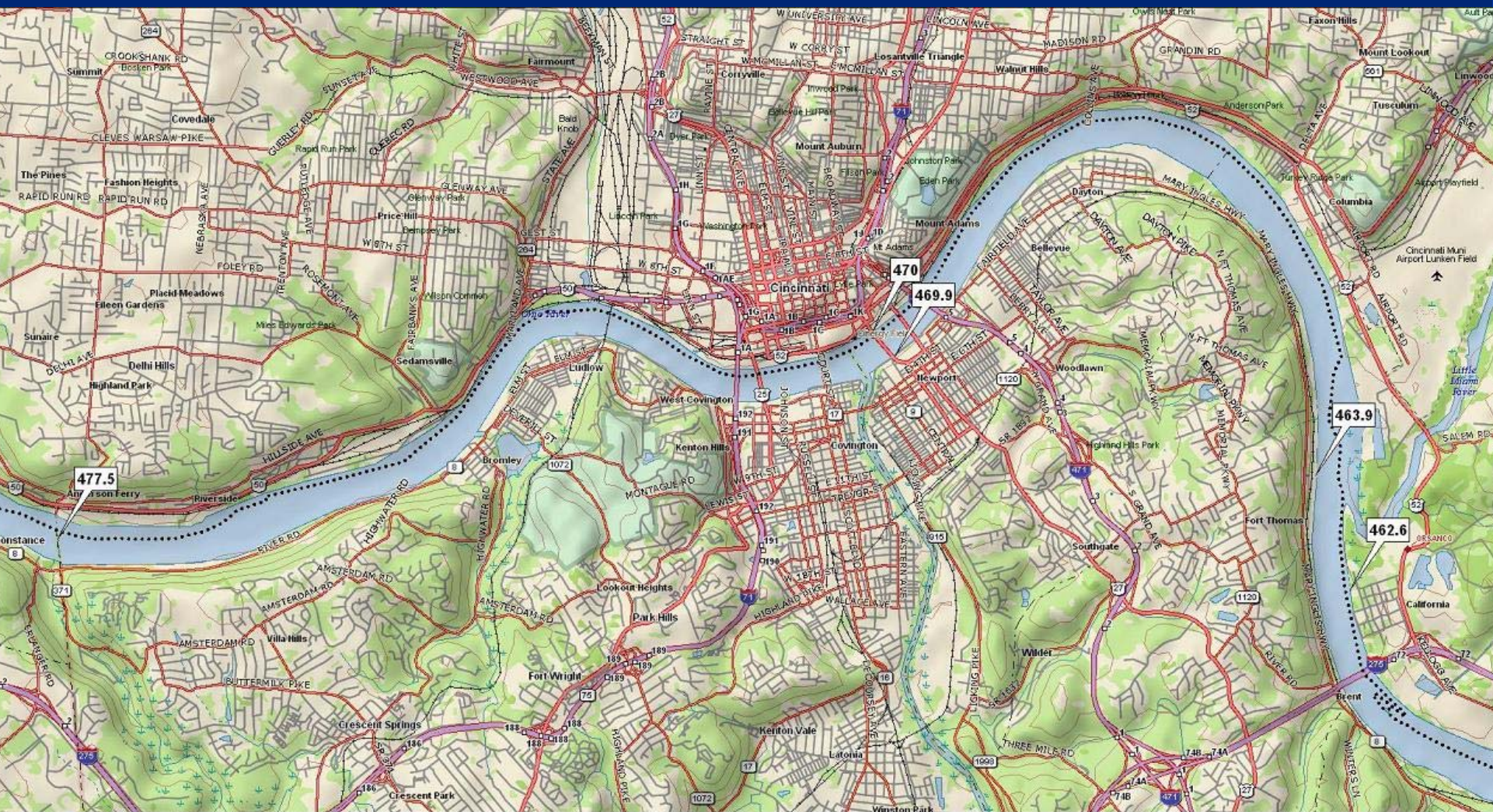
Pathogen Monitoring

Pilot Study in the Cincinnati Area

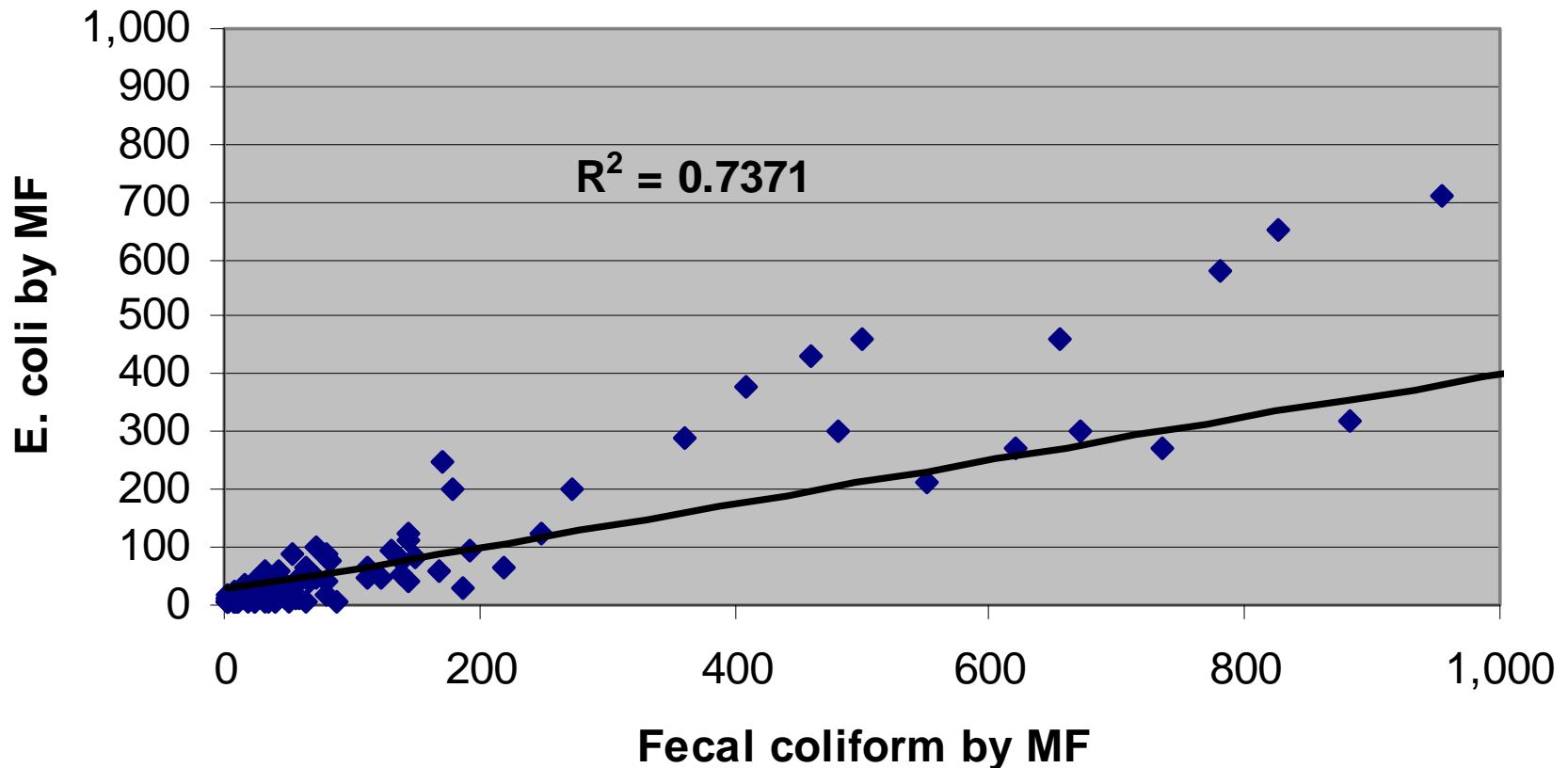
Monitoring Program

- Add on to Recreation Season Monitoring.
- Weekly Fecal coliform & E. coli samples, May – Oct.
- Fecal & E. coli by Membrane Filtration method.
- Added on:
 - E. coli by Colilert.
 - Several E. coli by qPCR methods
 - Enterococcus by Enterolert.
 - Enterococcus by qPCR method under evaluation by EPA as potential new bacteria indicator.
- Joint undertaking with EPA Cincinnati lab.

Cincinnati Monitoring Stations

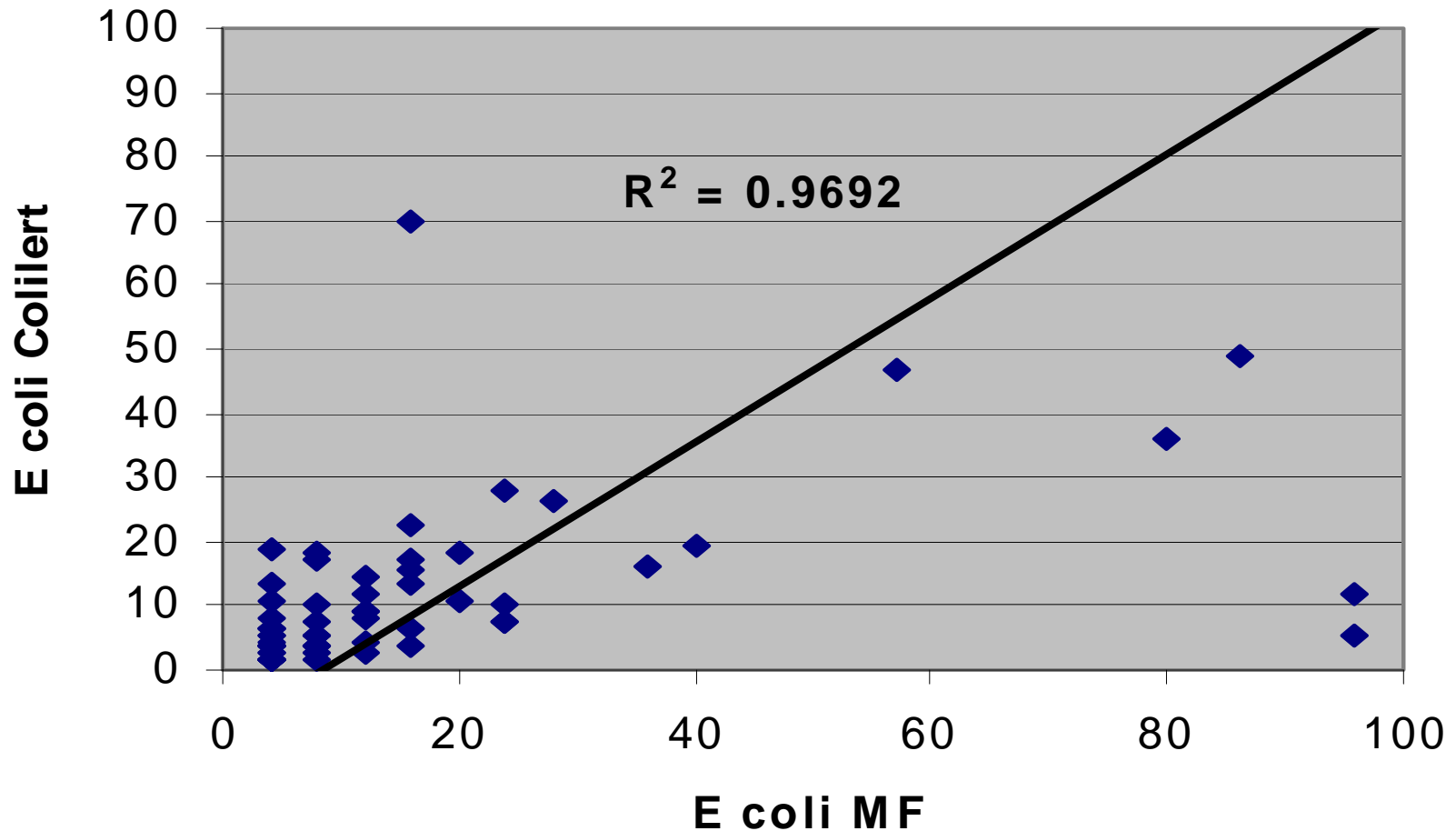


Comparison Fecal coliform MF vs. E. coli MF



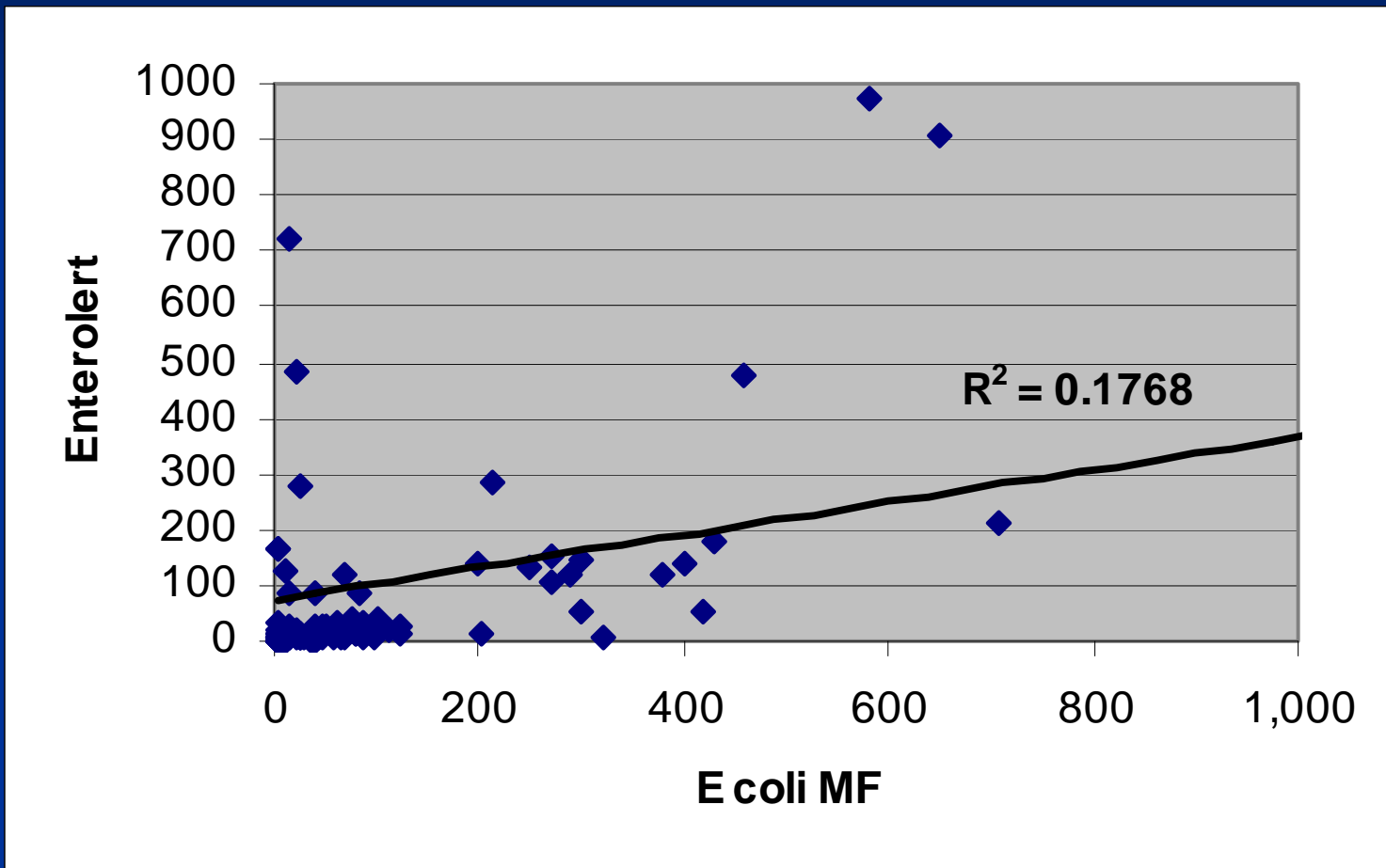
*** 3 Cases in 129 with conflicts in criterai exceedances

Comparison E coli MF vs E coli Colilert

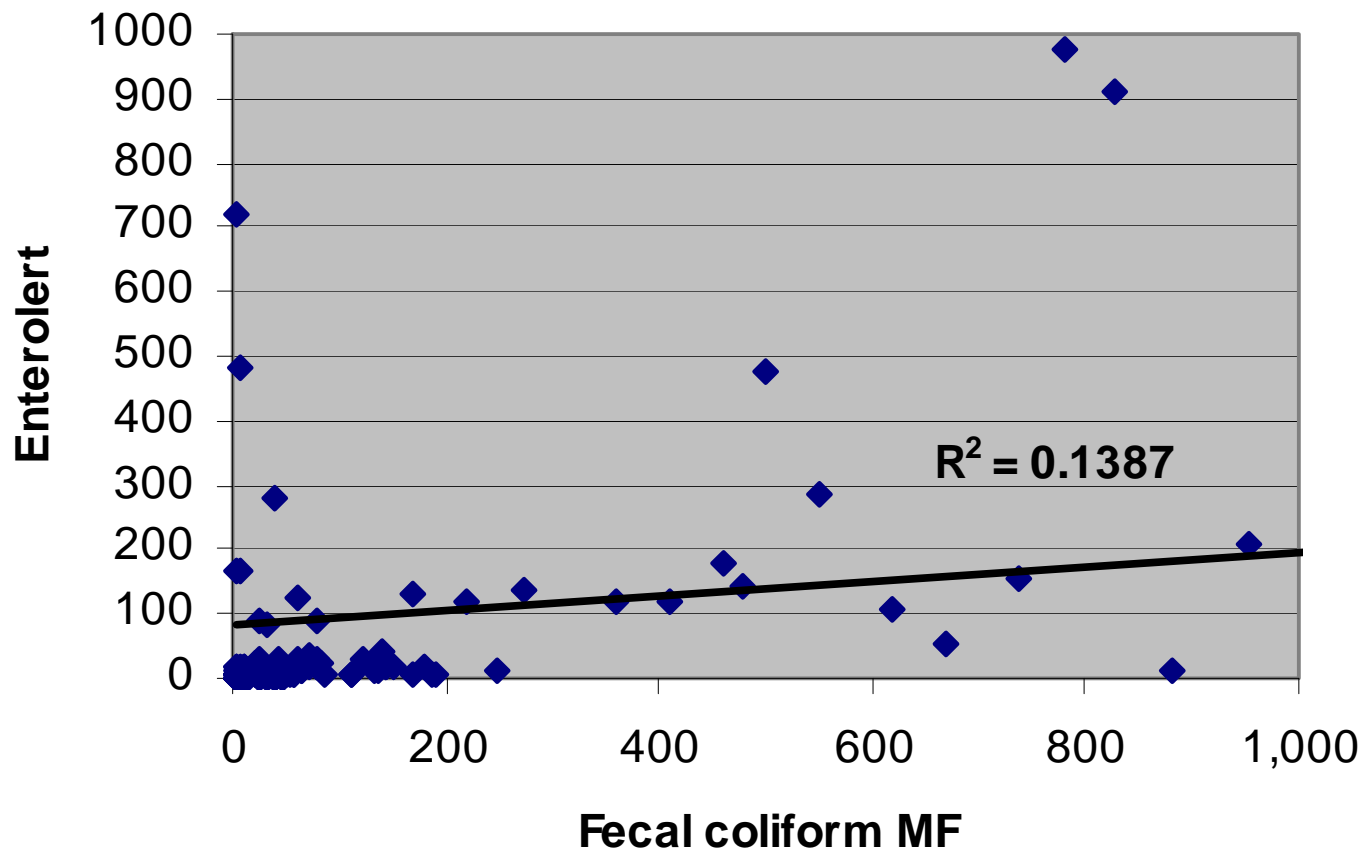


*** No cases in 70 data pairs with conflicts in criteria exceedances.

Comparison E coli MF vs Enterolert

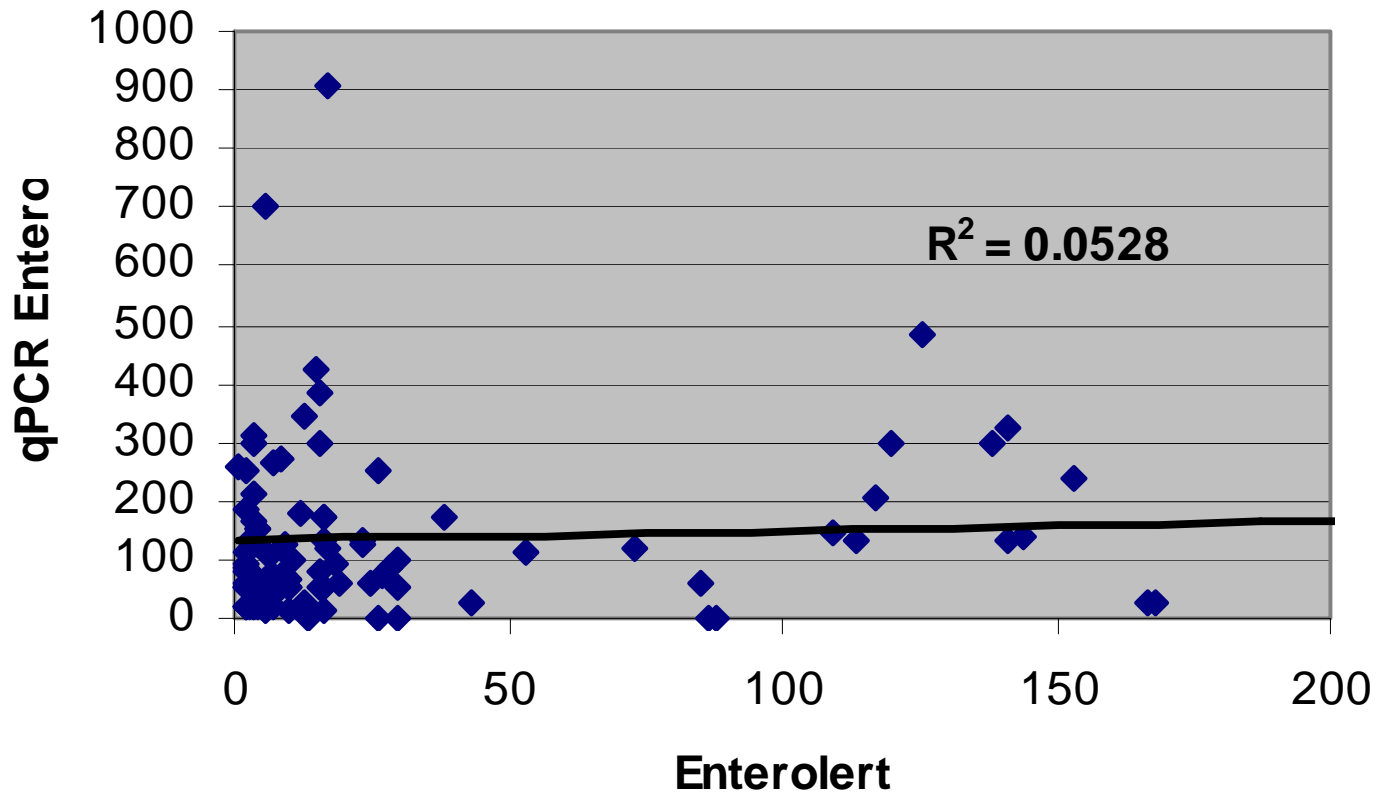


Comparison Fecal coliform MF vs. Enterolert



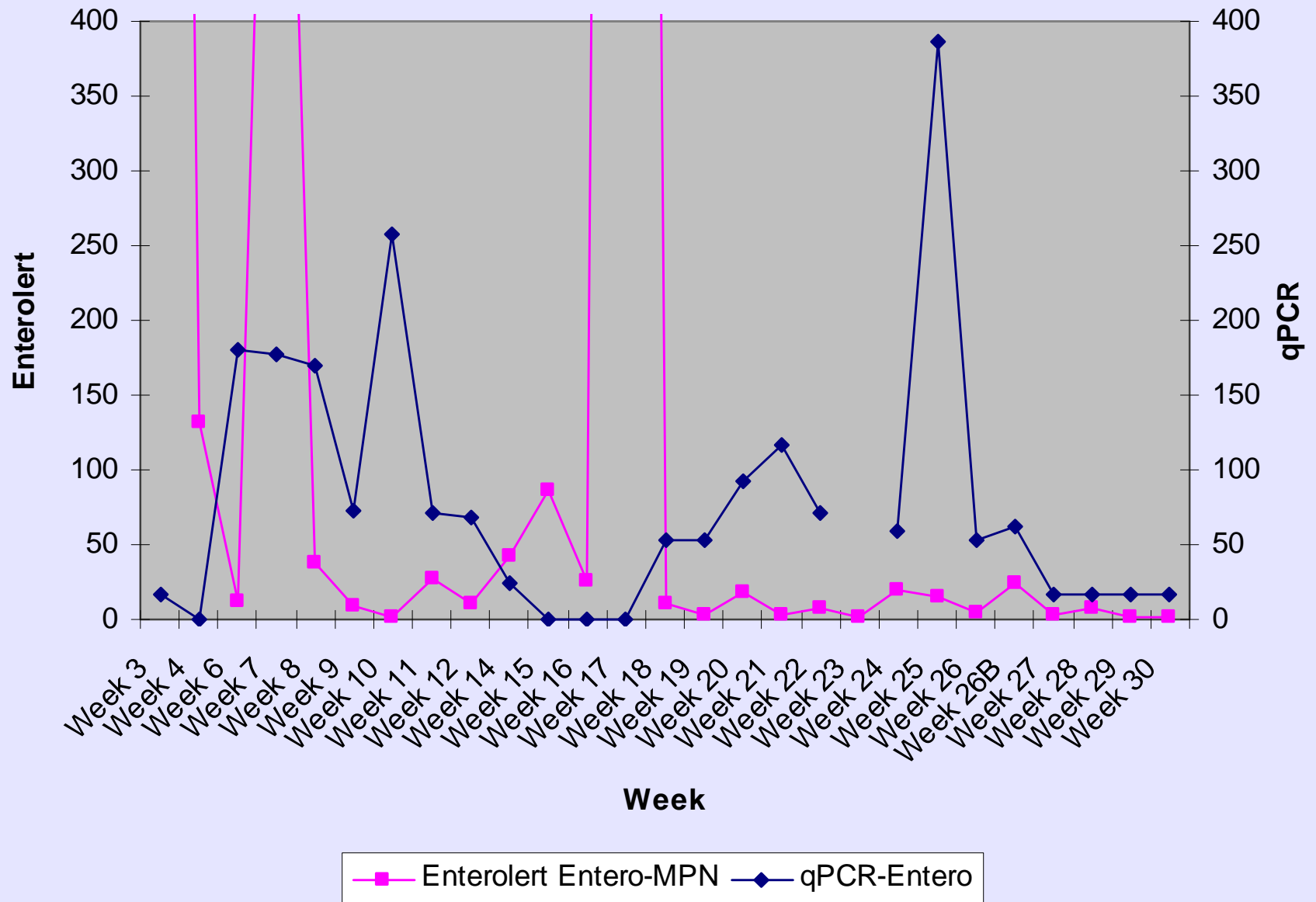
- 13 cases of 131 pairs where Entero exceeds & Fecal does not.
- 2 cases of 131 where Fecal exceeds & Entero does not.

Comparison Entrolert vs. qPCR Entero



- 50 of 131 cases where Entero by qPCR exceeds & Entrolert does not.
- 10 of 131 cases where Entrolert exceeds & qPCR Entero does not.

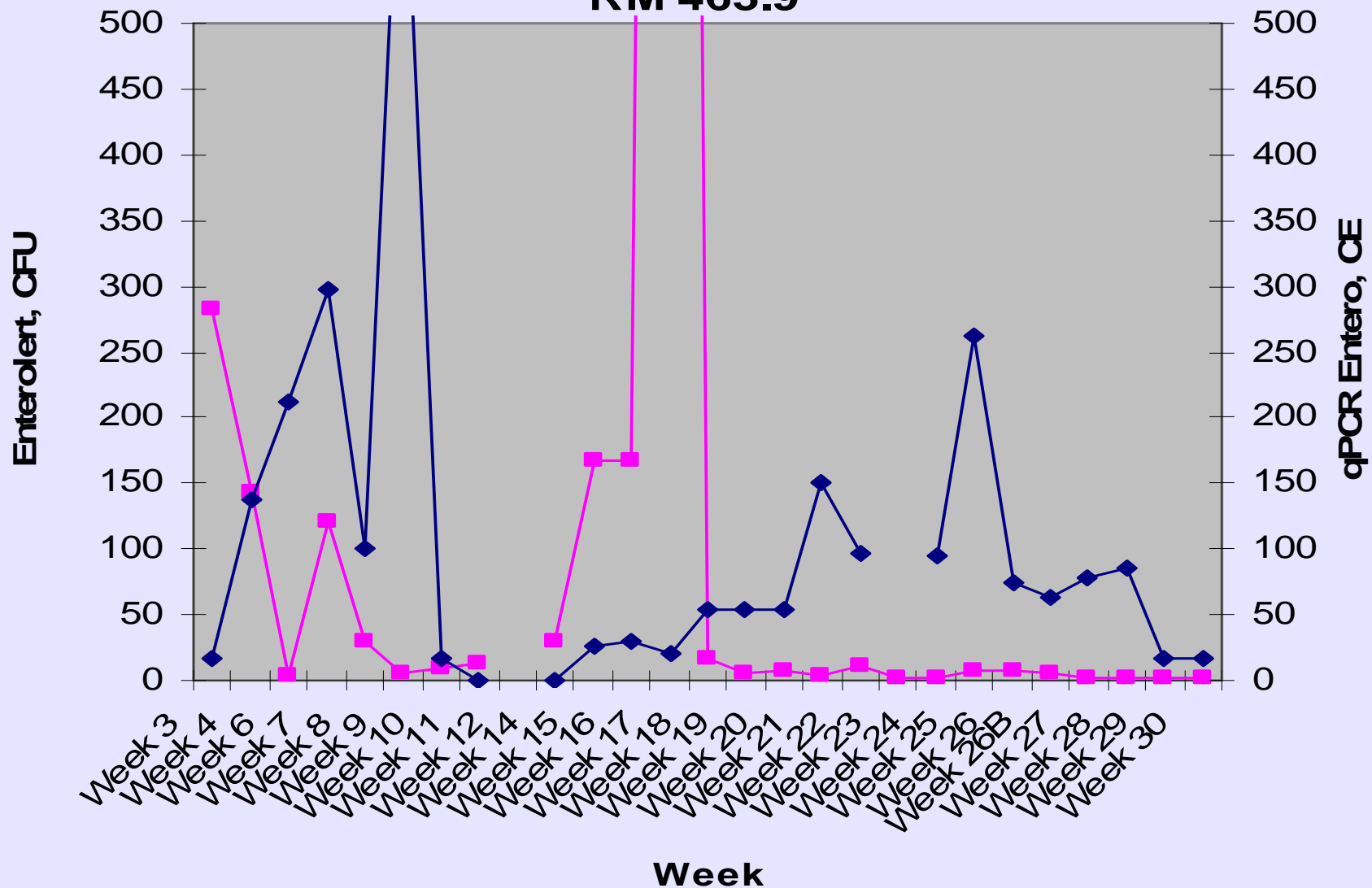
Enterococcus RM 462.6



Enterococcus

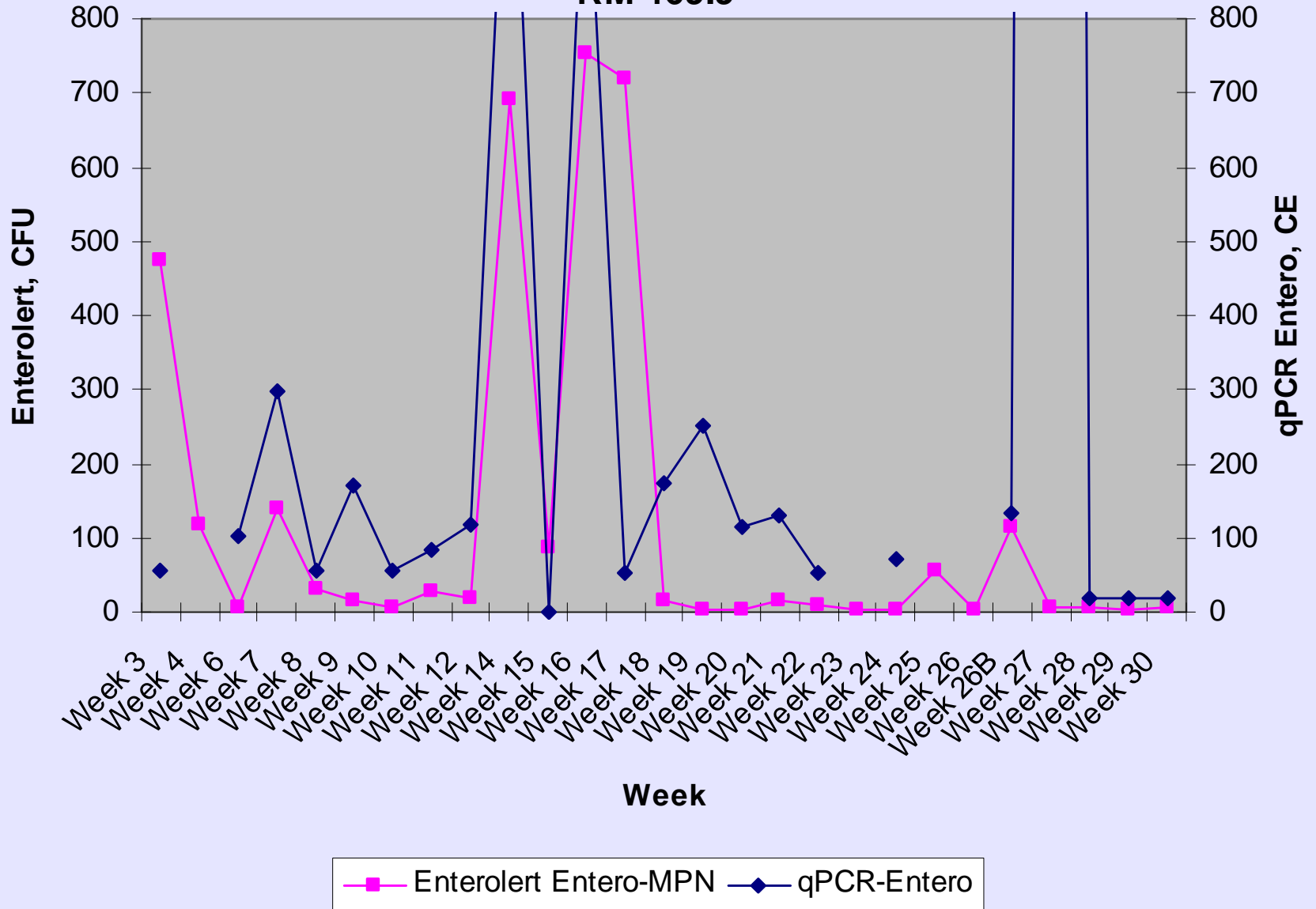
Enterolert vs. qPCR Entero

RM 463.9



—■— Enterolert Entero-MPN —◆— qPCR-Entero

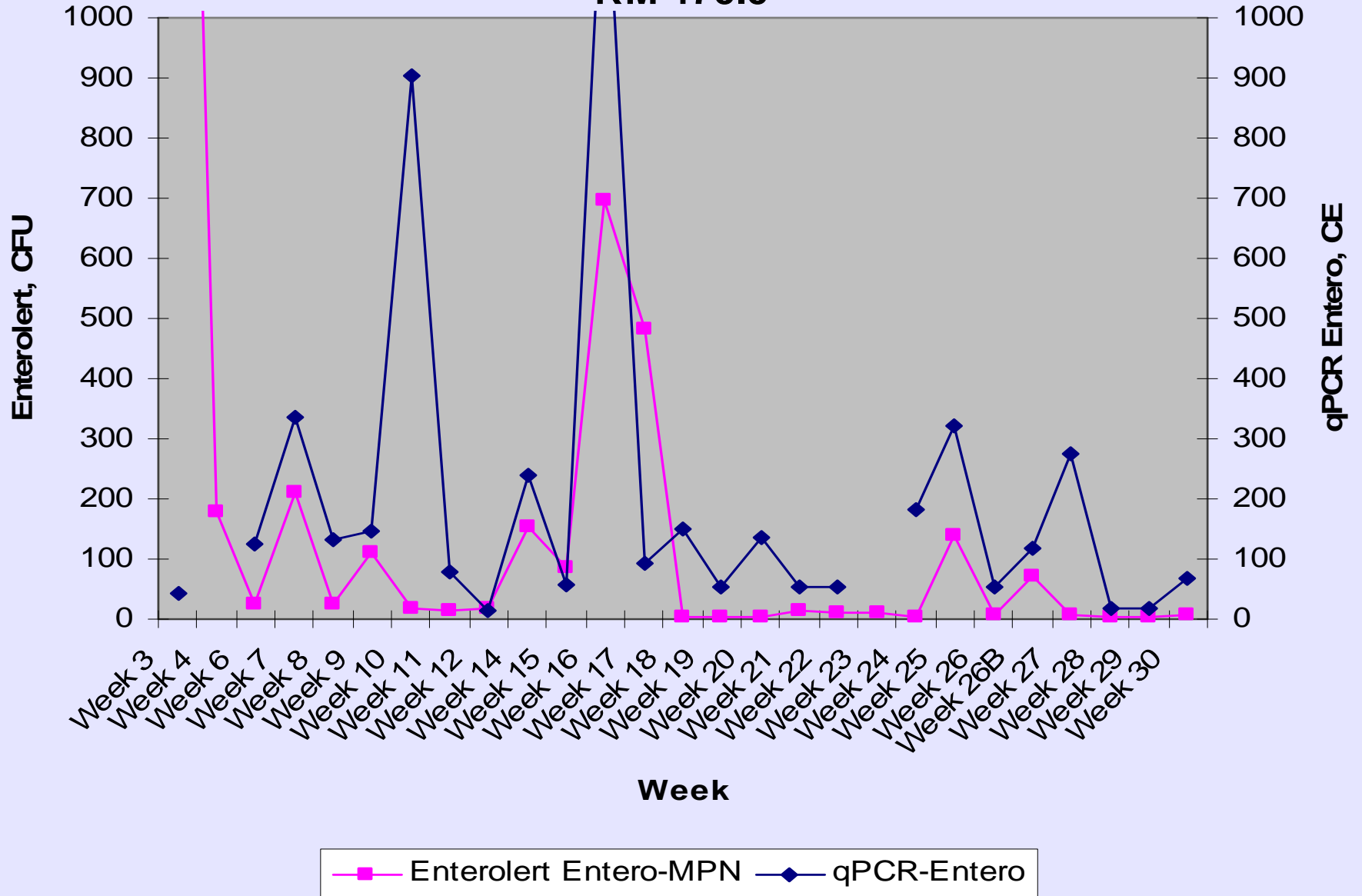
Enterococcus
Enterolert vs. qPCR Entero
RM 469.9



Enterococcus

Enterolert vs. qPCR Entero

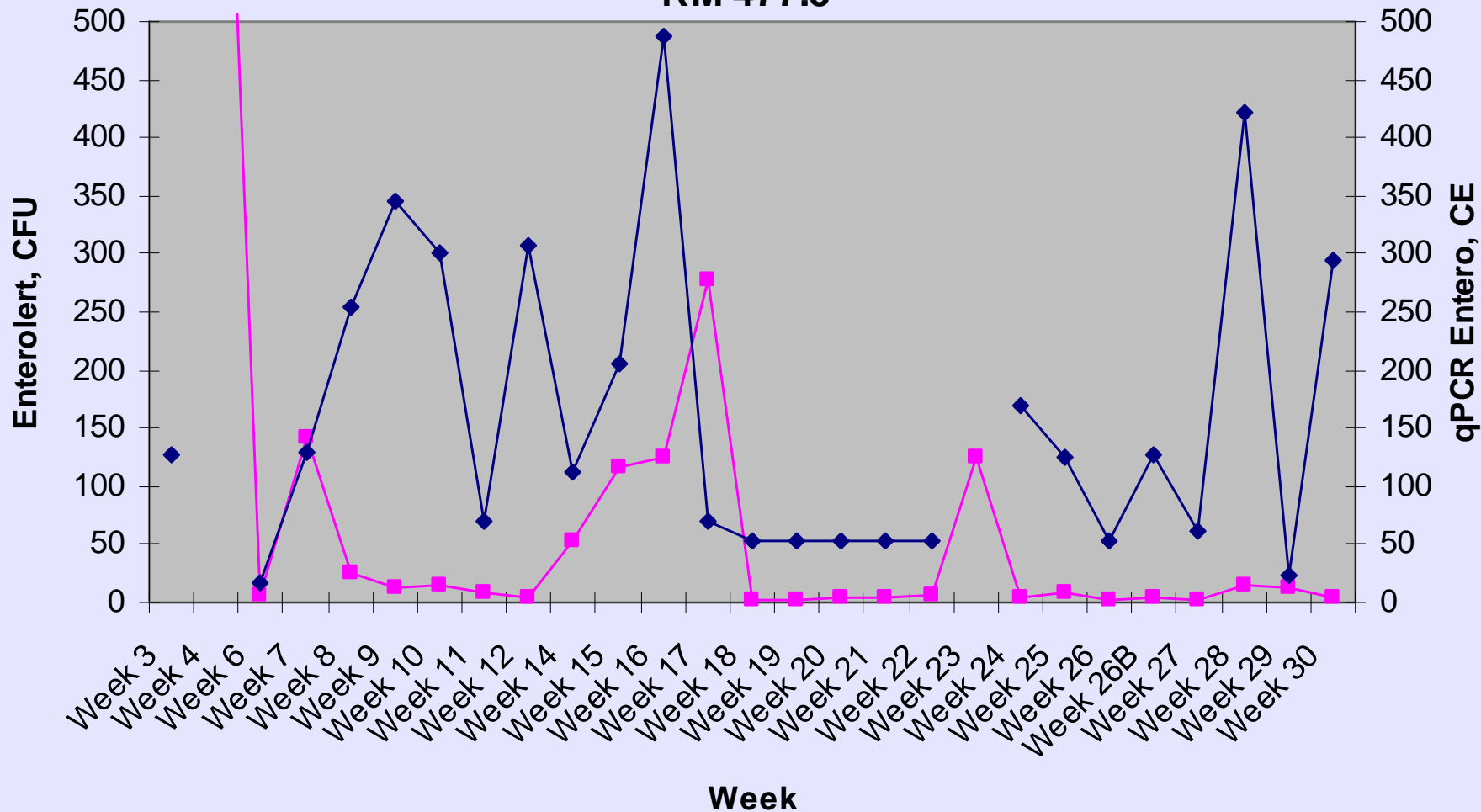
RM 470.0



Enterococcus

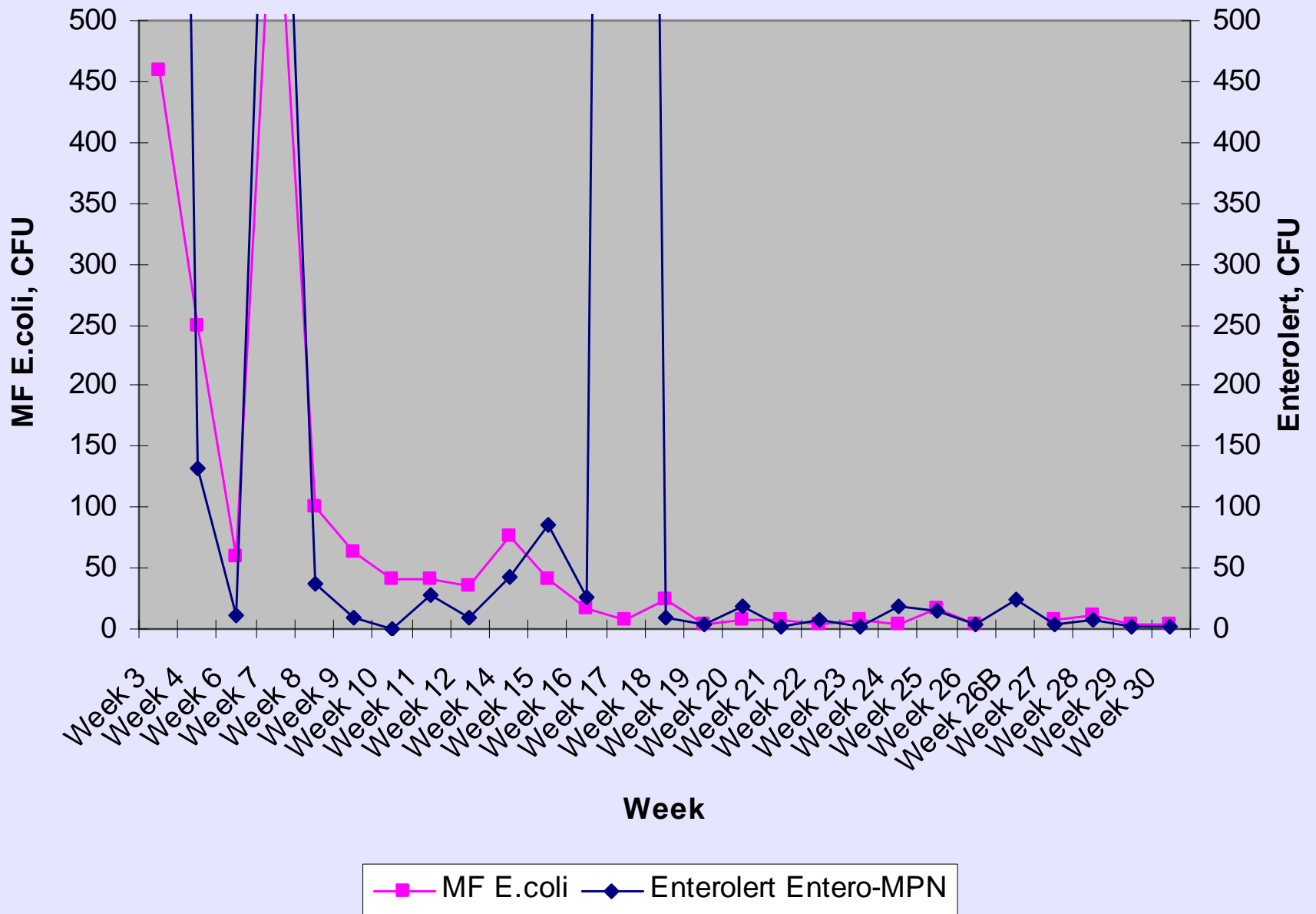
Enterolert vs. qPCR Entero

RM 477.5

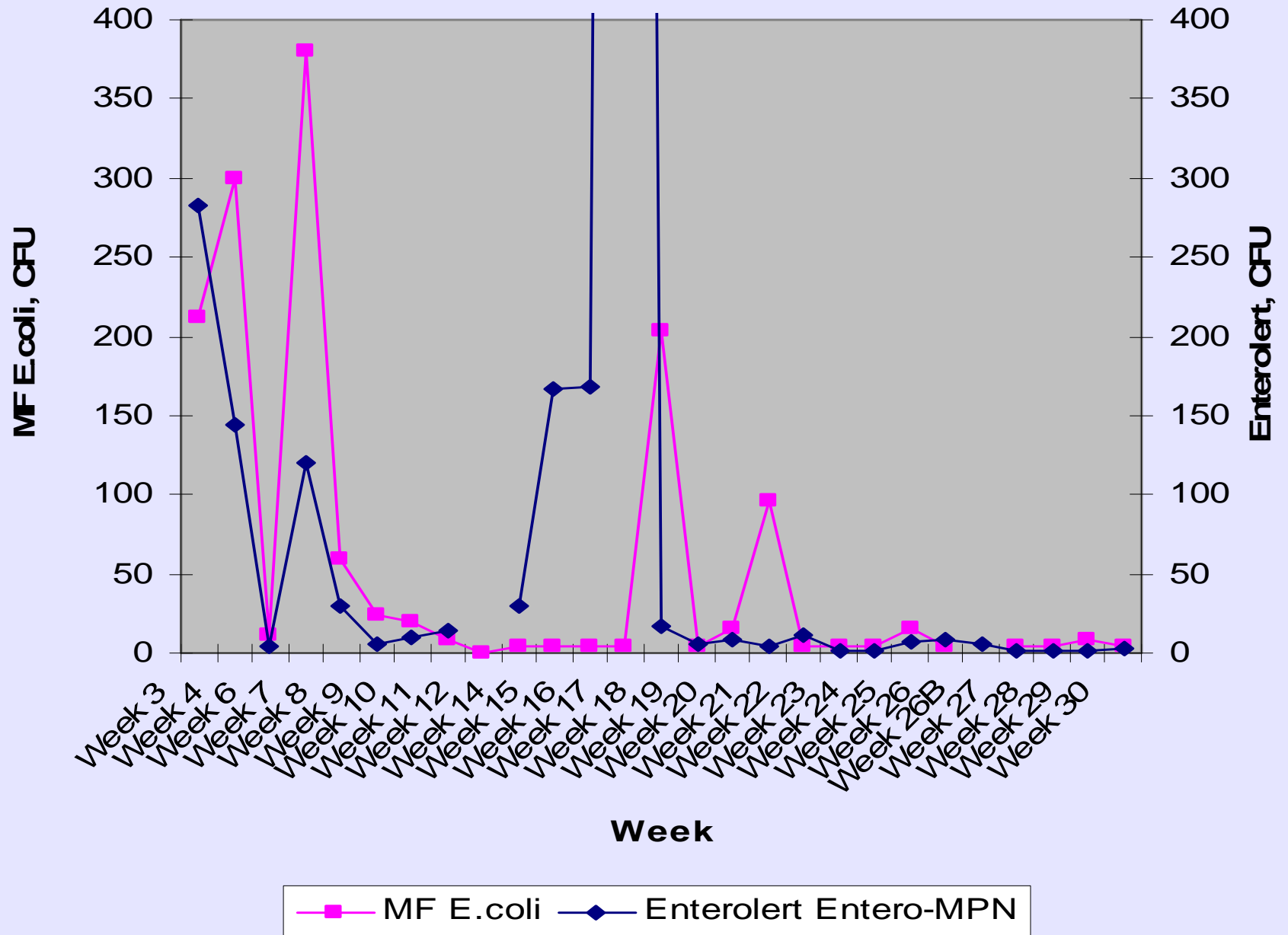


Enterolert Entero-MPN qPCR-Entero

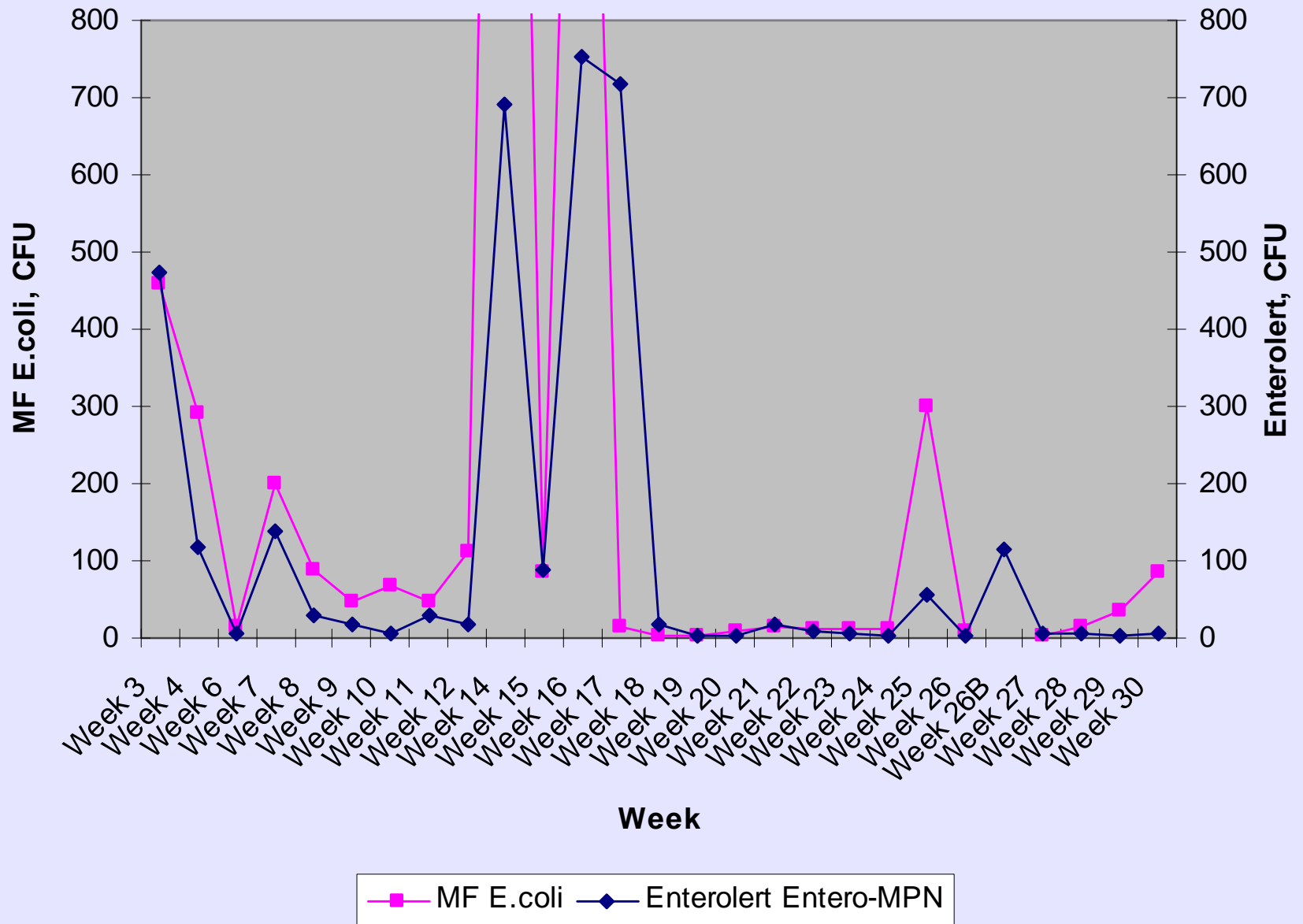
MF E.coli vs Enterolert RM 462.6



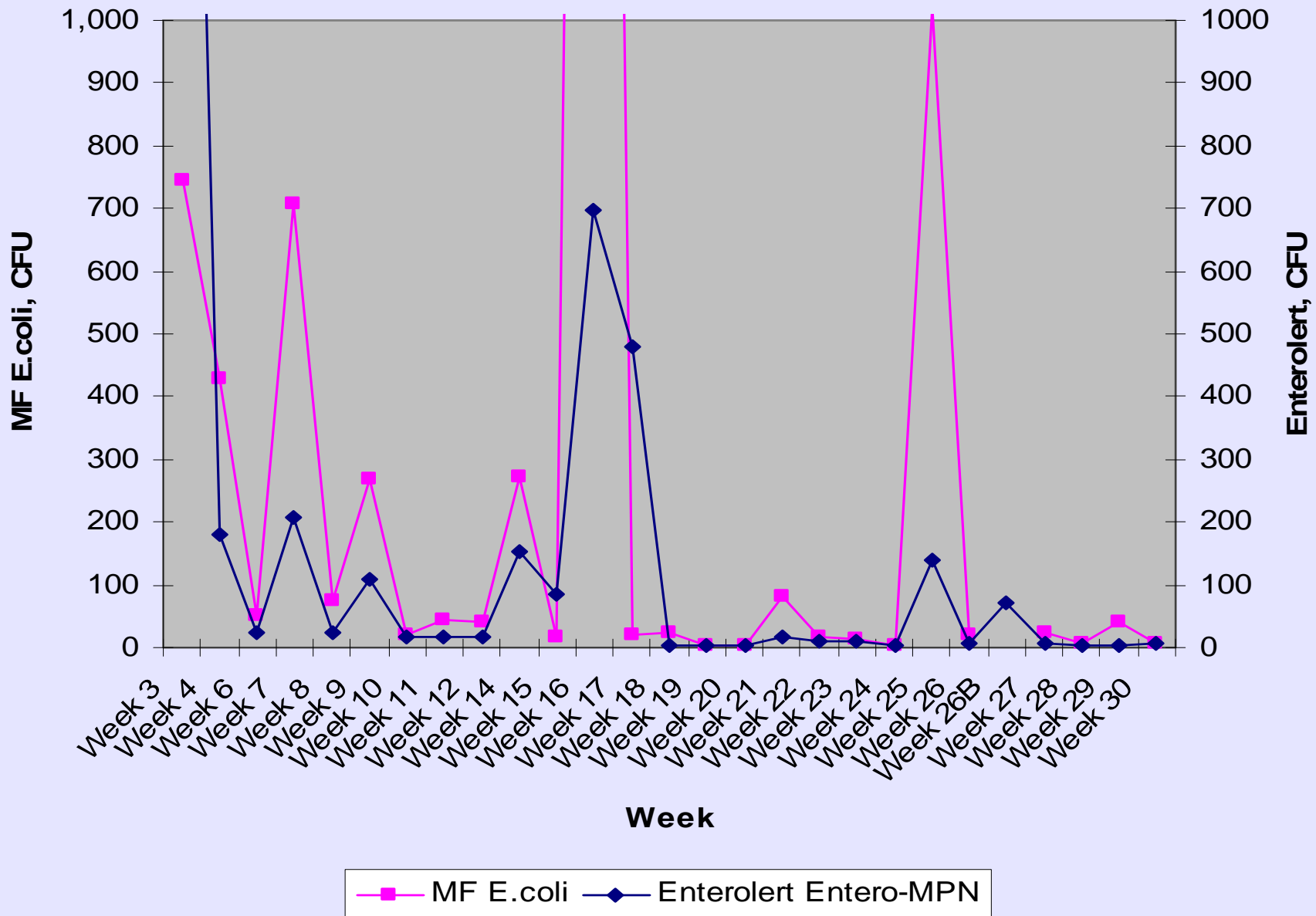
MF E.coli vs Enterolert RM 463.9



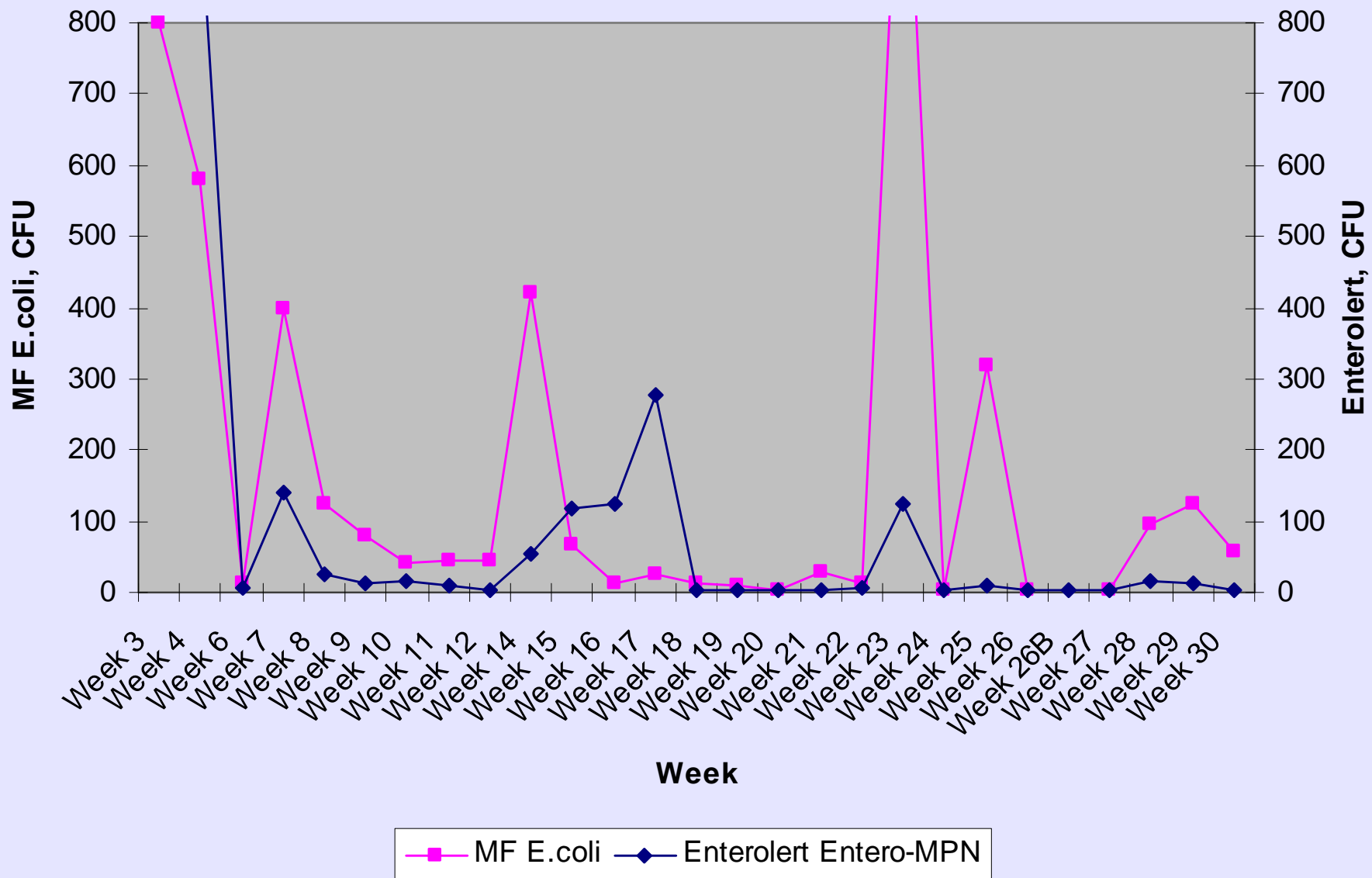
MF E.coli vs Enterolert RM 469.9



MF E.coli vs Enterolert RM 470.0



MF E.coli vs Enterolert RM 477.5



Summary