

Supporting Information

Calculate example of the add amount of the $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ in water group:

- 1 Reagent: The reagent of Copper sulfate pentahydrate was used. (Sigma, Aldrich, Germany, Ph.Eur.99-102%)
- 2 Stock solution: Weighting 0.9823 g $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$, dissolve it in ultra – pure water and make up the final volume to 250mL. the copper concentration of the solution is:

$$\text{Cu}^{2+} (\text{mg/mL}) = 0.9825\text{g} \times 1000\text{mg/g} \times \frac{63.55}{249.69} \div 250\text{mL} = 1\text{mg/mL}$$

- 3 Copper solution prepared: Add 6 mL stock solution to 1000 mL of volumetric flask, make up to the mark with ultra – pure water, the concentration of the water is 6 mg Cu/L.
- 4 Calculation: At first, the concentration of the water is 6, 15 and 30 ppm. Take 6 ppm as an example. After first three days, the total amount of consumed feed is 169.9g; water is 165.6g, so the copper is 1019.4 μg for diet group and 993.6 μg for water group.

$$\frac{1019.4 - 993.6 + 1019.4}{993.6} \times 6\text{mg/L} = 6.3\text{mg/L}$$

Adjust the concentration in drinking water to 6.3 ppm in the next three days.

- 5 Add 6.3 mL stock solution to 1000 mL of volumetric flask, make up to the mark with ultra – pure water, the concentration of the water is 6.3 mg Cu/L. The level of 15 and 30 ppm are calculated and prepared by the same steps.

Supporting Table 1. Precise heating program of microwave:

Steps	Potency(W)	Time(min)	
		Ramp	Hold
1	800	5	10
2	1400	10	15
3	0	/	20