Dilution calculation worksheet

July 2008

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Step 1 – Level of Contamination** | | | | | | |  |  |
|  | Result as reported (record the maximum possible level if the lab report a range) | |  |  |  |  | |  |
|  | Unit of measure reported by lab | |  |  |  |  | |  |
|  |  | |  | X |  |  | |  |
|  | Factor (insert lab advised factor, else 1 for beta-lactam, 2 for others or unknown) | |  | 1 or 2 | = |  | |  |
|  |  | |  |  |  |  | |  |
|  |  | |  |  |  | X | |  |
|  |  | |  |  |  |  | |  |
| **Step 2 – Volume Contaminated[[1]](#footnote-1)** | | | | | | | |  |
|  | Volume Contaminated (ie volume in farm bulk milk tank) | |  |  |  |  | |  |
|  |  | |  |  |  |  | |  |
|  |  | |  |  |  |  | |  |
|  |  | |  |  |  | ÷ | |  |
| **Step 3 – Diluted Volume** | | | | | | | |  |
|  | Minimum Silo content during processing |  | |  |  |  | |  |
|  |  |  | | X |  |  | |  |
|  | Blend Factor (default = 2) |  | | 0.5 | = |  | |  |
|  |  |  | |  |  |  | |  |
|  |  |  | |  |  | = | |  |
|  |  |  | |  |  |  | |  |
| **Final Residue Concentration[[2]](#footnote-2)** | |  | |  |  |  | | |

## Working example

8,000 litres milk collected, pumped into a silo that contained between 140,000 and 180,000 litres with no agitation.

Residue identified as non beta-lactam (not penase sensitive), lab estimate concentration as being in the range 0.010 - 0.030 iu/ml penicillin equivalent.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Step 1 – Level of Contamination** | | | | | | |  |  |
|  | Result as reported (record the maximum possible level if the lab report a range) | |  |  |  | 0.030 | |  |
|  | Unit of measure reported by lab | |  |  |  |  | | i/ml |
|  |  | |  | X |  |  | |  |
|  | Factor (insert lab advised factor, else 1 for beta-lactam, 2 for others or unknown) | |  | 1 or 2 | = | 2 | |  |
|  |  | |  |  |  |  | |  |
|  |  | |  |  |  | X | |  |
|  |  | |  |  |  |  | |  |
| **Step 2 – Volume Contaminated** | | | | | | | |  |
|  | Volume Contaminated (ie volume in farm bulk milk tank) | |  |  |  | 8,000 | |  |
|  |  | |  |  |  |  | |  |
|  |  | |  |  |  |  | |  |
|  |  | |  |  |  | ÷ | |  |
| **Step 3 – Diluted Volume** | | | | | | | |  |
|  | Minimum Silo content during processing |  | | 140,000 |  |  | |  |
|  |  |  | | X |  |  | |  |
|  | Blend Factor (default = 2) |  | | 0.5 | = | 70,000 | |  |
|  |  |  | |  |  |  | |  |
|  |  |  | |  |  | = | |  |
|  |  |  | |  |  |  | |  |
| **Final Residue Concentration** | |  | |  |  | 0.007 | | ug/kg |

1. Where multiple consignments containing residues went into the silo, complete steps 1 and 2 for each and add the sub-totals from step 2 together, then proceed with step 3. [↑](#footnote-ref-1)
2. If: - the Final Residue Concentration exceeds the initial level of contamination; and the residue was a beta-lactam (penicillin); and there was only 1 consignment affected in step 1then apply the initial concentration as the final concentration. [↑](#footnote-ref-2)