



QA Studio: Dilutions

March 2010



QA Studio is a QA tool to help the Quality Assurance department be efficient and accurate in documenting testing results.

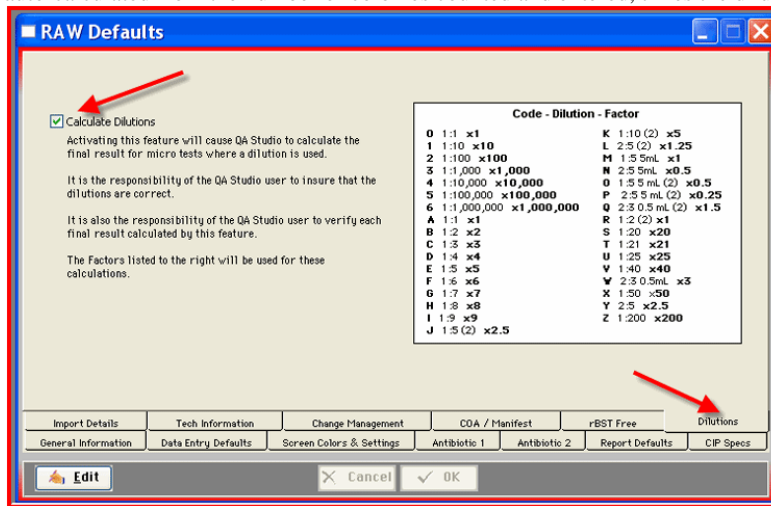
To help enhance entering the microbiological counts performed on the dairy products, QA Studio can now auto-calculate the final count from the colony count times the dilution factor.

To use this new feature, it must be activated in each module.

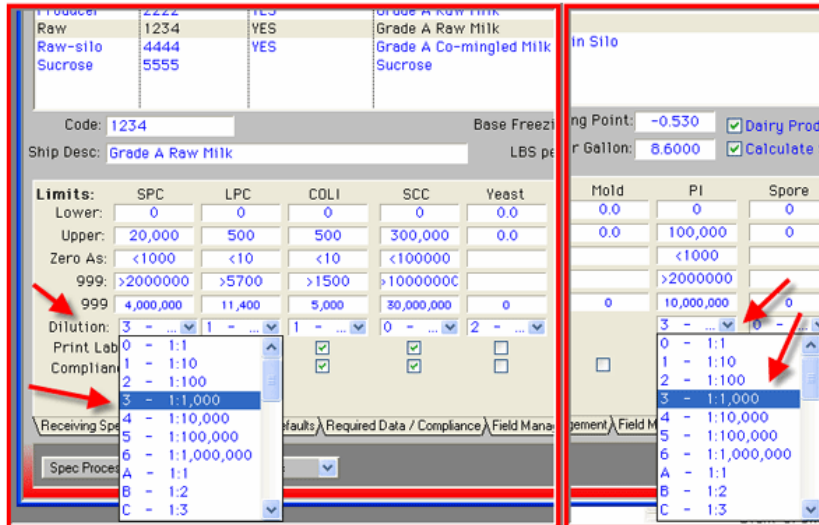
Set up Dilutions Feature in the Defaults in Each Module: First, for this feature to work as expected, the QA Studio Supervisor (person maintaining the program) at the facility will need to make sure all the products are set to the correct dilution for each test performed in the Product Specs window in each program/module being used.

Also important, once the feature is in use, is to make sure the QA Studio user entering the counts confirms the count is calculated as expected. *Any discrepancies or questions should be brought to QA Studio support's attentions as soon as possible.*

If you would like to set up this feature: *QA Studio support will need to be contacted because there is a unique password needed to activate.* Then: Go to Defaults (in each program) > Dilutions tab > Check the Calculate Dilutions. Once the Calculate Dilutions feature is activated, the final counts entered into QA Studio will be auto-calculated from the number of colonies counted and entered, times the dilution factor.



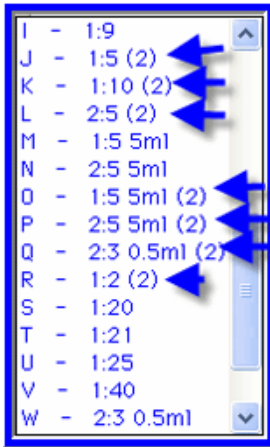
For example: Raw SPC and/or Raw PI: Go to Raw Product Specs window > Click on the product: Raw Milk or Raw Tankers or what is set up at your facility. Enter the correct dilution for each test performed on that particular product. If you are using the barcode labels, also check Print a Label. For Raw Milk typical SPC Dilutions are 1:100 or 1:1000 as stated in SMEDP.





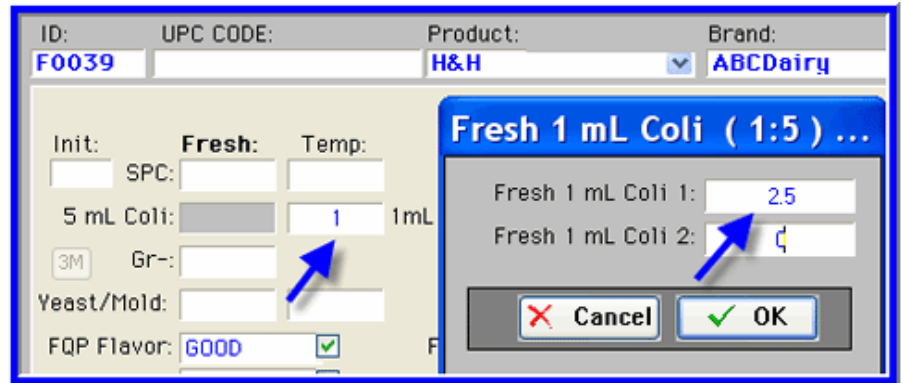
Dilution selections for two plates: There are several selections when using two (2) plates.

- **J**-1:5 (2), **K**-1:10 (2), **L**-2:5 (2) -1mL
- **O**-1:5 5mL (2), **P**-2:5 5mL (2), -5 mL
- **Q**-2:3 0.5mL (2) -0.5mL
- **R**-1:2 (2) -1mL



Note: Pipetted amount is assumed 1mL UNLESS 5mL or 0.5mL is stated in the dilution description as seen above.

Two fields for two plates: When you enter a 0, 999 or count in the field, a pop up box will appear for you to enter the second plate. The dilution factor will be calculated in the pop up box when applicable, you will see the calculated count every step of the way. In the example below, the Dilution J was set up 2 plates both at a 1:5 dilution. A count of 1 would be 5 if one plate was used but in this case 2 plates were used so each count of 1 is multiplied by half of 5 or 2.5.



Dilution Info... Sample volume put in blank / Total volume (sample plus diluent) in blank = dilution fraction. Reciprocal of dilution fraction = dilution factor: *SMEDP 17th Edition page 159.*

$11 / (11+99) = 11/110 = 1/10$ (.10) Dilution factor 10/1 or 10. *SMEDP 17th Edition page 159.*

$1 / (1+99) = 1/100 = 1/100$ (.010) Dilution factor 100/1 or 100. *SMEDP 17th Edition page 159.*

$24.75 / (24.75+99) = 24.75/123.75 = 1/5$ (.20) Dilution factor of 5 for one plate (and a factor of 2.5 if two plates are plated). *SMEDP 17th Edition page 204.*

$10 / (10+5) = 10/15 = 2:3$ (.67) Dilution factor 1.5. Procedure in SMEDP: Hydrate Coli Count Petrifilm with 1 mL of sterile diluent and allow to solidify. Dispense 0.5 mL of 2:3 sample on to rehydrated plate. When using 1 plate at 0.5mL (1/2 - doubles the factor) the factor becomes 3. If using two plates (with 0.5ml on each), the factor is 1.5 and if using three plates the factor is 1. *SMEDP 17th Edition page 205.*

If you have any issues or questions regarding this new feature please feel free to contact us at support@qastudio.com

Benefit to QA Studio User: Efficiently enter microbiological results into QA Studio.