Approved Deviation of D Value and that of Population by ISO is Scientifically Correct?

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Decimal reduction value (D value) is approved in ISO (International Organization for Standardization) standards of 11138-1 (Sterilization of health care products-Biological indicators, Part 1: General requirement), 11138-2 (Part 2: Biological indicators for ethylene oxide sterilization processes) and 11138-3 (Part 3: Biological indicators for moist heat sterilization processes) are 2.5-3.5 min for ethylene oxide sterilization and 1.5-2.5 min for moist heat sterilization. In addition, recovered population should be −50 to +300% of the labeled value (ISO 11138-1,2,3).

Now as I reported [1-5] if you handled healthy microorganisms, a significant deviation of population will not occur. However, D value and population are addressed for sterilized, injured and survived microorganisms, so they are significantly differ from healthy microorganisms [2,3]. For example, as pointed out in citation 5, Ca deleted from the culture medium, injured microorganisms cannot grow and when added Ca to the culture medium injured microorganisms can grow again. In citations 2 and 3, we add several components to grow the sterilized and injured microorganisms and found out some components are effective to grow [2,3]. The sterilization procedures utilized were γ-ray, β-ray, ethylene oxide gas, dry heat, moist heat exposures. From these, we confirmed not define D value and population deviation, but amount of essential components to recover injured and damaged microorganisms can survival without Ca, but injured and damaged microorganisms cannot grow [5], so constituents of culture medium components has an essential key role, therefore ISO documents define not only D value and population deviation, but also the constituent of culture medium for damaged and injured microorganisms. The importance of defining constituents of culture medium components has never discussed so far, which is scientifically faults. In that sense, I am now submitting How to recover of damaged microorganisms by supplying several sorts of nutrients to OMICS J on this matter [6].

References
6. Shintani H (in submission, 2014) How to recover of damaged microorganisms by supplying several sorts of nutrients, OMICS J.

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