Support by Potato Dextrose Agar for Fungal and Bacterial Growth at 4°C

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Abstract:

Potato Dextrose Agar (PDA) has a potential to support the growth of bacteria and fungi & for isolation as well as enumeration of not only moulds but also yeasts
It is a cream to yellow colored medium that gets solidified in the Petri dish when excess bacterial agar (3gm/100ml) is mixed prior to autoclaving
Its composition for 1 Litre is as follows: Potatoes, infusion- 200 grams, Dextrose (Glucose)-20 grams, agar- 15 grams and pH at 25oC is 5.6±0.2
The medium/refrigerated product for preservation is kept in the refrigerator at 4oC for preservation till the use During the preservation, it is expected that the medium should be stable & contamination free However, there is a shelf life to the PDA for storage in the refrigerator After expiry of the refrigeration period (52 days as per company claim) it gets dried rendering its uselessness for the further application

Materials And Methods:

We made 200 ml PDA agar on 10th August 2022 using a ready to use bottle of a Himedia, autoclaved it at 121oC for 15 lb pressure for 20´ as per the sterilization guidelines & poured in the 10 Petri dishes in aseptic condition & then kept the medium for solidification for 30 ´. After words, we placed the plates (cultures)for refrigerator at 4oC for one month . Then, we kept it under supervision and shocking

Results And Discussion:


Figure 1a

Figure 1a Dorsal view of a white-black colored fungal colony on PDA it was reported that the growth of black-white colored fungi


Figure 1c


Figure 1d

Figure 1c: Dorsal view white colored Fungi colony grown on PDA
Figure 1d: Ventral view of white colored fungal colony


Figure 2a


Figure 2b

Figure 2a: Dorsal view of bacterial colonies on PDA
Figure 2b: Ventral view of bacterial colonies on PDA
pink coloriant ed bacteria (figure 2a, 2b) were observed with their luxurgrowths


Figure 1b

Figure 1b: Microscopic observation of fungal specimen
The staining of fungi by lactophenol blue of black-white fungi (figure 1b) and white fungi


Figure 1E

Figure 1E: Microscopic observation of fungi showed mycelium threads

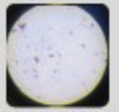
Figure 2C

Figure 2C: Bacteria observed under 100X (Gram positive cocci)
To add, we performed Gram staining of the reported bacteria with pink colonies (figure 2c) and found that they were Gram positive cocci


Figure 3

Figure 3: contaminated the green fungi
The pink colored bacteria contaminated the green fungal culture.


Figure 4

Figure 4: white fungal
The pink colored bacteria contaminated the white fungal culture.

Conclusions:

In this case, we conclude that the PDA under study has been not protected at 4°C for 52 days (As per company claim) from the psychrophilic growth raising the question on its efficiency and efficacy for long-term preservation of microbial cultures suggesting an urgent need to search either alternate medium or updating the composition of it.

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