PME RESEARCH LABORATORY, November 1978

PROJECT TITLE : MICROBIOLOGY

PERIOD COVERED : OCTOBER 21st - NOVEMBER 22nd

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1. ABSENCES

D. Schulthess, October 23rd to November 1st (military service).

2. ADDITIVES

In order to provide our yeast with an optimal medium, some additives were tested for their influence on nitrate assimilation.

- Phosphates : Up to now we used 5 g/l KH_2PO_4 (= 3.49 g PO_4^{2-}). During our batch cultivation which lasts about 9 hours, 1.1 g/l PO_4^{2-} are consumed. This amount remains constant whether we have 5 g/l or 10 g/l KH_2PO_4 initially. Thus, we can reduce our PO_4^{2-} concentration to about one-third of the amount used till now. It is remarkable that without any phosphate added (the extract itself contains about 400 mg/l PO_4^{2-}) we have a faster degradation of nitrates and a faster growth. The final biomass produced is, however, smaller (1).
- Trace elements : Additions of iron, molybdenum and zinc at different concentrations did not show any influence on the assimilation of nitrates, the growth behavior, the fermentation rate nor the cell yield (2).
- Vitamins : Additions of Biotin and Thiamin at different concentrations did not have any influence either (3).

3. STRAIN EVALUATION

Besides C. utilis NCYC 707 there are, as has been previously shown (4), some other strains which gave good denitration results. We started to look closer at C. berthetii CBS5452 (5). Results will be presented in the next report.