

## Hogelin, Thomas

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**From:** Dave Nicholson <dknicholson@q.com>  
**Sent:** Monday, April 03, 2017 11:07 AM  
**To:** Hogelin, Thomas  
**Cc:** Johnson, Derek  
**Subject:** Re: B10, K15, L15 pre-treatment labs

Tom

For the OM B-10, the lab results show ample carbon and a carbon:nitrogen:orthophosphate ratio of 17,700:458:5.24, or about 100:2.58:0.03 compared to the target of 100:10:4. Potassium is good at 1,740 mg/kg. The ratio of nitrogen to orthophosphate is 10:0.12 showing a deficit of phosphorous. Nitrate is very high at 346 mg/kg so no additional nitrogen is needed now. For this pile, we need to add phosphorous only to raise orthophosphate to about 20 mg/kg. Therefore, add about 250 pounds per acre of phosphate supplement. Use this amount for every two feet of landfarm depth.

For the OM K-15, the lab results show ample carbon and a carbon:nitrogen:orthophosphate ratio of 15,300:22.6:35.9, or about 100:0.15:0.23. Potassium is good at 1,260 mg/kg. The ratio of nitrogen to orthophosphate is 10:0:15.3. Nitrate is lower than the ideal maximum at 22.6 mg/kg and ammonia is non-detect. Therefore, nitrogen is low and orthophosphate is above the ideal level of 20 mg/kg. We should add the previously used ammonia-phosphorous fertilizer at a slightly higher amount as used in the past couple years to bring up the ammonia level.

For the OM L-15, the lab results show ample carbon and a carbon:nitrogen:orthophosphate ratio of 17,500:104.3:45.8, or about 100:0.6:0.26. Potassium is good at 1,930 mg/kg. The ratio of nitrogen to orthophosphate is 10:0:4.3, or very close to ideal. Nitrate is high at 98.2 mg/kg and orthophosphate is above the ideal target of about 20 mg/kg. Therefore, for this pile, we should add nothing for the first round of amendments this year.

For all three piles, the addition of fulvic/humic acid amendment should be tried to evaluate the effect on bioremediation rates.

Dave