Algorithm

1. **Start**
2. **For Nitrogen Rating:**
   * If Nitrogen\_rating is 'Very Low':
     + Set N = 1.25 \* N
   * Else if Nitrogen\_rating is 'Low' or 'Medium':
     + Set N = N
   * Else if Nitrogen\_rating is 'High':
     + If clay > 20.0:
       - Set N = 0.75 \* N
     + Else:
       - Set N = 0.80 \* N
   * Else:
     + Set N = 0.25 \* N
3. **For Phosphorus Rating (P205):**
   * If P205\_rating is 'Very Low':
     + Set P = 1.25 \* P
   * Else if P205\_rating is 'Low' or 'Medium':
     + Set P = P
   * Else if P205\_rating is 'High':
     + If clay > 20.0:
       - Set P = 0.60 \* P
     + Else:
       - Set P = 0.70 \* P
   * Else:
     + Set P = 0.25 \* P
4. **For Potassium Rating (K):**
   * If K\_rating is 'Very Low':
     + Set K = 1.25 \* K
   * Else if K\_rating is 'Low' or 'Medium':
     + Set K = K
   * Else if K\_rating is 'High':
     + If clay > 20.0:
       - Set K = 0.60 \* K
     + Else:
       - Set K = 0.70 \* K
   * Else:
     + Set K = 0.25 \* K
5. **End**

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**Python code:**

**# condition for nitrogen**

if Nitrogen\_rating == 'Very Low':

N = 1.25\*N

elif Nitrogen\_rating == 'Low' or Nitrogen\_rating == 'Medium':

N = N

elif Nitrogen\_rating == 'High':

if clay > 20.0 :

N = 0.75\*N

else:

N = 0.80\*N

else:

N = 0.25\*N

**# condition for phosphorus**

if P205\_rating =='Very Low':

P = 1.25\*P

elif P205\_rating == 'Low' or P205\_rating == 'Medium':

P = P

elif P205\_rating == 'High':

if clay > 20.0:

P = 0.60\*P

else:

P = 0.70\*P

else:

P = 0.25 \* P

**# Condition for Potassium**

if K\_rating == 'Very Low':

K = 1.25\*K

elif K\_rating == 'Low' or K\_rating == 'Medium':

K = K

elif K\_rating == 'High':

if clay > 20.0:

K = 0.60\*K

else:

K = 0.70\*K

else:

K = 0.25\*K