

Hi Farming God's Way Trainers

I have had many questions asked about fertilizer names, compositions & uses, so have compiled a very basic outline for your information so you don't look or feel stupid in front of your class of 500 people. ☺

**Fertiliser is made up of 3 main components.**

N is Nitrogen  
P is Phosphorus  
K is Potassium

They also throw in some micronutrients such as Molybdenum (Mo) & cobalt (Co) if the soils & crop type so require.

**Fertiliser types include:**

**1) Basal fertilizers** – these are placed in the soils first depth or A horizon. They usually contain high P or Phosphates. Phosphates move very slowly in the soil profile & as a result cannot really be “leached” thru the soil profile as they bind to soil particles. High acidity ie low ph soils fix nutrients like phosphates in a form that is not readily able to be taken up by plants. Hence the application of lime to up the ph for easier release of nutrients. Commercial names include: Superphosphates, 23:21 & also DAP (DiAmmonium phosphate –  $2\text{NH}_4\text{Po}_4$  which is high in both N & P)

Basal fertilizers often also contain what is usually a balanced ration of nutrients in the form such as 2:3:2 (NPK) (30%) ie 30% of the fertiliser is in the form of Nitrogen  $2/(2+3+2)$  or  $2/7*30/100$  ie (8.5% N) : (13%P) : (8.5%K). ie of 50Kg 8.5% is pure Nitrogen & so on.

Commercial names include: 2:3:2 & various other mixtures usually soil & country specific.

**2) Top dressings**

These are usually a high Nitrogen content application in the form of ammonium, Nitrites (NO<sub>2</sub>) & Nitrates (NO<sub>3</sub>). They move rapidly thru the soil profile & are easily leached out of the soil after heavy rains.

Commercial names include:

a) AN – Ammonium Nitrate  $\text{NH}_4\text{NO}_3$  – other common names for the same include LAN (RSA call it Limestone ammonium nitrate), CAN (Calcium Ammonium Nitrate) or KAN (Kalsium ammonium nitrate) but it is the same thing – the Limestone (high calcium content) or Calcium only serves as a temporary carrier for the Ammonium Nitrates or N portion. AN has 28% N & is very potent hence the 10cm or handwidth away from seedlings application. AN is better than Urea in that it contains N in a form more readily taken up by plants & “volatilizes” (releases N to atmosphere) less due to it's make up & it's bond with the Calcium. It is however much more expensive than Urea.

b) Urea ( $\text{NH}_2)_2\text{CO}$  is much higher in N at 46% but it is also much more problematic if it is applied too close to plants, it moves & is leached more readily from the soil in heavy rains, & is volatilises very easily & therefore should almost without exception be buried unless almost guaranteed wetting occurs through irrigation or rainfall. It is however very cheap in comparison to AN

God bless you all for considering the poor & gaining knowledge of a field outside of your own. I trust this is useful for your training or answering of questions.

Yours in His service

*Grant Dryden*

Farming God's Way  
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