

In amino acids, RNA and DNA,
Hard to get.

Used in:

- Heme
- Nucleic Acid
- [\[KBe20bio101refChlorophyll\]](#)
- Amino Acids

Nitrogen Fixing

Cannot use N_2 (*nonreactive nitrogen*) in the air. We need to somehow “fix” it.

Where it comes from

20bio201srcWorldNitrogenSource.png

Half from Bacteria | Biological

- [\[KBe20bio101refBacteria\]](#)
- Diazotrophs (bacteria which have Nitrogenase)
 - Symbiotic bacteria in the soil with legumes
 - That’s why legumes have more protein, because they have more available nitrogen.
 - Nitrogenase!
 - Urine -> urea -> lots of ammonia -> good for plants / cows maybe?

Half from industrial nitrogen fixation | Industrial

- Haber-Bosch process
 - Invented by the same guy who invented poison gas / chemical weapons
 - Without it, we wouldn’t be able to feed around a third of the current population.