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

## 0.0.1 | Used in:

- Heme
- Nucleic Acid
- KBerefChlorophyll
- · Amino Acids

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# Nitrogen Fixing

Cannot use  $N_2$  (nonreactive nitrogen) in the air. We need to somehow "fix" it.

## 1.1 | Where it comes from

20bio201srcWorldNitrogenSource.png

### 1.1.1 | Half from Bacteria | Biological

- KBe20bio101refBactera
- · 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?

## 1.1.2 | 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.

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