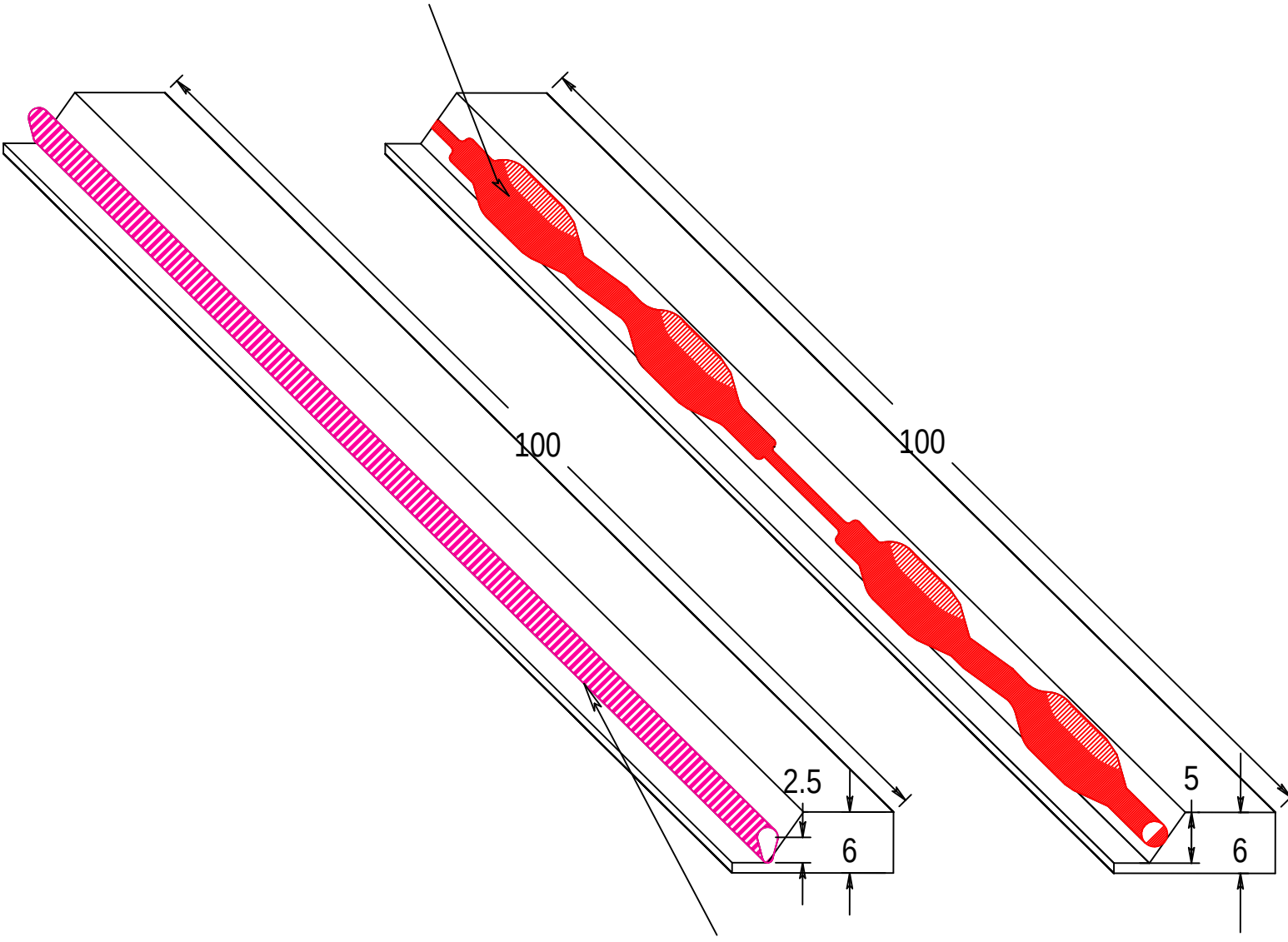
Non liquid application of NH3 has gas state and liquid state flow resulting in a sine wave application of the material.
Uniformity of application is poor resulting in hot spots. NH3 is 800 times more concentrated in liquid state as compared to gas state. Liquid blobs are released that make these areas of the lineal band extremely concentrated and of no value to the growing crop. This is called sinusoidal flow in the lineal band length.



NH3 is applied as a liquid state flow with the Exactrix high pressure direct injection system. Terminal Injection Orifices maintain a liquid flow for about .5 inches to 2 inches past the injection point mounted very close to the soil cut line. The terminal point is sharp as a pencil point and has about 1.5 horsepower driving the NH3 deeper into the soil profile. Thus single disc openers can be operated shallow as possible to minimize soil disturbance.

The greater the injection pressure the deeper the NH3 is placed. The NH3 immediately reacts with soil organic matter and clay containing hydrogen forming soil stable NH4. The Exactrix band is about 8 times smaller than a non Exactrix sinusodial NH3 band. Thus NH4 remains ammonic longer since the nitro-ammonias and nitro-bacteria are "stunted" by the high pH toxic material.

All commodity crops prefer NH3 ammonic nitrogen. Even starter fertlizers seldom use nitrate based N since corn can not assimilate nitrate in the first 3 weeks of the plants life.

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