

Urea-Formaldehyde (UF)

Useful nitrogen fertilizers with controlled availability for plant growth can be made by the acid-catalyzed condensation of urea with formaldehyde. These products, which contain about 38% nitrogen, can be prepared with three quarters of the nitrogen in the slowly available form, generally referred to as water-insoluble nitrogen (WIN). By controlling the reaction conditions, a product can be obtained that exhibits 55 to 60% nitrification of the water-insoluble nitrogen in 6 months in an average soil. The rate at which these products nitrify (become available to the plant) is affected by the soil type, pH, and other plant nutrient content of the soil. Of these variables, soil type has the greatest effect. These compounds are exceptionally safe nitrogen fertilizers. With them single applications may be made at higher nitrogen levels than are possible with the soluble sources, such as urea. A full year's nitrogen supply may be applied at one time. They are ideally suited for turf and other long-season crops, greenhouse plants, and crops grown in irrigated or high-rainfall areas. A simple reliable method has been developed for rapid evaluation of the agronomic availability of the water-insoluble nitrogen in urea-formaldehyde products.

Information above was from a study done by:
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