



Texas Winter Wheat Trial

80 acre field (named Pony Man) 100% grazed. September 2016.

Experiment designed to observe root growth and shoot development in 7 day intervals following SEA-90 application vs control. Sample plants removed from soil and washed to observe and measure root and shoot development.

Standard practice: Second (winter) crop of wheat is drilled into soil after tilling. NPK and/or chicken litter fertilizer is typically applied once per season during spring before first planting. No additional fertilizer is applied when second crop is planted. Total area for experiment 80 acres.

Test: 40 acres - 80 lbs per acre SEA-90 applied 4 days after field tilled and wheat planted.

Control: 40 acres - tilled and planted with no other fertilizer.

Observations: Rained 8/10" day after SEA-90 application in area where severe drought conditions exist.

Control

Wheat plants shown in Photos 1, 2 & 3 below germinated poorly, exhibited stunted root development and an elongated coleoptile (white area between seed and leaves). Independent research has shown that elongated coleoptile in wheat is caused by physiological stress (due to poor root growth and inadequate moisture retention). In addition high potassium (K) and magnesium (Mg) detected in the soil tests has also been identified as a cause of elongated coleoptile.

Test

Wheat plants shown on the left in Photos 1, 2 & 3 below germinated more completely than control and exhibited a darker green color. Test plants also exhibited significantly more developed and longer roots systems. Scientific research has show that zinc (Zn), copper (Cu), aluminum (Al) and calcium (Ca) are know to offset excessive potassium (K) and magnesium (Mg) in soil. These elements are just a few of the 92 minerals and trace elements SEA-90 supplies. SEA-90 balances soil nutrients allowing wheat plants to develop properly as shown in photos below. Healthy roots produce auxin, a hormone required for proper root growth and development. Auxin presence and production is probably the major factor represented in the visual differences between test and control plants.



Photo 1 (14 days after germination) 12 days after SEA-90 application. Treated wheat seedlings are more uniform and have better root growth.



Photo 2 (21 days after SEA-90 application). Treated wheat seedlings developing secondary root systems and shoots.



Photo 3 (28 days after germination) Significantly enhanced root and shoot development.