Basic information

1. Factors: NDVI, nitrogen fertilizer (N), wheat variety, leaf area (LAI)

2. Subjects: Effect of N, variety on NDVI, effect of NDVI on yield

3. Location: Pakistan; Duration: 2008/2009, 2009/2010

Overall results

1. Semi-arid areas: the effect of N is usually greater

2. Overall, NDVI (N4) > NDVI (N2, N3) > NDVI (N1)

3. NDVI (tillering, stem elongation, flowering, seed filling, physiological maturity) = 0.32 - 0.43, 0.53 - 0.70, 0.55 - 0.74, 0.74 - 0.85, 0.78 - 0.88, 0.40 - 0.65

4. Trends in NDVI variation: at 100% ground cover - little variation, maximum head weight - greatest variability (differences in spike size and/or morphology)

5. Grain yield and maximum NDVI: positive linear relationship explaining 65% and 78% of the variation, with the greatest relationship at maturity

6. Between LAI and maximum NDVI: positive linear relationship (𝑅2 = 0.53 and 0.78)

Model analysis

1. Study: Nitrogen rate (N%) = 0 (N1)/55 (N2)/110 (N3)/220 (N4) kg/ha in 10 wheat species

2. Study: Effect and accuracy of different periods - tiller, stem elongation, tassel, flowering, seed filling, physiological maturity, 6 periods

3. NDVI = (NIR - VISr) / (NIR + VISr), NIR near infrared radiation, VISr visible red

4. Celiac stage: the best stage for recording NDVI

5. LAI: maximum at NDVI of 106 - 126 DAS, highest in N4, lowest in N1

Summary

1. Different regions, different stages, consider the impact of NDVI on total production

2. Same direction, considering LAI, considering the relationship between LAI and NDVI

3. Different regions, different species, different environments, different situations

s