

Forage Legumes and Lentil: Viable Alternatives to Fallow or Wheat Monoculture in Northeastern Syria.

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Dryland agriculture under the Mediterranean to continental climatic conditions that prevail in West Asia involves cereal production integrated with livestock production, mainly sheep. With increasing land-use pressure, changes in crops and cropping systems are inevitable. These can only be adequately assessed by long-term trials. An on-going long-term wheat-based rotation trial was established in 1986 at Kamishly in northeastern Syria (Mediterranean climate merging towards continental): medic at 3 grazing intensities, vetch, fallow, and continuous wheat. It was modified in 1990/91 to include nitrogen fertilization of the cereal phase (60 kg ha^{-1}), watermelon, variable vetch management (grazing fresh, hay, straw), and one stocking rate for medic. While various other parameters were assessed (livestock, economic, pasture dynamics), we examined the impacts on the cereal yields. So far, N boosted wheat grain (23%) and straw (40%) yields. Wheat yields, especially grain, declined after the legumes in the order of medic, lentil, and vetch (probable moisture depleting effect?). Such declines were modified by seasonal rainfall. This trial added to the growing body of field trial data in Syria that showed forage legumes to be as competitive as lentils in the cropping system and be a viable alternative to fallow, which is disappearing and cereal monoculture which is unsustainable in the long run.