

AGROSILVOPASTORAL SYSTEM AND FOOD SECURITY IN THE CONTEXT OF GLOBAL WARMING

Teodor MARUȘCA¹, Vasile MOCANU², Vasile Adrian BLAJ³

Abstract. In the paper is presented a possible prediction of medium temperature increasing with 3⁰C up to 2070 year, when over 68% of Romanian territory will be affected by desertification and aridity, with major consequence of bioclimatic and soil changes. These changes will influence the grassland and animal productivity from mountainous zones. The indigenous agricultural system named grove (trees + grassland) or extensive orchard (fruit trees + grassland or agricultural crops) should be more studied by agronomy and forestry specialist for extending on large surfaces like an efficient solution for limiting negative effects of global warming on food security. With the wooded screens of forestation and irrigations, the silvopastoral system is a complementary solution to prevent the desertification and aridity effects on crop and animal productivity.

Key words: climatic prediction, agrosilvopastoral system, grassland productivity

Introduction

The latest projections of climate evolution on earth, general warming due to human activities (deforestation, industrialization, transport, etc.), with increasing carbon dioxide emissions, melting ice caps and mountain glaciers, sea levels rise, flooding, aridity and desertification, increasing thunderstorms processes (hurricanes, typhoons, tornadoes, cyclones, etc.) will have a major impact on all humanity with the worst unforeseeable consequences [1, 2].

Forecasts of global warming will affect the country's pastoral area. Increasing the air average temperature of 3⁰C, which is forecast in the years 2070, will lead to aridity and more accentuated desertification of plains and hills with major negative implications on crop production and livestock produced on natural grasslands.

One of the most effective measures to improve the negative impact of desertification and aridity factors with forestry plantations and irrigation is agrosilvopastoral system promoting, in which all components: grass, animal, wood, habitat, biodiversity are in ecological and economically optimal balance.

¹ Ph D, General Manager, Grassland Research and Development Institute Brasov, Corresponding member of the Academy of Romanian Scientists, email: maruscat@yahoo.com

² Ph D, Scientific secretary, Grassland Research and Development Institute Brasov, email: vasmocanu@yahoo.com

³ Ph D, Researcher, Grassland Research and Development Institute Brasov, email: blajadi@yahoo.com