ISSN: 2574-1241
DOI: 10.26717/BJSTR.2018.08.001708
Töysa T. Biomed J Sci & Tech Res

BIOMEDICAL Journal of Scientific & Technical Research

Research Article Open Access

Compliance between Finnish and West-European Fertilization Rates in 1961-2000

Töysä T*

Specialty General Practice, Rehabilitation Hospital VetreaTerveys Oy, Finland

Received: August 10, 2018; **Published:** September 07, 2018

***Corresponding author:** Töysa T, Licentiate of Medicine, Specialty General Practice, Rehabilitation Hospital VetreaTerveys Oy, Pohjolankatu 15, FI-74100 Iisalmi, Finland

Abstract

Objective: In Finland fertilization statistics has been compared with mortality statistics of middle aged people and found several associations. The value of such associations can be scanty, if it is not possible to make respective assessment in other countries. FAOSTAT has collected statistics on fertilization and arable land since 1961.The aim of this study has been to assess the associations of consumption of the main mineral fertilizers N, P and K (nitrogen, phosphorus and potassium) (Eq/ha) in Finland (Fin) and West-Europe (WE) during 1961-2000.

Results: Ratio of WE to Fin fertilization rate was 1.86 by N, 1.51 by P and 1.96 by K. Regressions by WE fertilizer rates explained respective Finnish values as follows: N by 89.7 %, P by 82.2 %, K by 70.8 % and NPK by 86.9 %. Details: N rates were nearly identical. P rates reached their maximum in 1973-74 and general consumption reduction occurred since 1989. In the 1980's K's had plateaus in Fin and WE, but P not.

Conclusion: This compliance suggests on assessment these parameters with parameters of public health in WE.

Introduction

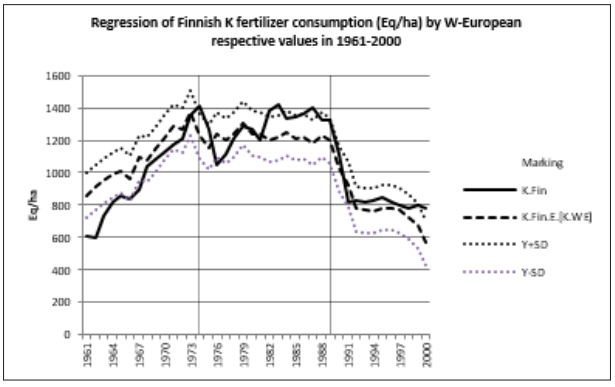

Figure 1.

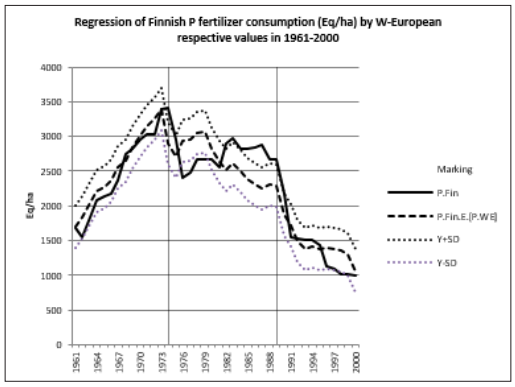

Figure 2.

In Finland fertilization statistics has been compared with mortality statistics of middle aged people and found several associations [1-3]. The aim of this study has been to assess the associations of consumption of the main mineral fertilizers N, P and K in Finland (Fin) and West-Europe (WE) during 1961-2000 (Figures 1 & 2).

Materials and Methods

Annual fertilization statistics (N,P_2O_5 and K_2O) and arable land are from FAOSTAT [3,4]. Fertilizer parameters were changed to N, P and K equivalents per ha (Eq/ha/a).

Results

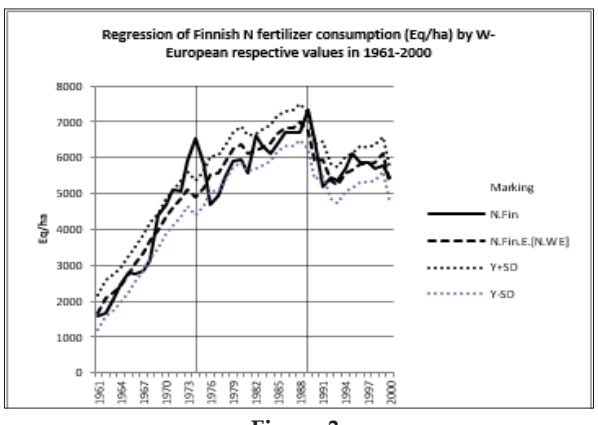

Figure 3.

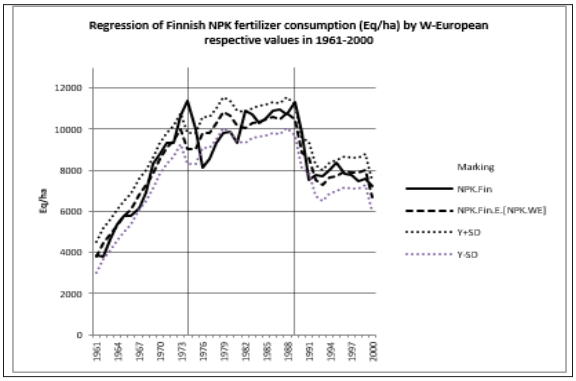

Figure 4.

Ratio of WE to Finnish fertilization rates was 1.86 by N, 1.51 by P and 1.96 by K. Regressions by WE fertilizer rates explained respective Finnish values as follows: N by 89.7 %, P by 82.2 %, K by 70.8 % and NPK by 86.9 %. Details: N rates were nearly identical. P rates reached their maximum in 1973-74 and general consumption reduction occurred since 1989. In the 1980's K's had plateaus in Fin and WE, but P not. Discussions are included in [1-3,6]. Additionally: shorter annual snow cover can explain higher fertilization rates in W-Europe.

Conclusion

This compliance suggests on assessments of these parameters with parameters of public health in West-Europe too.

References

1. Toysa Timo (2016) Compliance of Finnish Male CHD and Total Mortality with Soil Fertilization in 1957-1990. JJ Agriculture 2(1): 013.
2. Töysä T, Hänninen H (2017) Mg/Ca ratio in fertilization and agricultural soils, Mg percent of liming agents and human mortality in Finland during 1961-90. J Afr Ass Physiol Sci 5(1): 29-40.
3. Toysa T (2018) Associations of K/Mg fertilization ratio with non-CHD mortality in Finland during 1952-99. Biomed J Sci &Tech Res 5(3): 6.
4. Food and Agriculture Organization of the United Nations.
5. Food and Agriculture Organization of the United Nations.
6. Replacing Potassium by Phosphorus in Finnish CHD and non-CHD mortality regressions by fertilization rates in 1961-2000 increased the strength of associations.

ISSN: 2574-1241

DOI: 10.26717/BJSTR.2018.08.001708

Töysa T. Biomed J Sci & Tech Res