

THE IN-SITU CONSERVATION APPROACH: ADAPTABILITY AND STABILITY OF MIXTURES OF PHENOTYPES INCLUDING THEIR LOCAL REDISTRIBUTION IN YUNGUYO, ALTIPLANO OF PERÚ, LAKE TITICACA WATERSHED

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In the area of Yunguyo (Puno, Perú), we have tried to understand the dynamics of in situ conservation of the agrobiodiversity of Andean tubers (1993 – 2000). Being an area with traditional agriculture characteristics, it was considered that one of the intervention mechanisms was to use their own material from the microcenter, providing seed and testing the concept of “varietal mixture”, as the families of this area use their own seed. In this way in 1995 – 1996 were installed “seed beds” of the 18 varieties of oca identified by the families and; starting in 1996 – 1997 these were provided in the form of a “mixture varietal”. These mixture were differentiated by number of varieties forming the “mixture”. There were four types of “mixtures”. One, with 1 to 2 varieties of oca, one with 3 to 8, one 9 to 12 and the last one had more than twelve. After five years, the patterns of this type of mixtures are evaluated using the analysis of adaptability and agricultural stability (Finlay and Wilkinson, 1963; León-Velarde and Quiroz, 1994), in years that were climatically different and areas differentiated by the great or least influence of the Lake Titicaca. With this it is found that those “varietal mixture” formed by 9 to 12 varieties have the better indexes of stability and an independent adaptability of the type of year and place. Mixtures with few varieties adapt better to “good” environments and without climatic restriction, while mixtures with “many varieties” can surpass bad environments and climatic irregularity. With the foregoing it is possible to point out that the use of “varietal mixtures” needs to be promoted in environments where the climatic irregularity is so drastic that obliges the rural families to developed mechanism to diminish the production risk. In addition it forces to think in forms of intervention of these areas in order to ensure and strengthen the in situ conservation approach.