
Special Section

Isolation, characterization and preservation of microbial germplasm

S. W. Peterson¹ and L. Sigler²

¹*Microbial Properties Research, National Center for Agricultural Utilization Research, US Department of Agriculture, 1815 N. University St., Peoria, IL 61604, USA* and ²*University of Alberta Microfungus Collection and Herbarium, Devonian Botanic Garden, Edmonton, Alberta, Canada T6G 2E1*

(Received 19 October 1993; accepted 3 January 1994)

Key words: Culture collections; Microbial germplasm; Mammalian cell culture; Entomopathogens; Algae; Herbarium; Patent culture deposits

Introduction

Culture collections generally have both service and research elements in their mission. The universal function is accessioning microbial or cell cultures, retaining them in long-term storage, and making them available to requestors. The culture collection separates the functions of obtaining germplasm from nature and conducting research with it. In addition to strain distribution and storage, culture collections have missions dependent upon their source of support and charters. Some will perform isolation and characterization work, others may provide identification services. Few are limited to only strain distribution. The curators often have the opportunity to conduct research on basic aspects of germplasm preservation, or may conduct research on systematics or physiology of particular groups of organisms that they are interested in.

The following five articles summarize presentations made at the joint meeting of the Canadian Society for Microbiology/Society for Industrial Microbiology meeting held in Toronto, August 1993, in a symposium 'Isolation, Characterization and Preservation of Microbial Germplasm'. The speakers were: J. Acreman, University of Toronto, Toronto, Ontario (algae), G. Carter, Roche Molecular Systems, Alameda, CA (mammalian cell culture), R. Humber, US Department of Agriculture, Ithaca, NY (entomopathogenic fungi), S. Peterson, US Department of Agriculture, Peoria, IL (patent culture collections), and L. Sigler, University of Alberta, Edmonton, Alberta (hyphomycetes). These speakers detail the unique aspects of dealing with algae, filamentous fungi (hyphomycetes), entomopathogenic fungi, mammalian cell cultures, and patent deposits in the culture collections they are associated with.