PETITION FOR RENEWAL WESTERN REGIONAL COORDINATING COMMITTEE WRCC-37

NUMBER: WRCC-37

TITLE: Maximizing the Effectiveness of Bees as Pollinators of Agricultural Crops

DURATION: January 1, 1999 - December 30, 2001

DESCRIPTION AND JUSTIFICATION

The number of professionals working on the pollination requirements and mechanics of plants in agricultural and in unmanaged ecosystems in the western region of the United States has been sharply reduced over the past five years due to retirements and shrinking Federal and University budgets. Concurrently, bee diseases, parasitic mites, predators, and the Africanization of European honey bees have reduced both feral and managed pollinator populations even as the pollination requirements of new and established crops continue to grow.

The western United States, because of its unique climate, is the principal producer of fruit, many berries, vegetable seeds, legumes, and hybrid oil seed crops. All these crops require bee-mediated pollination to produce commercial yields. Some of these crops are pollinated by honey bees while others depend largely or exclusively on solitary bees.

The proposed objectives of this proposal closely coincide with those established by all participating western region institutions. Each of the western states faces similar problems in meeting pollinator deficits on many of their crops and each is cognizant of the adverse economic effects of the continuing decline in bee populations.

OBJECTIVES:

1) To coordinate research and exchange information on management techniques which increase the efficacy of *Apis* and non-*Apis* bees as pollinators of agricultural crops.

2) Develop and communicate strategies for the protection of domesticated and native bees from diseases, parasites, predators, pesticides, and non-indigenous bee species and the Africanization of European honey bee stocks.

3) To identify non-Apis bees with potential value as manageable species for the pollination of agricultural crops in both conventional and sustainable agricultural systems.

4) To coordinate investigations on bee-plant relationships which may help elucidate the basis for plant attractiveness to bees and the evolution of host preference.

5) To disseminate research findings by Committee members to interested individuals in the research community and commodity groups; to disseminate PC-based pollination models and other software programs for public use as they become available.

EXPECTED OUTCOMES:

There is an increasing interdependency among members of the Committee particularly in the testing of hypotheses and the sharing of specimens, bee populations, facilities and equipment. There is also a need to standardize laboratory techniques, and build on the data base already generated by regional colleagues.

A Working Group has been established exclusively of WRCC-37 members to call attention to the inherent dangers in the importation of non-indigenous bees into the America and the Western U.S. in particular. The Group was successful in having APHIS reconsider the issuance of permits for the introduction of exotic bumble bee colonies and to reassess their policy governing the importation of all solitary bee species.

Africanized honey bees have migrated into Texas, New Mexico, Arizona, Nevada, and California. Of these states, Arizona has a Federal honey bee laboratory with members in WRCC-37 and is able to provide facilities, equipment, and specimens for research projects. Several programs under Objective 2 between Arizona and California are underway. In addition, several programs under Objectives-1 and 3 involving personnel from Oregon, Utah, Idaho, and Arizona are underway. Other such programs are anticipated.

Priority of regional research programs is discussed at each annual meeting and information is exchanged concerning where collaborations can occur to meet those priorities.

Educational Plans: The educational component of the program has internal and external components. The internal component involves exchange of ideas and information among members of the Committees and others in the scientific community who attend the meetings as invited speakers, visitors to laboratories, or graduate students. External educational programs involve information on the value of pollinators in non-managed and agricultural ecosystems and how pollinator populations can be preserved. The information will be disseminated via conventional and electronic media outlets and in the form of software packages.

PARTICIPANTS:

PARTICIPANT	STATE/AGENCY	SPECIALIZATION
Thorp, R.W.	U.C. Davis	Non-*Apis* Biology
Frankie, G.	U.C. Berkeley	Non-*Apis* Biology
Visscher, P.K.	U.C. Riverside	*Apis* Biology
Baird, C.R.	Univ. Idaho-Parma	Non-*Apis* Biology
Strickler, K.	Univ. Idaho-Parma	Non-*Apis* Biology
Bitner, R.	Idaho-Nampa	Non-*Apis* Biology
Burgett, D.M.	Oregon State	*Apis* Pollination
Stephen, W.P.	Oregon State	Non-*Apis* Biology
Youssef, N.B.	Utah State	Non-*Apis* Biology
Mayer, D.F.	Washington State	*Apis* Pollination
Buchmann, S.	ARS - Tucson	Non-*Apis* Pollination
DeGrandi-Hoffman, G.	ARS - Tucson	*Apis* Pollination
Erickson, E.H. Jr.	ARS - Tucson	*Apis* Pollination
Gilliam. M.	ARS - Tucson	*Apis* Biology
Loper, G.	ARS - Tucson	*Apis* Pollination
Schmidt, J.	ARS - Tucson	*Apis* Biology
Spangler, H.	ARS - Tucson	*Apis* Biology
Cane, J.	ARS-Logan	Non-*Apis* Pollination
Kemp, William	ARS-Logan	Non-*Apis* Biology
Tepedino, V.	ARS-Logan	Non-*Apis* Biology

OPERATIONAL STRUCTURE:

Officers will include a President whose function shall be to call and preside at the annual meetings, and a Secretary who shall record minutes, prepare and distribute the Proceedings of each Annual Meeting. Only *ad hoc* Committees will be formed.

Signatures

E.H. Erickson, Administrative Advisor — Date 3/26/99

Chair, Western Director's Association — Date