

Although in some cases the results fit the model assumed quite well, the inconsistency of the estimates may indicate that this insect population does not follow a Poisson distribution law. Nevertheless, certain instincts in the life of the insect appear to conform with the assumptions required for the model since observations of entomologists at this research center have indicated that nymphae have no preference for any particular leaf of the plant and that the distribution is at random over the field. The results shown here have encouraged the authors to undertake a more extensive sampling scheme with the purpose of testing other statistical models.

#### New Bean Varieties for Colombian Farmers

C. Cardona and S. H. Orozco

The Division of Agricultural Investigations (DIA) of the Ministry of Agriculture, Colombia, South America, has worked intensively in the development of high yielding and disease resistant dry bean varieties for the various zones where this crop is grown.

The first new variety was released in 1957 under the name of Diacol Nutibara. (All new varieties are given a compound name. The first name, Diacol, means DIA Colombia. The second is a regional name.) This variety was produced from selection in progenies of a cross between a Colombian commercial variety, named Algarrobo, and a Mexican black bean registered as Mexico 11. Diacol Nutibara is primarily adapted to altitudes ranging from 3,800 to 5,300 feet and combines the desirable seed characteristics of Algarrobo with disease resistance of Mexico 11. It is highly resistant to the three major diseases of its range of adaptability namely, angular leaf spot caused by *Isariopsis griseola* Sacc., anthracnose caused by *Colletotrichum lindemuthianum* (Sacc. and Mgn.) Scrib. and rust caused by *Uromyces phaseoli* var *typica* Arth.

In 1959 a second variety was released under the name of Diacol Nima which came from the cross Algarrobo x Peru 5. This new variety has been very successful in the Cauca Valley, a region of about 3,00 feet above sea level, and it is very popular among bean growers not only for its high yielding ability but also for its unusual adaptability to dry weather conditions which enables it to produce a crop at relatively low levels of soil moisture. During the last four years this new variety has maintained an average yield which represents an increase of 50 per cent over the commercial varieties commonly grown in the region. In addition to high yield and drought resistance, Diacol Nima shows resistance to anthracnose and angular leaf spot but is moderately susceptible to rust.

More recently, two additional new varieties have been developed. One of them, named Diacol Andino, is adapted to the high altitude plains of the Andes. The other, named Diacol Catio, has the same range of adaptability as the variety Diacol Nutibara described above. Diacol Andino came from a cross between two native varieties and shows some degree of resistance to anthracnose and rust. Two of the most significant features of this variety are earliness and determinate habit of growth which have made it

possible, for the first time in high altitude plains to obtain two crops in a year and to use mechanized harvesting equipment. Diacol Catio came from the same cross that originated Diacol Nima. It is an early and high yielding, disease resistant variety which is gradually displacing other bean varieties.

### Progress Report On Screening Bean Species and Varieties

#### For Reaction to Common Blight and Fuscous Blight

D. P. Coyne and M. L. Schuster

In the course of the past year at the University of Nebraska Agricultural Experiment Station 1,280 plant introductions and numerous varieties collected from diverse sources were screened for reaction to common blight, *X anthomonas phaseoli* and a small number of species and varieties were screened for tolerance to fuscous blight. *X anthomonas phaseoli* var. *fuscans*. In the field a power sprayer regulated at about 180 pound pressure was used to inoculate the plants with common blight. The method described by Honma was used to inoculate plants with common blight and fuscous blight in the greenhouse. Excellent infection was obtained on check plants in all tests.

Species and varieties which showed moderate to high tolerance to the above diseases are indicated in Tables I and II. It is interesting to note that almost all varieties which showed good tolerance to common blight in the field were late in maturity. Severely infected early maturing P.I. varieties often occurred alongside the late maturing tolerant varieties. It is probably desirable to test again these late maturing varieties for tolerance to common blight. Four of the five plant introductions reported by Panzer and Nickeson as resistant to *X phaseoli* were found to be susceptible in this test. The other variety P.I. 181953 apparently was not available for testing.

Some common blight tolerant selections were made in the Nebraska #1 dry bean variety in 1961 and it was observed that these selections were all late maturing plants. These selections were also found to be highly tolerant to common blight when inoculated under both greenhouse and field conditions in 1962. Due to an early frost the plants were killed prematurely so no seed of these lines will be available for general distribution for some time. This screening study will be presented in detail in the Plant Disease Reporter at a later date.