conditions of the land or season of cultivation, especially in Japan and countries in Southeast Asia of marine climate.

Table 1

Estimate of heritability in the broad sense in F_2 generation from the cross, Tokachi Nagaha x Harosoy

V_E	In field	In glass-house
V_{F_1}	23.04%	37.50%
V_{PF_1}	30.04%	48.53%

Tadao Nagata

KOREA ATOMIC ENERGY RESEARCH INSTITUTE
Applied Genetics Laboratory
Seoul, Korea

1. Research note from Applied Genetics Laboratory.

Wide variations of locally grown farmers' varieties were observed in Korea. The majority of varieties currently grown by farmers are unnamed and succeeded from their ancestors. The gene collection is urgently needed for the present varietal improvement and also to prevent the erosion of gene sources built up many centuries in this land. Mutation breeding and an establishment of soybean gene pool are now under progress.

Shin Han Kwon

Editor's note

Dr. Kwon has sent 377 of these farmers' varieties to be added to the Germplasm Collection at Urbana, Illinois. These along with 152 recently received from the Office of Rural Development at Suwon and 73 collected by R. L. Bernard while in Korea in fall 1972 total approximately 600 new introductions of land varieties from Korea. The great majority are of maturity group IV with some III's and V's. Seed will be available for distribution after the 1974 harvest from R. L. Bernard, U.S. Regional Soybean Laboratory, Urbana, Illinois 61801.

UNIVERSITY OF NEVADA
Department of Biology
Reno, Nevada

1. Exploitation of leaf mosaicism for determination of allelic relationship in Glycine max.

Glycine max (L.) Merrill (soybean) is said to have at least 18 loci responsible for the development of chlorophyl (Bernard and Cremeens, 1970). One of these, y_{11}, discovered by Weber and Weiss (1959), is characterized by the development of golden yellow color of the leaves and stem in homozygous ($y_{11}y_{11}$) combination. The heterozygous plants are light green and differ from the $Y_{11}Y_{11}$ homozygotes which have normal, dark green color. The two simple and the first compound leaves of the heterozygous plants are dotted with dark green, yellow and twin or double (dark green-yellow) spots. Origin of some of these spots, particularly those of twins, has been attributed to the process of somatic crossing over (see Vig and Paddock, 1968; Vig, 1971, 1972, 1973a,b). Also, the frequency of these spots can be increased several fold by treating the seed with chemicals, e.g. caffeine, mitomycin C, etc.

Another gene, y_9, in homozygous recessive y_9y_9 combination produces a bright greenish yellow leaf and stem color (Probst, 1950). Y_9y_9 or Y_9Y_9 plants are dark green. Considering the two genes and their alleles so far discussed, one gets the following combinations: Y_9 - $Y_{11}Y_{11}$ = dark green; Y_9 - $Y_{11}y_{11}$ = light green; Y_9 - $y_{11}y_{11}$ = yellow, lethal; $y_9y_9Y_{11}y_{11}$ = bright greenish yellow; $y_9y_9y_{11}y_{11}$ = not known.

Traditionally, relationships between genes (or alleles) can be studied by raising hybrids like $Y_9y_9y_{11}y_{11}$ and analyzing the segregating populations. However, we decided to make use of induced somatic mosaicism for such a study. The reasoning is as follows: if $y_9y_9Y_{11}Y_{11}$ plants are treated with a known recombinogen or mutagen (say caffeine or mitomycin C) one should