tions were obtained from a 3-yr-old forage yield trial grown under one-third or one-half the normal rate of irrigation. Selections were based on root development and freedom from symptoms of root diseases. Intercross seed was produced with geographic isolation with honeybees (Apis meli-
ifer L.) as pollinators.

Percentages of plants resistant to biotypes of the pea aphid [Acrithosiphon pism (Harrisi)] found in New Mexico were 10, 39, 8, and 1 for Zia-81, 'Mesilla', Zia, and 'Buffalo', respectively. Percentages of plants resistant to biotypes of the pea aphid found in Kansas were 15, 2, and 72 for Zia-81, Buffalo, and 'Kanza', respectively. Percentages of plants resistant to the spotted alfalfa aphid [Theroaphis maculata (Buckton)] were 27, 35, 21, and 0 for Zia-81, Mesilla, Zia, and Buffalo, respectively, in New Mexico, and 36, 75, and 5 for Zia-81, Kanza, and 'Ranger', respectively, in Kansas. Levels of resistance to bacterial wilt [caused by Corynebac-
terium insidiosum (McCull.) H.L. Jens.] for Zia-81, 'Nar-
rangast', 'Ranger', and 'Vernal' were 20, 11, 32, and 42%, respectively. Percentages of plants resistant to Fusarium wilt [caused by Fusarium oxyzorum Schlcht f. sp. medicaginis (Weimer) Snyd. and Hans] were 53, 54, 2, and 79 for Zia-
81, 'Agate', 'MGN-1', and 'Mopapa 69', respectively. Zia-
81 is susceptible to the blue alfalfa aphid (Acrithosiphon kondoi Shinji), anthracnose (caused by Colletothrix tri-
folii Bain), and Phytophthora root rot (caused by Phyto-
phthora megasperma Drechs. f. sp. medicaginis Kuan and Erwin).

In a forage yield test grown with normal rates of irrigation at Las Cruces, NM, Zia-81 exceeded the yield of Mesilla by 8%. In deficit irrigation forage yield tests, Zia-81 exceeded the yield of Mesilla by 23 and 12% in high (500-mm rate of irrigation) and moderate (1000-mm rate of irrigation) mois-
ture stress environments, respectively. At Tucumcari, NM, Zia-81 yielded significantly higher than Mesilla in a full ir-
rigation test, but slightly less than Mesilla under limited ir-
rigation. In a dryland test (30 cm from April to September), Zia-81 yielded slightly more than Mesilla. Zia-81 is slightly more fall dormant than Mesilla.

Five grams of seed of Zia-81 will be provided to each applicant upon written request and agreement to recognize its source as a matter of open record when this germplasm contributes to the development of a new cultivar or hybrid. Seed stocks are maintained by the Department of Agronomy and Horticulture, Box 3Q, New Mexico State University, Las Cruces, NM 88003.

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References and Notes
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Published in Crop Sci. 27:1094-1095 (1987).

REGISTRATION OF A SOURCE OF TRISOMIC RED CLOVER GERMPLASM

This source of trisomic (2n = 15) red clover (Trifolium pratense L.) germplasm (26-L38-1739) (Reg. no. GP-14) (PI 508087) was released by the Kentucky Agricultural Experiment Station in 1986. It was generated from crosses of tri-
ploid with diploid 'Kenstar' red clover plants (2) that pro-
duced high frequencies of trisomics. Subsequent cytological ex-
amination showed that all seven trisomics of the haploid com-
plement of red clover were present (1). Also produced were putative double trisomics (2n = 16), and other eu-
ploids; 2n = 3x = 21, and 2n = 4x = 28.

Diploids (2n = 14), trisomic, triploid, and tetraploid plants were vegetatively increased to 20 plants and established in a field on 18 Apr. 1986 at Lexington, KY in a four repli-
cation, randomized complete block design with 41 entries (five propagules per entry per replicate). Entries (clones) con-
sisted of one pentaploid (2n = 5x = 35) (2), 25 trisomics, three putative double trisomics, six diploids, four triploids, and two tetraploids.

Propagules were spaced on 91.5-m squares and clean cul-
tivated during the 1986 growing season. The first growth was allowed to flower, intercross, and produce seed that was har-
vested at the end of the season. Due to unequal survival, not all entries had 20 propagules producing seed. Seeds of all trisomic entries were bulked to form the trisomic germ-
plasm source.

Because the seed produced represented intercrosses among eu-
ploids and aneuploids, the exact percentage of trisomics ex-
pected to be produced in the progenies is not known. How-
ever, controlled crosses of trisomics with diploids in a green-
house indicated that transmission of the extra chromosomes ranged up to approximately 16% among progenies.

This source population may be expected to produce tri-
somics, double trisomics, and other aneuploids. From these materials, it should be possible to isolate all chromosomes of the haploid complement. In particular, the trisomics should be useful for genetic investigations.

Up to 2 g of seed of this germplasm may be obtained from the Department of Agronomy, Agricultural Science Building-
N, University of Kentucky, Lexington, KY 40546-0091.

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References and Notes
3. Professor of agronomy, Univ. of Kentucky, Lexington. The investigation re-
ported in this paper (87-3-13) was in connection with a project of the Kentucky Agric. Exp. Stn., Lexington, KY 40546-0091, and is published with approval of the director. Registration by the Crop Sci. Soc. of Am. Accepted 30 Mar. 1987.

Published in Crop Sci. 27:1095 (1987).

REGISTRATION OF RED CLOVER GERMPLASM VR-1

VR-1 GERMPLASM of red clover (Trifolium pratense L.) (Reg. no. GP-15) (PI 508272) was developed cooperatively by USDA-ARS and the agricultural experiment stations of The Pennsylvania State University and the University of Wis-
consin, and was released 29 July 1986. This germplasm pro-