released in 1972 by the ARS, USDA, and the S.C. Agric. Exp. Stn. for use as source material in white clover (T. repens L.) breeding programs. Sources of the parent species and evidence for hybrids were reported by Gibson et al.  
SC-2 is the only hybrid obtained from many pollinations of T. uniflorum × T. occidentale. SC-3 was selected from several plants obtained by backcrossing SC-2 to T. uniflorum. SC-2 has light green foliage, is intermediate to the two parent species in most characteristics, and is self-compatible. The frequency of obtaining viable hybrid seed from crosses of T. repens × SC-2 and SC-3 has been higher than from crosses of T. repens × uniflorum. Thus, SC-2 and SC-3 facilitate the combining of germplasm of these species. Potentially, SC-2 and SC-3 may contribute to the development of white clover cultivars with shorter internodes, deeper and woodier roots, larger seed, and more drought tolerance.

Plants of SC-2 and SC-3 will be maintained through December 1975 by the Agron. Dep., S.C. Agric. Exp. Stn., Clemson, SC 29681.

A. W. Hovin and H. L. Thomas

Minn A white clover (Trifolium repens L.) was developed by the Minn. Agric. Exp. Stn. and was officially released as germplasm to plant breeders in November 1974.

Minn A is a composite of seed from crosses made between seven plants derived from 'Pilgrim' and 10 plants that trace to naturalized white clover collections made in Minnesota.

In 1949 a spaced-plant nursery of 768 Pilgrim plants was established at Rosemount, Minn. The plants in the nursery showed winter injury in the Spring of 1951: 33 of the most vigorous plants were selected. Five of these were reselected following severe winter injury in 1952 and were intercrossed. Seven plants selected among the progeny in 1953 were used as parents in crosses made in 1954 to 10 wild white clover plants. These 10 plants were selected for vigor and persistence among 846 plants from 58 seed collections made in Minnesota and observed at Rosemount in 1953-54.

F1 plants from these crosses were examined in the field for growth habit, vigor, and winter survival, and selections were made for large plant size of the ladino type. Thirty-two such F1 plants were intercrossed by hand and 6,116 F2 plants were established in 1957 in a spaced-plant nursery. Of the 828 plants which survived the winter of 1958-59, the 39 most vigorous plants were re-established in an isolated, polycross seed increase nursery. All but one plant were less vigorous than the ladino type and had smaller trifoliolate leaves and petioles. The advanced seed increase of these 39 plants was designated Minn A.

In one comparative Minnesota trial with the ladino-type cultivars; Pilgrim, 'Merit,' and 'Nordic' and with common ladino clover, Minn A has shown improved winter survival (67 vs. 84% for the ladino type), but has been lower yielding in total season production (4.7 vs. 5.4 metric ton/ha dry wt). In years when the ladino type produced (4.7 vs. 5.4 metric ton/ha dry wt). In years when the ladino type has shown improved winter survival (67 vs. 84% for the ladino type), but has been lower yielding in total season production (4.7 vs. 5.4 metric ton/ha dry wt). In years when the ladino type has shown improved winter survival (67 vs. 84% for the ladino type), but has been lower yielding in total season production (4.7 vs. 5.4 metric ton/ha dry wt).

ARIZONA 6X-3, ARIZONA 6X-13, AND ARIZONA 6X-50 COTTON GERMPLASM

H. Muramoto

Arizona 6X-3, Arizona 6X-13, and Arizona 6X-50 cotton germplasm stocks of hexaploid cotton, Gossypium spp., were developed by the Ariz. Agric. Exp. Stn. and officially released Aug. 21, 1974. These cottons originated from selections of the hexaploid cotton (2n = 4x = 52) × G. pallidiflora Willits (2n = 2x = 26) and doubling the chromosome number chemically in the sterile F1 hybrid (3n = 3x = 78) in the following diagram:

\[ \text{G. hirsutum} \times \text{G. struthianum} \]
\[ 2n = 4x = 52 \]
\[ (AD_1)_1 (C_1) \]
\[ 3n = 3x = 39 \]
\[ \text{Colchicine} \]
\[ 2(AD_1) (C_1) \]
\[ 2n = 6x = 78 \]

Arizona 6X-3 (Reg. No. GP 21) was selected between Arizona Acala 44-10 and G. struthianum. Arizona 6X-13 (Reg. No. GP 22) was selected between Hopi Acala × G. struthianum. Arizona 6X-50 (Reg. No. GP 23) was selected between Arizona Experimental Superokers and G. hirsutum.

All plants were selected from open pollinated populations with no selfing attempted. No yield data are given in the References (1, 2, 3, 4, 5).

These hexaploid plants are glabrous with leaf intersnodes ranging from normal in Arizona 6X-3 and Arizona 6X-50. All have strong internodes. The flowers are considerably larger than those of either G. hirsutum or G. barbadense, and the anthers and stamens are creamy yellow, or red.

All plants possess good cold tolerance, are tolerant to the leaf perforators (Buecatrix spp.). They also have high tolerance to Lygus (Lygus spp.) at the seedling stage. The hexaploids have a diffuse type of weakness, wide lateral roots that do not survive Phymatotrichum root rot infections (Phymatotrichum omnivorum).

The seed of the hexaploids are small, and extremely strong. Data on lint quality, spinning performance, and additional information on plant characteristics are given in the References (1, 2, 3, 4, 5).

Small amounts of seed are available upon written request to the Dep. of Agron. and Plant Genet., Ariz. Agric. Exp. Stn., Univ. of Ariz., Tucson, AZ 85721.