The stiffer stem characteristic and reasonable seed set (frequently over 1,000 lb/A under isolation) makes them attractive female lines to use in hybrid combinations. Although both lines have partial self-fertility, they exhibit a crossing percentage frequently in excess of 80% when grown in the presence of normal pollen-producing lines and bees.

In hybrid combinations both th-5 and th-10 exhibited satisfactory combining abilities. Urie and Zimmer reported that pure hybrids produced between the thin-hulled lines and normal-hulled lines outyielded the highest yielding pure line variety by 24% (Western Soc. Crop. Sci., Univ. Nev. 1969).

Th-5 is a yellow flowered line of medium maturity, producing thin-hulled seed which frequently exhibits abundant outer sclerenchymatous tissue on the stylar tip. The seeds contain in excess of 43% oil, 5 to 7% more than normal-hulled varieties. Due to incomplete dominance of the normal-hull gene over the thin-hull gene, the F1 hybrids with both th-5 and th-10 have an oil percentage slightly higher than that of the normal-hulled-parent.

Th-10, a mutant selection from a cross involving 'Pacific 7,' has many characteristics of Pacific 7. Th-10 is shorter in height and 1 to 2 weeks earlier in maturity than 'Gila' and 'Ute.' It has yellow to orange flowers which dry orange. The seed from th-10 exhibit a uniformly thin pericarp, consequently the white tip so prominent in th-5 is lacking in th-10. Th-10 produces seed which contains in excess of 43% oil, 5-7% higher than normal-hulled lines.

Seeds of these lines are available in lots of 100 g or less upon request to the Agricultural Experiment Station, Utah State University, Logan, Utah 84321.