NFTA LEUCAENA SEED FOR DISTRIBUTION

The following is a general description of some of the varieties of Leucaena that NFTA sends out on a routine basis.

**Leucaena leucocephala** (Lam. de Wit - 'Giant' type includes primarily K636, K584, and K67. K8 has been shipped but is not favored as a result of its relatively high susceptibility to psyllid defoliation.

K636 - This was the top performer for height and diameter from the four year New Giants Trial at Waimanalo. Although this variety has performed well especially after it achieves heights above 5 meters it will support large psyllid population build-up and can defoliate all juvenile leaves. It tends to retain its older leaves during periods of high psyllid pressure.

**Leucaena diversifolia** (Schlecht.) Benth - This species is better suited to cooler climates and has exhibited tolerance for acid soils. The species includes both diploid and tetraploid varieties and variations in psyllid resistance have been found in both. Among the better tetraploid varieties (self-fertile) are K156, K784, and K785.

K156 - As an adult this becomes a large tree. Although this variety has only an average fodder performance in the Leucaena Psyllid Trial it does show some psyllid resistance and has been used to create several new hybrids.

K784 and K785 - These two varieties have shown high psyllid resistance in the Leucaena Psyllid Trial with both high foliage production and tree growth. They have shown susceptibility to root rots. These two varieties are being used to create new hybrids that may improve root rot resistance while incorporating high psyllid resistance and growth traits.

**Leucaena pallida** Britton and Rose - The results of the first year of the Leucaena Psyllid Trial have indicated this species as being both highly psyllid resistant and capable of rapid juvenile leaf growth making it a good candidate for planting for fodder production. We have several varieties of interest including K376, K804, K815, K817, K818, K819, and K784. Very limited supplies of seed are available for this species. K376 was used to create the KX2 hybrid with *L. leucocephala*.

**Hybrids** - Several interspecific hybrids have shown promise for psyllid resistance and growth.

KX1 designates all hybrids of *L. diversifolia* and *L. pallida*. The seeds we are presently sending out are F2s of K156 x K376. This variety has exhibited the best overall growth in the Leucaena Psyllid trial. We are developing and testing KX1 crosses with K784 and K785 as the *L. diversifolia* parent.

KX2 designates all hybrids of *L. leucocephala* x *L. pallida*. The hybrid available now is K8 by K376. This hybrid has shown good growth and moderate psyllid resistance. We also have developed a cross with K636 as the *L. leucocephala* parent, and early field plantings are growing well and showing good psyllid resistance.
KX3 designates all *L. leucocephala* x *L. diversifolia* 4N hybrids. We have the following varieties of this cross:

**KX3a** - This is the F1 seed of K8 x K156. We have observed exceptional growth for this variety at cooler sites in Hawaii.

**KX3b** - This is the F2 seed of the cross K8 x K186 and is obtained primarily from a single abnormally large parent.

**KX3 MC** - This is a K8 x K156 cross, but is a composite of F3 seed from superior trees growing at 2800 feet on the island of Maui, Hawaii. Thus, this seed has already gone through one round of selection.

**KX3c** - This is the superior hybrid from the cross of K636 x K156. One year old seedlings have shown good heterotic growth compared to either of the parents and exhibits moderate psyllid tolerance.