

'NuMex Conquistador' Paprika Pepper

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New Mexico leads the nation in the production of 'Anaheim' long green peppers, commonly called New Mexican chile peppers. In New Mexico, when chile peppers are harvested at the mature-red stage of development, they may be used as paprika. Paprika is defined in the United States as red pepper powder with undetectable or no pungency. In the United States, paprika is a product, but also a pepper type. Even though paprika is considered a product, in New Mexico and California, chile peppers with low or no pungency are commonly called paprika peppers. Another confusing point is that in the Hungarian language, paprika means pepper, whether they are pungent or sweet (Andrews, 1984; Bosland et al., 1988). Low yield is a limiting factor for paprika production in New Mexico. Yields of paprika cultivars are lower than yields of 'New Mexico 6-4', the predominant pungent chile pepper cultivar, or 'NuMex R Naky', a chile cultivar that is sometimes used for paprika production. New Mexican chile processors estimate that New Mexico could increase paprika hectareage by 2000 to 4000 ha if an adapted high-yielding paprika cultivar were available. 'NuMex Conquistador' is a non-pungent, high-yielding cultivar with high extractable red pigment. It is recommended for paprika production in New Mexico.

Origin

'NuMex Conquistador' originated as a single plant selection from an 'open-pollinated heterogeneous population of 'New Mexico 6-4', a pungent. New Mexican-type pepper cultivar. It is assumed that nonpungency originated as a spontaneous mutation in 'New Mexico 6-4'. A pedigree selection scheme was carried out in an insect-proof greenhouse for three generations. During each generation, selection in the greenhouse for horticultural traits necessary for paprika production in New Mexico was accomplished. A single plant at the S₃ selection, 'NuMex Conquistador', was increased in the greenhouse and used in 4 years of replicated field-

plot testing. 'NuMex Conquistador' was tested in seven locations in New Mexico.

Description

'NuMex Conquistador' is a nonpungent, round-shouldered, pointed-tip, smooth-fruited, two-lobed, thick-fleshed, New Mexican-type pepper, commonly called chile pepper in New Mexico (Fig. 1; front cover). It is homozygous for nonpungency and exhibits less variability for horticultural traits than 'New Mexico 6-4'. The plant has a strong, single main stem and sturdy branches that provide foliage cover for protection from solar injury and support for an excellent fruit set. Mean plant height of 75 cm and plant width of 65 cm was the same

as for 'New Mexico 6-4' and 'NuMex R Naky'.

'NuMex Conquistador' has excellent potential for paprika production in the semi-arid southwestern United States. Capsaicinoids, the seven related compounds causing the "heat" sensation when ingested, were quantified each year from field-grown natural red fruits by high performance liquid chromatography (HPLC) (Woodbury, 1980). Capsaicinoid analysis indicated that pungency in 'NuMex Conquistador' was <10 ppm, which is below the level of human taste detection. During the 4 years of tests at various locations in New Mexico, 'NuMex Conquistador' did not differ significantly in yield of a single harvest of green or red chile from the high-yielding standard New Mexico cultivars NuMex R Naky and New Mexico 6-4. When yield of red fruit after a single pick of green chile was ascertained, 'NuMex Conquistador' did not differ significantly from 'NuMex R Naky' (Table 1). Color analysis (ASTA color) was done according to the methods of the American Spice Trade Association (1985). ASTA color, one of the most important characteristics of peppers to be used for paprika, for 'NuMex Conquistador' was significantly greater than for 'NuMex R Naky' (by 16%) and 'New Mexico 6-4' (by 28%) (Table 1).



Fig. 1. Fruits of 'NuMex Conquistador' (left) and 'NuMex R Naky' (right).

Table 1. A 4-year (1984-88) comparison of yield and fruit quality characteristics for 'NuMex Conquistador' and two common New Mexican-type chile pepper cultivars grown at Las Cruces, N.M.¹

Cultivar	Fruit length (cm)	Fruit width (cm)	Fruit wt (g)	Pungency (ppm)	ASTA ² color	Red/green ³ yield (tons/ha)	Wall thickness (mm)
NuMex Conquistador	15.7 a	4.9 a	86 a	<10 a	168 a	13.6 b	4.8 a
NuMex R Naky	17.3 b	4.4 b	76 b	30 b	152 b	15.9 b	3.9 b
New Mexico 6-4	16.0 a	4.4 b	70 c	53 c	131 c	21.9 a	3.8 b

¹Means represent an average of 4 years and are separated by Duncan's multiple range tests, $P = 0.05$.

²Method used is ASTA method 20.1 (American Spice Trade Assn., 1985).

³Yield is based on a dry-weight basis; "red/green" yield is the yield of red peppers after a single harvest of green ones.

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Availability

Commercial distribution of seed is through the New Mexico Crop Improvement Association, New Mexico State Univ., Box 3CI, Las Cruces, NM 88003; 505/646-4125.

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