દિવેલામાં પાક સંવર્ધન
Castor Breeding

દિવેલામાં ફૂલોના પ્રકારના આધારે વર્ગીકરણ
Sex Forms in Castor (*Ricinus communis* L.)

A. Monoecious (M): માળમાં ઉપર માદા અને નીચે નર ફૂલો
The most natural occurrence, where the spike has basal 1/3 to 1/2 portion of male flowers.

B. Pistillate (P): માળમાં માત્ર માદા ફૂલો
It occurs as a rare recessive mutant with the spike having female flowers throughout the spike.

C. Interspersed staminate flower (ISF): માળમાં માદા ફૂલોની વચ્ચે નર ફૂલો
A variant of pistillate form with male flowers interspersed throughout the female flowers on the spike.

D. Sex revertant: માદા ફૂલોનું નર ફૂલોમાં રૂપાંતરણ
It is a female that turns to monoecious at later stage.

Junagadh Centre has developed a world ever first castor hybrid, GCH-3 (TSP-10R x J-1) in 1968

Improved Varieties/Hybrids Developed by Gujarat					
Variety	**Parentage**	**Year of release**	**Oil Content (%)**	**Yield (kg/ha)**	**Important characters**
જીએયુસી–૧ GAUC-1	VI-1 x VI-9	1973	47.5	2100	Suitable for irrigated and rainfed region
જીસી–૨ GC-2	1-21 x VI-9	1993	48.0	1547	Early maturing wilt/root rot resistant
જીસી–૩ GC-3	(JP-65 x JI-8) x 48.1	2007	49.6	2340	Wilt and root rot resistant
Hybrids	**Parentage**	**Year of release**	**Oil Content (%)**	**Yield (kg/ha)**	**Important characters**
જીસીએચ–૩ GCH-3	TSP-10R x J-1	1968	47.2	1543	Shattering habit
જીએયુસીએચ–૧ GAUCH 1	VP-1 x VI-9	1973	47.5	1400	Suitable for irrigated and rainfed condition
જીસીએચ–૨ GCH-2	VP-1 x JI-35	1985	47.8	1600	Drought tolerant and resistant to root rot
જીસીએચ–૪ GCH-4	VP-1 x 48-1	1986	47.8	1900	Wide adaptability and resistant to wilt
જીસીએચ–૫ GCH-5	Geeta x SH-72	1995	48.2	2225	Resistant to wilt and tolerant to root rot
જીસીએચ–૬ GCH-6	JP-65 x JI-96	1998	49.9	2349	Resistant to wilt and tolerant to root rot
જીસીએચ–૭ GCH-7	SKP-84 x SKI-215	2006	48.7	2456	Resistant to nematodes and wilt complex
જીસીએચ–૮ GCH-8	JP-96 x DCS-89	2017	48.02	3680	Wilt and root rot resistant

જીસીએચ–૯ (GCH-9)	
Year of release	**2017**
Parentage	**SKP-84 x PCS-124**
Oil content (%)	**48.3**
Yield (kg/ha)	**3781**
Important characters	**Higher yield potential and resistant to wilt and root rot disease**

Different forms of Pistillate line		
"N" Type	**"S" Type**	**"NES" Type**
Controlled by a recessive sex switching gene.	Obtained by selection within reversal varieties.	Pistillateness is governed by a single homozygous recessive gene.
Plants having homozygous recessive gene 'nn' is pistillate.	Pistillate line start as female followed by reversion to monoecious at any time after the first raceme.	Possesses environmentally sensitive gene for ISF which is temperature dependent and not confined to any order of raceme.
Female line is maintained by allowing 20-25 % heterozygous monoecious plants (Nm) in seed plot. Progenies from seed produced on female plants segregate in a ratio of one pistillate :one male e.g. TSP-10R.	The fourth order revertants give higher proportion of pistillate plants than early revertants (Patel and Joshi, 1972) e.g. VP-1, Geeta.	Temperature above 31°C promotes ISF, while lower temperature results in fully female racemes e.g. SKP-84, JP-65.