

# Rhizome characters of ginger (*Zingiber officinale* Rosc.) genotypes of Kerala

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## INTRODUCTION

Ginger, one of the most widely used spice of the world is mainly cultivated in South East Asian countries. It is a rhizomatous slender herb, perennial in nature grown as annual for its spicy rhizomes. The present study assessed the rhizome characters of twenty ginger genotypes collected locally from different regions of Kerala.

## MATERIALS AND METHODS

The experiment was conducted at Department of Plantation Crops and Spices, College of Agriculture, Vellayani during May 2018 to January 2019. Twenty ginger genotypes, collected from different parts of Kerala were planted in a randomized block design (RBD) with four replications. Rhizome characters were evaluated based on Distinctiveness, Uniformity and Stability (DUS) guidelines by Protection of Plant Varieties and Farmer’s Rights Authority for ginger (PPVFRA, 2007). Observations were made from 10 plants per replication, altogether constituting 40 plants for each genotype. The Royal Horticultural Society colour chart were used for the assessment of colour characteristics. The rhizome characters observed include rhizome shape, thickness, skin colour and flesh colour.

## RESULTS

Rhizome shape observed in the ginger genotypes included straight, curved and zig-zagged types. Majority of the genotypes possessed straight shape (52 %), followed by curved (29 %) and zig – zagged shapes (19 %). Rhizome thickness was found to be thin (<2cm) for all the genotypes except for T<sub>11</sub> (Kazhakootam) which had medium (2-3 cm) thickness (Table 1). Rhizome skin colour observed in the genotypes were greyish yellow and yellowish white. Greyish yellow colour was predominant among the genotypes (95 %) followed by yellowish white colour (5 %) in T<sub>8</sub> (Karunagapally) (Table 2). Different rhizome flesh colour recorded were light yellowish grey, greyish yellow and yellow. Majority of the genotypes possessed greyish yellow flesh colour (67 %), followed by light yellowish grey (19 %) and yellow (14 %). Rhizome flesh colour of T<sub>5</sub> (Kottarakkara), T<sub>15</sub> (Nedumkandam) and T<sub>18</sub> (Kottiyoor) were attractive.

## REFERENCE

[PPVFRA]. 2007. PPVFRA - Protection of Plant Varieties and Farmers Right Act (No.53 of 2001). Ministry of Agriculture, Dept. of Agriculture and cooperation, Govt. of India, 97p.

Table 1: Rhizome shape and thickness

Genotype	Rhizome shape	Rhizome thickness
T <sub>1</sub> (Mananthavady)	Straight	Thin (<2 cm)
T <sub>2</sub> (Kanchiar)	Curved	Thin (<2 cm)
T <sub>3</sub> (Thalayolaparambu)	Zig-zagged	Thin (<2 cm)
T <sub>4</sub> (Haripad)	Straight	Thin (<2 cm)
T <sub>5</sub> (Kottarakkara)	Straight	Thin (<2 cm)
T <sub>6</sub> (Ambalavayal)	Straight	Thin (<2 cm)
T <sub>7</sub> (Kothamangalam)	Zig-zagged	Thin (<2 cm)
T <sub>8</sub> (Karunagapally)	Straight	Thin (<2 cm)
T <sub>9</sub> (Mannarkkad)	Straight	Thin (<2 cm)
T <sub>10</sub> (Kattapana)	curved	Thin (<2 cm)
T <sub>11</sub> (Kazhakootam)	Straight	Medium (2-3cm)
T <sub>12</sub> (Irinjalakkuda)	Straight	Thin (<2 cm)
T <sub>13</sub> (Sultan bathery)	Zig-zagged	Thin (<2 cm)
T <sub>14</sub> (Murickkashery)	Straight	Thin (<2 cm)
T <sub>15</sub> (Nedumkandam)	Zig-zagged	Thin (<2 cm)
T <sub>16</sub> (Pozhuthana)	Curved	Thin (<2 cm)
T <sub>17</sub> (Kalliyur)	Straight	Thin (<2 cm)
T <sub>18</sub> (Kottiyoor)	Curved	Thin (<2 cm)
T <sub>19</sub> (Thariyode)	Straight	Thin (<2 cm)
T <sub>20</sub> (Thalavur)	Curved	Thin (<2 cm)

Table 2: Rhizome skin colour and flesh colour

Genotype	Rhizome skin colour	Rhizome flesh colour
T <sub>1</sub> (Mananthavady)	148C Greyish yellow	151B Light yellowish grey
T <sub>2</sub> (Kanchiar)	146C Greyish yellow	153D Greyish yellow
T <sub>3</sub> (Thalayolaparambu)	146C Greyish yellow	151A Greyish yellow
T <sub>4</sub> (Haripad)	146D Greyish yellow	153C Greyish yellow
T <sub>5</sub> (Kottarakkara)	152B Greyish yellow	151C Yellow
T <sub>6</sub> (Ambalavayal)	148B Greyish yellow	151A Greyish yellow
T <sub>7</sub> (Kothamangalam)	152B Greyish yellow	151A Greyish yellow
T <sub>8</sub> (Karunagapally)	148C Yellowish white	151A Greyish yellow
T <sub>9</sub> (Mannarkkad)	152D Greyish yellow	152D Greyish yellow
T <sub>10</sub> (Kattapana)	152B Greyish yellow	151A Greyish yellow
T <sub>11</sub> (Kazhakootam)	152D Greyish yellow	151B Light yellowish grey
T <sub>12</sub> (Irinjalakkuda)	152B Greyish yellow	153A Greyish yellow
T <sub>13</sub> (Sultan bathery)	152C Greyish yellow	151B Light yellowish grey
T <sub>14</sub> (Murickkashery)	152D Greyish yellow	153D Greyish yellow
T <sub>15</sub> (Nedumkandam)	152D Greyish yellow	151C Yellow
T <sub>16</sub> (Pozhuthana)	153D Greyish yellow	151B Light yellowish grey
T <sub>17</sub> (Kalliyur)	152D Greyish yellow	153D Greyish yellow
T <sub>18</sub> (Kottiyoor)	152C Greyish yellow	151C Yellow
T <sub>19</sub> (Thariyode)	152D Greyish yellow	153A Greyish yellow
T <sub>20</sub> (Thalavur)	152D Greyish yellow	151A Greyish yellow