

# CHARACTERISTICS OF TOMATO



Hanoi - 2015

	English	Note	Example varieties
1	Seedling: anthocyanin coloration of hypocotyl		
QL VG	absent	1	PT18, XH5
	present	9	CHX1, VR2

**1. Stage:** Coletydols are fully opened

**2. Position:** Hypocotyl

**3. Method:** All plants on the plot



1



9

	English	Note	Example Varieties
2	Plant: growth type		
QL VG	determinate	1	VR2, XH5
	indeterminate	2	CHX1

### 1.Stage

Flowering

### 2.Position

Meristem

### 3.Method

All plants on the plot

	English	Note	Example varieties
3	<b>Inflorescences: number of inflorescences on main stem (only determinate growth type varieties, side shoots to be removed)</b>		
QN VG/ MS	few	3	Lai số 2
	medium	5	VR2
	many	7	

### **1.Stage**

Plants stop growing up, there are inflorescences at meristems

### **2. Position**

Flower

### **3.Method**

Accounting the number of inflorescences on the main stem on the plot

	English	Note	Example varieties
4	<b>Stem: anthocyanin coloration</b>		
<b>QN VG</b>	absent or very weak	1	PT18, XH5
	weak	3	Lai số 2
	medium	5	CHX1
	strong	7	
	very strong	9	

### 1.Stage

+ Determinate varieties : There are at least two clusters of fruit, before ripening

+ Indeterminate varieties: There are at least five clusters of fruit , before repening

### 2. Position

Upper side of the third part of plant

### 3.Method

All plants on the plot



1



7



	English	Note	Example varieties
5	<b>Stem: length of internode (only indeterminate growth type varieties)</b>		
<b>QN VG/ MS</b>	short	3	NH2764
	medium	5	CHX1
	long	7	

### 1.Stage

There are at least five clusters of fruit , before reopening

### 2. Position

Between the 1<sup>st</sup> and 4<sup>th</sup> trusses

### 3.Method

Measuring 20 plants on the plot

	English	Note	Example varieties
6	Leaf: attitude		
QN VG/ MS	semi-erect	3	
	horizontal	5	PT18, XH5
	semi drooping	7	Hồng Lan

### 1.Stage

+ Determinate varieties : There are at least two clusters of fruit, before ripening

+ Indeterminate varieties: There are at least five clusters of fruit , before repening

### 2. Position

Leaves at the middle of plants

### 3.Method

All plants on the plot



3



5



7

	English	Note	Example varieties
<b>7</b>	<b>Leaf: length</b>		
<b>QN VG/ MS</b>	short	3	XH5
	medium	5	CHX1
	long	7	

### 1.Stage

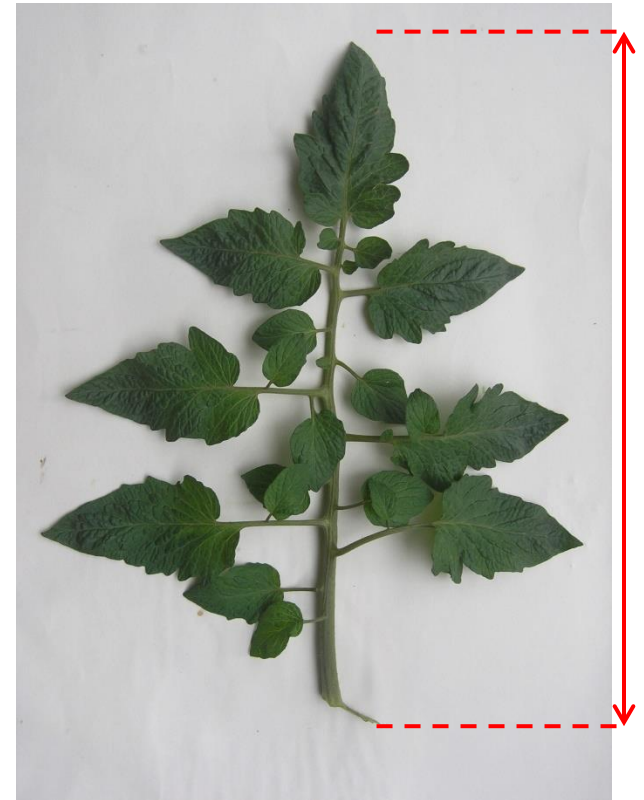
- + Determinate varieties :There are at least two clusters of fruit, before ripening
- + Indeterminate varieties: There are at least five clusters of fruit , before ripening

### 2. Position

Leaves at the middle of plants

### 3.Method

Measuring from petiol to top leaf on 20 plants on the plot





	English	Note	Example varieties
8	Leaf: width		
QN VG/ MS	narrow	3	PT18
	medium	5	HT160
	broad	7	

### 1.Stage

+ Determinate varieties : There are at least two clusters of fruit, before ripening

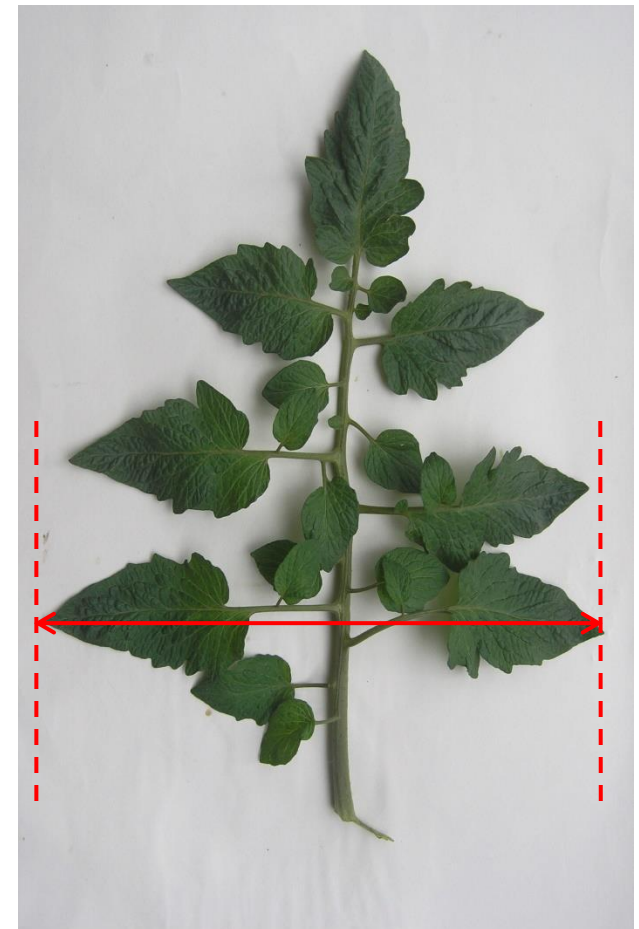
+ Indeterminate varieties: There are at least five clusters of fruit , before repening

### 2. Position

The largest of Leaves at the middle of plants

### 3.Method

Measuring 20 leaves of 20 plants on the plot



	English	Note	Example varieties
9	Leaf: division of lobe		
QL	pinnate	1	
VG	bipinnate	2	PT18, XH5

### 1.Stage

- + Determinate varieties : There are at least two clusters of fruit, before ripening
- + Indeterminate varieties: There are at least five clusters of fruit , before repening

### 2. Position

Leaves at the middle part of plants

### 3.Method

All plants on the plot



1



2

	English	Note	Example varieties
<b>10</b>	<b>Leaf: size of leaflets</b>		
<b>QN VG</b>	very small	1	
	small	3	
	medium	5	XH5
	large	7	Lai số 2
	very large	9	

### 1.Stage

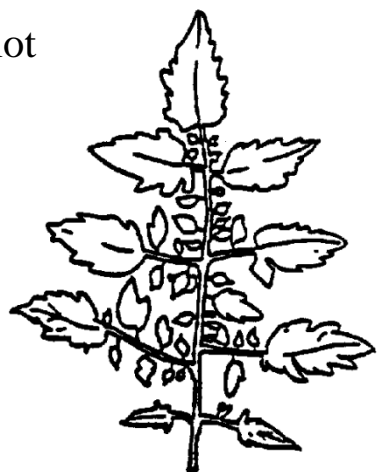
- + Determinate varieties: There are at least two clusters of fruit, before ripening
- + Indeterminate varieties: There are at least five clusters of fruit , before repening

### 2. Position

Leaflets at the middle part of plants

### 3.Method

All plants on the plot



← Leaflets at the middle part of plant →



	English	Note	Example varieties
11	Leaf: intensity of green color		
QN VG	Light	3	
	Medium	5	XH5
	Dark	7	Lai số 2, CHX1

### 1.Stage

- + Determinate varieties : There are at least two clusters of fruit, before ripening
- + Indeterminate varieties: There are at least five trusses of fruit, before repening

### 2. Position

Upper side of leaves on the middle of plants

### 3.Method

All plants on the plot



3



5

	English	Note	Example varieties
12	Leaf: glossiness		
QN VG	weak	3	PT18
	medium	5	XH5
	strong	7	Lai số 1

### **1.Stage**

- + Determinate varieties : There are at least two clusters of fruit, before ripening
- + Indeterminate varieties: There are at least five clusters , before ripening

### **2. Position**

Upper side of the leaves of the middle plants

### **3.Method**

All plants on the plot



	English	Note	Example varieties
13	Leaf: blistering		
QN VG	weak	3	PT18
	medium	5	Lai số 2
	strong	7	

### 1.Stage

- + Determinate varieties : There are at least two clusters of fruit, before ripening
- + Indeterminate varieties: There are at least five clusters of fruit, before ripening

### 2. Position

Upper side of the leaves of the middle plants

### 3.Method

All plants on the plot



**blistering**

	English	Note	Example varieties
14	Leaf: size of blisters		
QN VG	small	3	Lai số 2
	medium	5	XH5
	large	7	

### **1.Stage**

- + Determinate varieties : There are at least two clusters of fruit, before ripening
- + Indeterminate varieties : There are at least five clusters of fruit , before reopening

### **2. Position**

Upper side of leaves on the middle of plants

### **3.Method**

All plants on the plot

	English	Note	Example varieties
15	<b>Leaf: attitude of petiole of leaflet in relation to main axis</b>		
QN VG	semi-erect	3	Lai số 2, HT144
	horizontal	5	XH5
	semi drooping	7	

### 1.Stage

+ Determinate varieties : There are at least two clusters of fruit, before ripening

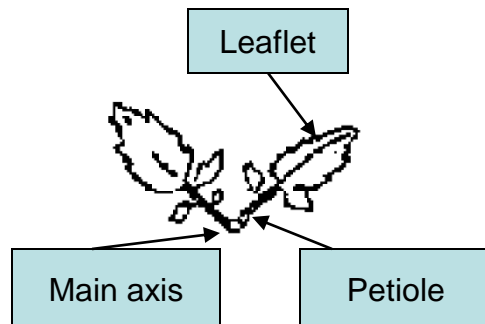
+ Indeterminate varieties : There are at least five clusters of fruit , before repening

### 2. Position

Leaflets of the middle leaves of the middle plants

### 3.Method

All plants on the plot



3



5



7

	English	Note	Example varieties
16	<b>Inflorescence: type</b>		
QN VG/	mainly uniparous	1	Lai số 2, XH5
	intermediate	2	VR2
	mainly multiparous	3	

### 1.Stage

From the fruits emerge to ripening

### 2. Position

The fruits of the 2nd -3rd truss

### 3.Method

All plants on the plot



1



2



3

	English	Note	Example varieties
17	Flower: fasciation		
QL VG	absent	1	XH5, VR2
	present	9	Lai số 2, Tương dương

### 1.Stage

Flowering

### 2. Position

The 1st flower of the 2nd -3rd truss

### 3.Method

All plants on the plot



1



9



	English	Note	Example varieties
18	Flower: pubescence of tyle		
QL VG	absent or very scarce	1	
	present	9	XH5, VR2

### **1.Stage**

Flowering

### **2. Position**

Flowers of the 2nd -3rd truss

### **3.Method**

All plants on the plot

	English	Note	Example varieties
19	Flower: color		
QL VG	yellow	1	XH5, VR2
	orange	2	

### 1.Stage

Flowering

### 2. Position

Flowers of the 2nd -3rd truss

### 3.Method

All plants on the plot



	English	Note	Example varieties
20	<b>Peduncle: abscission layer</b>		
QL VG	absent	1	Lai số 1, Tương đương
	present	9	XH5, VR2

### 1.Stage

Maternity

### 2. Position

\_Peduncle

### 3.Method

Peduncle should be removed to observe



1



9

	English	Note	Example varieties
21	<b>Peduncle: length (Only for varieties with abscission layers)</b>		
QN VG/ MS	short	3	VR2
	medium	5	Savior
	long	7	

### 1.Stage

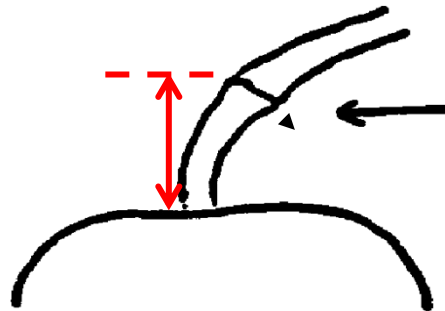
Maternity

### 2. Position

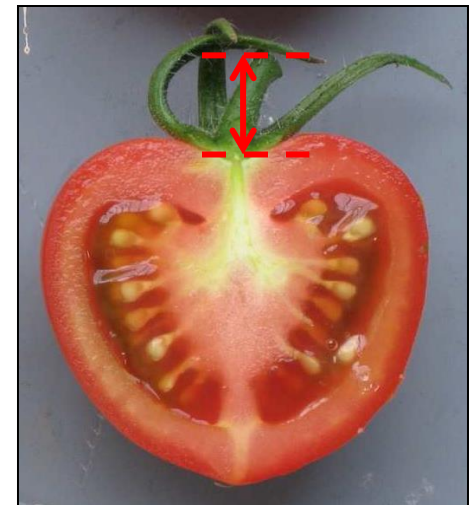
Peduncle

### 3.Method

Measuring 20 fruits on the plot



Peduncle Length



	English	Note	Example varieties
<b>22</b>	<b>Fruit: size</b>		
<b>QN VG/ MS</b>	very small	1	
	very small to small	2	VR2
	small	3	
	medium	5	PT18
	large	7	
	very large	9	

### **1.Stage**

The completely ripening fruits of the 2nd- 3rd truss

### **2. Position**

Fruits of the 2nd- 3rd truss

### **3.Method**

Weighing 20 fruits on the plot



	English	Note	Example varieties
<b>23</b>	<b>Fruit: ratio length/diameter</b>		
<b>QN VG/ MS</b>	very small	1	
	small	3	
	small to medium	4	Lai số 2
	medium	5	
	large	7	
		8	VR2
	very large	9	

### 1.Stage

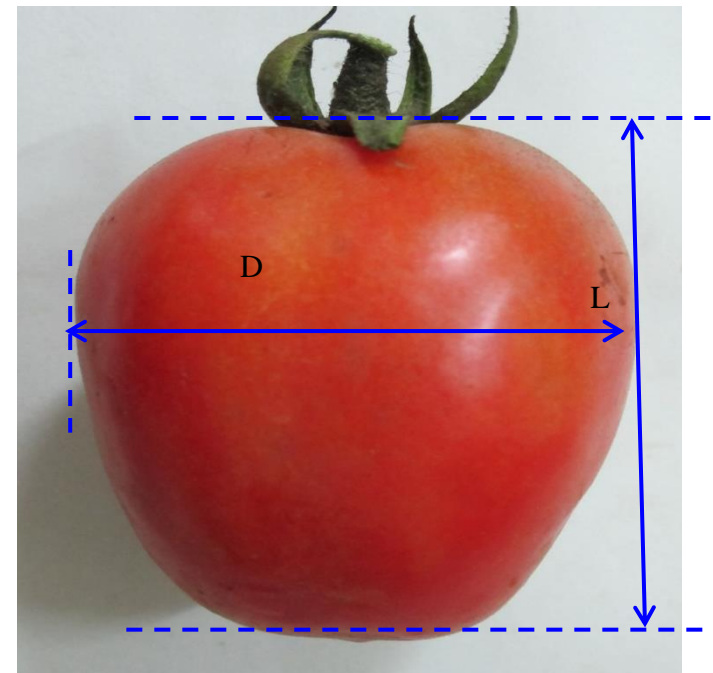
The completely ripening fruits of the 2nd- 3rd truss

### 2. Position

Fruits of the 2nd- 3rd truss

### 3.Method

Measuring the length and diameter of 20 fruits, figure out the ratio length/diameter



	English	Note	Example varieties
<b>24</b>	<b>Fruit: shape in long itudinal section</b>		
<b>PQ VG</b>	flattened	1	Tương dương
	slightly flattened	2	Lai số 2
	circular	3	XH5
	rectangular	4	
	cylindrical	5	VR2
	elliptic	6	
	heart shaped	7	PT18
	ovovate	8	
	ovate	9	
	pear shaped	10	

### **1.Stage**

The completely ripening fruits of the 2nd- 3rd truss

### **2. Position**

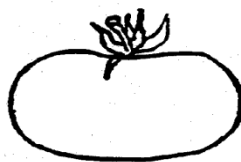
Fruits of the 2nd- 3rd truss

### **3.Method**

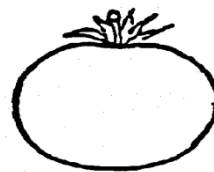
Cutting in long itudinal section and observe



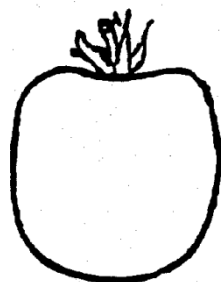
1



2



3



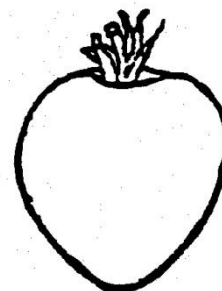
4



5



6



7



8



9



10

	English	Note	Example varieties
<b>25</b>	<b>Fruit: ribbing at peduncle end</b>		
<b>QN VG</b>	absent or very weak	1	VR2
	weak	3	PT18
	medium	5	Lai số 2
	strong	7	
	very strong	9	Tương đương

### **1.Stage:**

The completely ripening fruits of the 2nd- 3rd truss

### **2.Position:**

Fruits of the 2nd- 3rd truss

### **3.Method:**

Observing the level of deepness of ribbing at peduncle end



	English	Note	Example varieties
26	<b>Fruit: cross section</b>		
QL	not round	1	Tương dương
VG	round	2	Lai số 2, XH5

### 1.Stage

The completely ripening fruits of the 2nd- 3rd truss

### 2. Position

Fruits of the 2nd- 3rd truss

### 3.Method

Cutting cross section at the widest part , observe the cross section of the fruit



1



2



	English	Note	Example varieties
27	<b>Fruit: depression at peduncle end</b>		
QN VG	absent or very weak	1	XH5, VR2
	weak	3	HT160
	medium	5	Lai số 2, CHX1
	strong	7	Tương dương
	very strong	9	

### 1.Stage

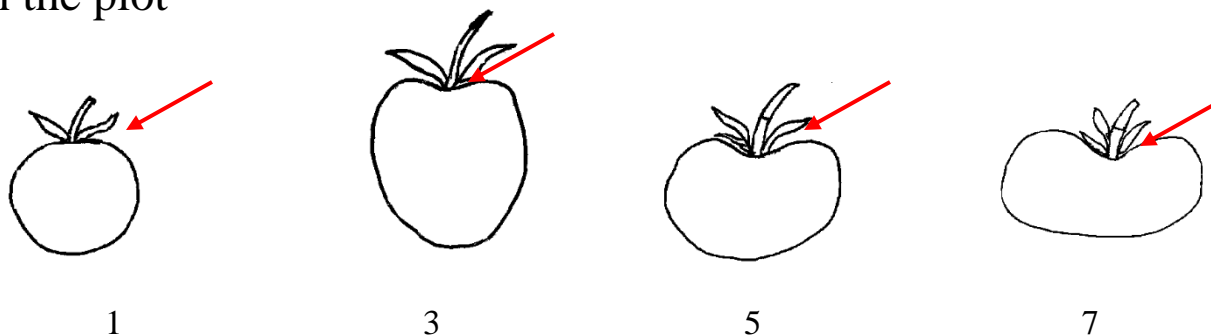
The completely ripening fruits of the 2nd- 3rd truss

### 2. Position

Fruits of the 2nd- 3rd truss

### 3.Method

All fruits on the plot



	English	Note	Example varieties
<b>28</b>	<b>Fruit: size of pedunclescar</b>		
<b>QN VG</b>	very small	1	VR2
	small	3	PT18
	medium	5	DT28
	large	7	Tương dương, CHX1
	very large	9	Lai số 1

### **1.Stage**

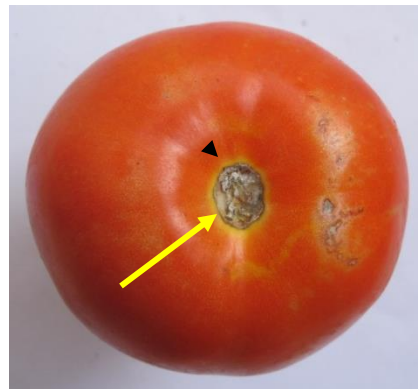
The completely ripening fruits of the 2nd- 3rd truss

### **2. Position**

Fruits of the 2nd- 3rd truss

### **3.Method**

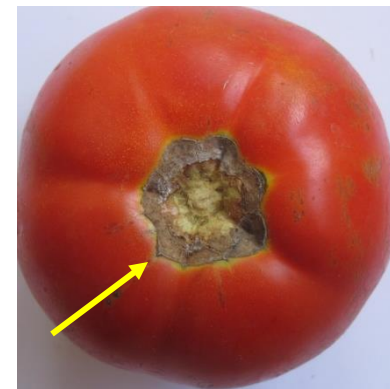
All fruits on the plot



3



7



9

	English	Note	Example varieties
29	<b>Fruit: size of blossom scar</b>		
<b>QN VG/ MS</b>	very small	1	VR2
	small	3	XH5, PT18
	medium	5	NH2764
	large	7	Lai số 2
	very large	9	Tương đương

### 1.Stage

The completely ripening fruits of the 2nd- 3rd truss

### 2. Position

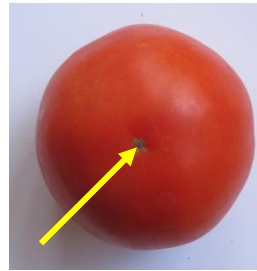
Fruits of the 2nd- 3rd truss

### 3.Method

All fruits on the plot



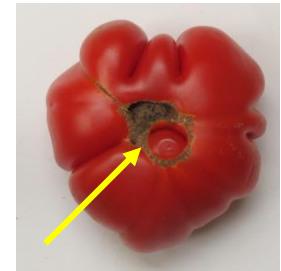
1



3



7



9

	English	Note	Example varieties
30	<b>Fruit: shape at blossomend</b>		
QN VG	indented	1	
	indented to flat	2	
	flat	3	PT18, XH5
	flat to pointed	4	
	pointed	5	

### 1.Stage

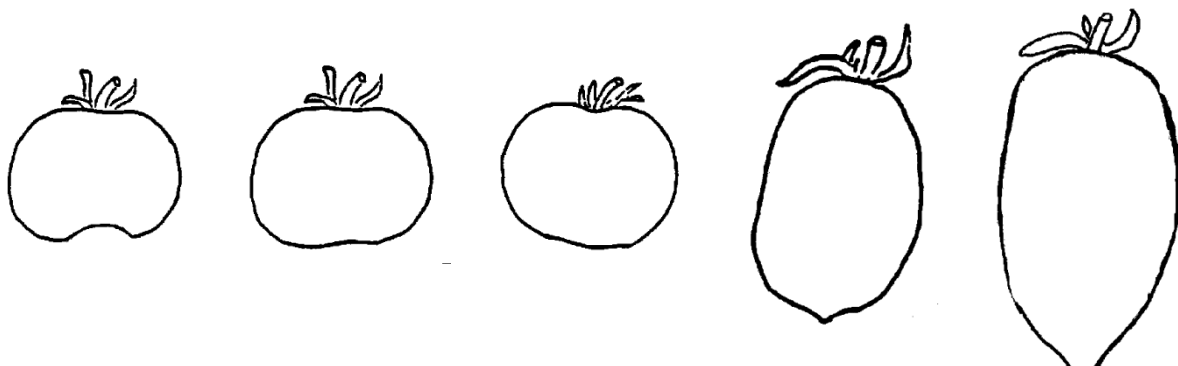
The completely ripening fruits  
of the 2nd- 3rd truss

### 2. Position

Fruits of the 2nd- 3rd truss

### 3.Method

observing all fruits on the plot



3



5



7

	English	Note	Example varieties
31	<b>Fruit: size of core in cross section (inrelation to total diameter)</b>		
QN VG/ MS	very small	1	VR2
	small	3	
	medium	5	XH5, PT18
	large	7	Lai số 2
	very large	9	Lai số1

### **1.Stage**

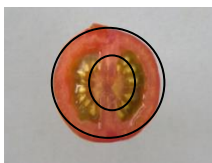
The completely ripening fruits of the 2nd- 3rd truss

### **2. Position**

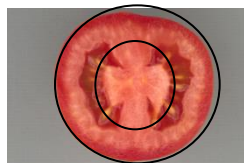
Fruits of the 2nd- 3rd truss

### **3.Method**

Cutting the fruits cross section at the widest part and observe size of core in cross section(in relation to total diameter )



1



3



5



7



9

	English	Note	Example varieties
32	<b>Fruit: thickness of pericarp</b>		
QN MS	thin	3	VR2
	medium	5	Savior
	thick	7	

### 1.Stage

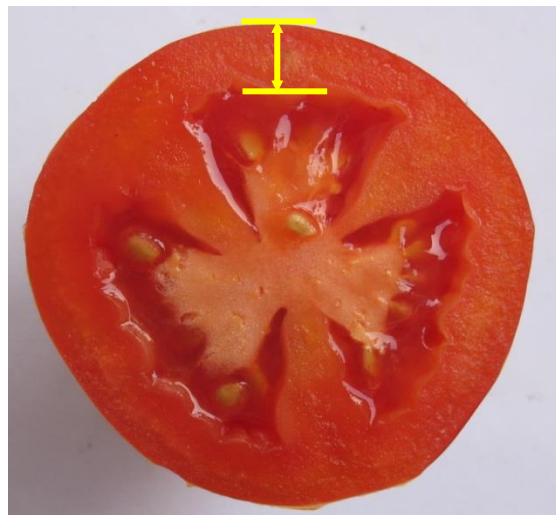
The completely ripening fruits of the 2nd- 3rd truss

### 2. Position

Fruits of the 2nd- 3rd truss

### 3. Method

Cutting the fruits cross section at the widest part and measure between skin and the joining part of locules



	English	Note	Example varieties
<b>33</b>	<b>Fruit: number of locules</b>		
<b>QN VG/ MS</b>	only two	1	VR2
	two or three	2	PT18, XH5
	three or four	3	NH2764
	four, five or six	4	CHX1
	more than six	5	Tương dương

### **1.Stage**

The completely ripening fruits of the 2nd- 3rd truss

### **2. Position**

Fruits of the 2nd- 3rd truss

### **3. Method**

Cutting fruits cross section at the widest part and account the number of locules





1



2



3



4



5

	English	Note	Example varieties
<b>34</b>	<b>Fruit: green shoulder</b>		
<b>QL</b> <b>VG</b>	absent	1	XH5, PT18
	present	9	Lai số 2

### 1.Stage

The fruits develope fully before marturity

### 2. Position

Fruits of the 2nd- 3rd truss

### 3.Method

All fruits on the plot



1



9

	English	Note	Example varieties
<b>35</b>	<b>Fruit: extent of green shoulder</b>		
<b>QN VG</b>	small	3	NH2764
	medium	5	Tương dương
	large	7	Lai số 2

### **1. Stage**

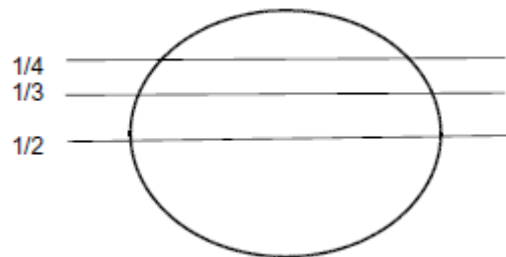
The fruits develop fully before maturity

### **2. Position**

Fruits of the 2nd- 3rd truss

### **3. Method**

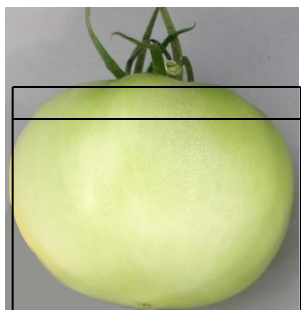
All fruits on the plot



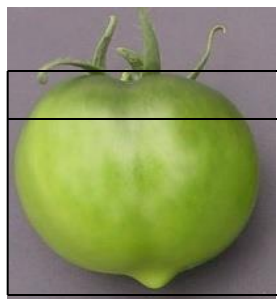
3: small ( $1/4$ )

5: medium ( $1/3$ )

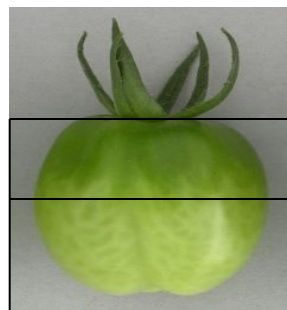
7: large ( $1/2e$ )



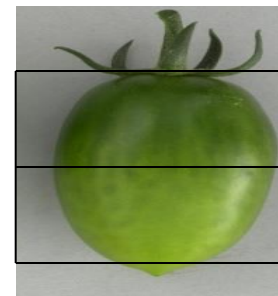
1



3



5



7

	English	Note	Example varieties
36	<b>Fruit: intensity of green color of shoulder</b>		
QN VG	light	3	HT160
	medium	5	VR2
	dark	7	Lai số 2

### 1.Stage

The fruit develope fully, before marturity

### 2. Position

Fruits of the 2nd- 3rd truss

### 3.Method

All fruits on the plot



3



5



7

	English	Note	Example varieties
37	<b>Fruit: intensity of green color (excluding shoulder, before maturity)</b>		
QN VG	light	3	Hồng Lan
	medium	5	NH2764
	dark	7	

### **1.Stage**

The fruit develop fully, before maturity

### **2. Position**

Fruits of the 2nd- 3rd truss

### **3.Method**

All fruits on the plot

	English	note	Example varieties
<b>38</b>	<b>Fruit: color at maturity</b>		
<b>PQ VG</b>	cream	1	
	yellow	2	
	orange	3	
	pink	4	
	red	5	XH5, PT18
	brownish	6	

### **1.Stage**

The completely ripening fruits of the 2nd- 3rd truss

### **2. Position**

Fruit

### **3.Method**

All fruits on the plot



2



3



5



	English	Note	Example varieties
<b>39</b>	<b>Fruit: color of flesh</b>		
<b>PQ VG</b>	cream	1	
	yellow	2	
	orange	3	
	pink	4	
	red	5	XH5, PT18
	brownish	6	

### 1.Stage

The completely ripening fruits of the 2nd- 3rd truss

### 2. Position

Fruits of the 2nd- 3rd truss

### 3.Method

All Fruits on the plot



2



3



5



	English	Note	Example varieties
<b>40</b>	<b>Fruit: firmness</b>		
<b>QN VG</b>	very soft	1	
	soft	3	Tương dương
	medium	5	NH2764
	firm	7	VR2
	very firm	9	

### **1.Stage**

The completely ripening fruits of the 2nd- 3rd truss

### **2. Position**

Fruit

### **3.Method**

Determining by hand the firmness

	English	Note	Example varieties
<b>41</b>	<b>Fruit: shelf-life</b>		
<b>QN MG</b>	very short	1	
	very short to short	2	Tương đương
	short	3	
	medium	5	NH2764
	long	7	
	very long	9	

### **1.Stage**

The completely ripening fruits of the 2nd- 3rd truss

### **2. Position**

Fruit

### **3.Method**

The number of days between picking fruits and the time that the firmness becomes no longer commercially viable

	English	Note	Example varieties
<b>42</b>	<b>Time of flowering</b>		
<b>QN MG</b>	early	3	
	early to medium	4	NH2764
	medium	5	
	medium to late	6	PT18
	late	7	

### **1.Stage**

Flowering

### **2. Position**

The 3rd flower of the 2 nd truss

### **3.Method**

The number of days from sowing to 50% of flowering plants

	English	Note	Example varieties
<b>43</b>	<b>Time of maturity</b>		
<b>QN MG</b>	very early	1	
	early	3	
	medium	5	VR2
	late	7	NH2764
	very late	9	

### **1.Stage for assessment**

Maturity

### **2. Position**

The 1st fruit of the 2 nd truss

### **3.Method**

The number of days from sowing to 50% plants at the maturity

	English	Note	Example varieties
<b>44</b>	<b>Fruit: dry matter content (at maturity)</b>		
<b>QN MG</b>	low	3	XH5
	medium	5	NH2764
	high	7	

### **1.Stage**

Maturity

### **2. Position**

The 1st fruit of the 2 nd truss

### **3.Method**

Taking 5 fruits of 2 nd- 3rd truss randomly, dry, and figure out the ratio of dry matter content and fresh matter content

**THANK YOU !**

