

紫圆茄采种技术研究

王利英, 石 瑶, 于海龙, 刘文明, 乔 军

(天津科润蔬菜研究所, 天津 300384)

摘 要:以“圆丰一号”父母本为材料,研究了不同整枝留果方式对紫圆茄杂交制种产量和质量的影响。结果表明:四秆整枝斗茄留果能够显著提高单株结籽粒数,极显著提高杂交制种产量,对种子千粒重和芽率无影响。

关键词:紫圆茄;杂交制种;四秆整枝

中图分类号:S 641. 103. 8 **文献标识码:**A **文章编号:**1001—0009(2012)03—0026—02

紫圆茄生长周期较长,连续坐果能力差,从播种到种子采收一般需要 200 d 左右,从开花到果实成熟也需要 60~70 d。为了提早采收,杂交制种通常从较低节位对茄开始授粉留果,每株坐果 3~4 个后甚至给整个植株去掉生长点。生产实践表明,近地面果实发病率较高,特别在 7~8 月的盛果期,病原菌很容易随着农事操作、雨水飞溅等传播到靠地面的果实上引起果实腐烂,严重影响种子产量和质量,甚至使种子带菌。而且对茄正常膨大后,上 1 层的四门斗茄常常不能正常膨大,造成坐果 2 大 2 小或 2 大 1 小。不同节位果实的种子饱满

度、千粒重等也有很大差别。因此,改进杂交紫圆茄整枝留果方式,对提高种子质量和产量具有重要作用。

1 材料与方法

1.1 试验材料

以天津科润蔬菜研究所育成的杂交紫圆茄“圆丰一号”亲本为材料,在天津科润蔬菜研究所繁种基地进行试验。

1.2 试验方法

父本 2 月 25 日播种,母本 3 月 7 日播种,5 月 10 日定植。母本高垄栽培,株行距 40 cm×55 cm,父本加大密度,父母本定植株数比例为 1:5。以双秆整枝对茄开始授粉为对照,处理采用四秆整枝,打掉门茄和对茄,从四门斗茄开始杂交授粉,授粉 4 个花蕾。选择 1~2 d 即

第一作者简介:王利英(1971-),女,硕士,副研究员,现从事茄子遗传育种工作。E-mail: eggplant_2010@163. com。

收稿日期:2011-12-05

Study on Characteristics of Growth and Development of Loquat in Qinba Mountain Area

ZHANG Zhong-liang¹, CAO Xi-yi², WEI Ling-yun¹

(1. College of Forestry, Northwest Agricultural and Forestry University, Yangling, Shaanxi 712100; 2. Forest Technology Promotion Center of Ankang City, Ankang, Shaanxi 725000)

Abstract: Loquat fruit, tree growth and shoot growth characteristics from Japan No. 2, Japan No. 8 were studied compared with local Qinba mountain area ‘Maihuanghou’. The results showed that loquat fruit transverse diameter slowly grew in first ten days of March to the late days of March; The rapid growth phase of fruit transverse diameter was in the first days of April to the late days of April; After the first days of May, the loquat fruit transverse diameter again slowly grew until it stopped. Growth and development of loquat fruit vertical diameter and transverse diameter were similar; Height of loquat branches had two peaks, the first peak was in the first days of April to the late days of June, the second peak was in first days of July to the late days of September; After the mid days of October, branch height was slow until it stopped; Loquat branch diameter slowly grew in the first days of April to the mid days of October, its peak was not obvious, branch diameter growth stopped in mid days of November; Trend of loquat tree height growth showed that slow growth phase was in March to May; June to September were rapid growth period, October to December were slow growth period; Trend of loquat tree diameter displayed that March to April was slow growth period, May to October was fast growth period, November to December was slow growth period.

Key words: loquat; growth and development; Qinba mountain area

将开放的花蕾,去除全部花药,待花蕾开放当天授粉,第2天重复授粉2次^[1],授粉时避开10:00~15:00高温时间。果实一半由紫色转为黄色时采收,后熟10~15 d^[2],捣碎果实,清水淘洗后将种子放在阴凉处晾晒^[3]。3次重复,小区面积333.5 m²。每个重复选取30株记录单株结籽粒数,混合取样,发芽盒内30℃催芽,每盒100粒种子,14 d记录种子发芽率。

2 结果与分析

2.1 不同整枝留果方式对种子产量的影响

从表1可看出,四秆整枝四门斗茄开始授粉的处理,单株结籽5 349粒,比双秆整枝对茄开始授粉留果增加了24.07%,单株结籽达到了显著水平。处理的种子产量达到了64.8 kg/m²,比对照增产23.4%,达到了极显著水平。

2.2 不同整枝留果方式对种子质量的影响

从表1可看出,四秆整枝斗茄开始授粉留果的种子千粒重下降了3.3%,芽率增加了0.3%,但2种整枝留果方式千粒重和芽率的差异都没有达到显著水平。从种子外观看,四门斗茄开始授粉留果的种子色泽和大小更加均匀一致。

表1 不同整枝留果方式对种子质量的影响

处理		重复			平均	增加 /%	显著水平	
		I	II	III			0.05	0.01
单株结籽 /粒	斗茄开始授粉	5 125	5 301	5 620	5 349	24.07	a	A
	对茄开始授粉	3 845	4 856	4 231	4 311		b	A
产量 /kg·m ⁻²	斗茄开始授粉	62.4	69.6	62.3	64.8	23.4	a	A
	对茄开始授粉	52.2	50.8	54.6	52.5		b	B
千粒重/g	斗茄开始授粉	4.52	4.36	4.48	4.45	-3.3	a	A
	对茄开始授粉	4.68	4.50	4.62	4.60		a	A
芽率/%	斗茄开始授粉	91	92	87	90.0	0.3	a	A
	对茄开始授粉	90	90	89	89.7		a	A

3 讨论

利用传统紫圆茄制种一般从2个对茄开始授粉,对茄膨大后往往导致上部花蕾不能正常膨大或落花落果。而采用四秆整枝的植株调整方式,从四门斗茄开始留果授粉,由于4个花蕾处于同一分枝级别,果实营养竞争差异小,因此授粉后容易坐果,果实膨大均匀。邓世辉等^[3]在长茄杂交制种上的研究表明,利用高节位花制种可大幅度提高制种产量,但高节位花的单果产种量和种子千粒重略有下降。可能是长茄连续坐果较多,而紫圆茄同时坐果少的原因。与传统整枝留果方法获得2大2小或2大1小果实比较,该试验获得的四门斗茄果实大小均匀一致。由于四门斗茄距地面较远,烂果率也大大降低,几乎没有乌粒黑粒,种子色泽金黄。同时,从四门斗茄花蕾开放时间较为集中,与从对茄开始授粉比较,授粉时间缩短7 d左右,采收期也更加集中,节省了人工费用,降低了制种成本。

参考文献

[1] 樊绍霖,李小梅,戴忠仁,等.茄子重复授粉杂交制种技术研究[J].北方园艺,2010(6):67-68.
[2] 邓世辉.利用高节位花提高杂交茄子制种产量试验初报[J].长江蔬菜,1999(10):25-26.
[3] 龚振辉.茄果类蔬菜制种技术[M].北京:金盾出版社,2004.
[4] 李大忠,温庆放,李永平.茄子杂交制种技术研究[J].福建农业学报,2002,17(3):166-168.

Study on the Seed Production of Cross Purpule-round Eggplant

WANG Li-ying,SHI Yao,YU Hai-long,LIU Wen-ming,QIAO Jun
(Tianjin Kernel Vegetable Research Institute,Tianjin 300383)

Abstract:The effects of different pruned and fruit setting methods on the purple-round eggplant seed yield and quality with the parents of hybrid ‘Yuanfeng1’were studied. The results showed that 4 stems pruned and Douqie fruit setting method significantly improved seed yield,had no significant effect on seed thousand particles weight and germination rate.

Key words: purpule-round eggplant;cross seed production;4 stems pruned