

早熟砂梨新品种沪晶梨18号的选育

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摘要: 沪晶梨18号是由八幸×早生新水杂交选育出的早熟砂梨新品种。果实扁圆形, 平均单果质量250 g; 外观美, 果皮褐色, 套袋后黄褐色, 果心小, 果肉脆、甜, 肉质中细, 汁液多, 石细胞少, 可溶性固形物含量(w)为12%, 品质上。在上海地区盛花期为3月底—4月初, 成熟期为7月上中旬, 果实发育期100 d左右。幼龄树生长健壮, 成年树生长势中庸; 短果枝连续结果能力较差, 宜采用腋花芽结果。

关键词: 梨; 新品种; 沪晶梨18号; 早熟

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A new early-ripening pear cultivar Hujingli 18

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Abstract: Hujingli 18, a new early-ripening cultivar with high quality, was selected from the cross of Hakko × Zaosheng xinshui in 2010. The cultivar, which was tested regional adaptability at three sites including Jinshan, Fengxian and Qingpu district in Shanghai from 2011 to 2016, was finally selected and named as Hujingli 18 in 2017. Being vigorous at young stage and moderate while grown to adult stage is its nature. Hujingli 18 short fruiting buds are not easy to be formed. It is suitable for setting fruits with axillary buds. Annual shoots, with the average 4.31 cm internode length, are yellow brown at sunward side. There are stronger germination rate, moderate branching ability, light green young shoot and green young leaf. The petal is white, ovate and coterminous (an average of 5 petals for each flower), anthers look pink red. As well as above 58.8% flowers pollinated in nature can become fruits. The characteristics of Hujingli 18 are: 1) Early-maturing. The fruit-growth-period is about 100 days, from blooming in late March early April to maturity in early-middle July in Shanghai. 2) Moderate yield. The average fruit weight is 250 g. The productivity reaches to 10 822 kg · hm⁻² using wide row and dense planting pattern for 4-5 years. 3) Excellent fruit quality. The fruit includes the 12% soluble solid content, 17.52 mg · g⁻¹ sucrose content, 17.04 mg · g⁻¹ glucose content, 40.78 mg · g⁻¹ fructose content and 2.24 mg · g⁻¹ malic acid content. Moreover, the fruit core is small. The flesh crisp, juicy, less stone cells, and sweet shows higher eating quality. 4) Nice appearances. The fruit shape is oblate, the fruit dot looks small. Skin color is brown in nature and yellowish-brown after bagging. In addition, it is suitable for fresh food not for storage yet. Otherwise pear ring rot is supposed to be prevented generally. In conclusion, Hujingli 18 early-maturing, moderate-yield and high-quality is a new pear cultivar and suitable for planting in the Yangtze River basin and similar climatic conditions.

Key words: Pear; New cultivar; Hujingli 18; Early-mature

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梨是中国第三大果树,也是最具优势特色的果树之一^[1]。长江流域砂梨区为产业优势区域^[2],上海本土消费者尤其喜爱砂梨的味甜多汁,随着一线城市流动人口的增加以及人民对美好生活的向往,主栽品种翠冠^[3]、早生新水^[4]、翠玉^[5]等早熟砂梨的成熟期已不能满足消费者的需求。7月下旬之前成熟的本地新鲜梨果成为必需,不但占有市场先机,而且满足消费者的冬季口感空缺以及暑夏的初体验。因此,培育更早熟的优质砂梨新品种,成为笔者的选育目标之一。为此,上海市农业科学院通过杂交育种手段,经过连续多年的努力,培育出7月上中旬成熟的品质优良砂梨新品种沪晶梨18号(图1)。



图1 早熟砂梨新品种沪晶梨18号

Fig. 1 A new early-ripening pear cultivar Hujingli 18

1 选育经过

沪晶梨18号是以八幸(引自日本,8月初成熟,绿皮,大果型,风味淡)为母本,早生新水(新水的实生后代,7月底成熟,褐皮,肉质嫩脆、品质好)为父本杂交育成的梨新品种。2001年杂交,2002年进行营养钵育苗、移栽,2004年定植在上海市农业科学院华漕园艺场,共获得杂交苗113株,2007年带土移植至上海市农业科学院庄行综合试验站。其中编号为1-5-18的单株于2010年被选为早熟优株,2011年起陆续在上海金山、奉贤、青浦等示范基地进行区试,各地均表现早熟、果实大、外观美、品质好、适应性好的特性。2017年正式命名沪晶梨18号,并申请了植物新品种权,2018年通过品种现场考察,并通过上海市林木良种审定委员会认定,良种编号:沪R-SV-PP-002-2017。2019年获得国家植物新品种权授权,品种权号:CNA20172253.7。2019年通过国家非主要农作物品种登记,登记编号:GPD梨(2018)310016。

2 主要性状

2.1 植物学特征

沪晶梨18号树势中庸,树姿半直立。1年生枝条黄褐色,节间平均长4.31 cm,皮孔密度中等,叶芽贴生或斜生,顶端形状锐尖,花芽顶生或者短枝花芽,卵圆形,嫩梢浅绿色,嫩叶绿色,成龄叶片偏外卷,叶基截形或心形,叶缘锐锯齿状,叶尖渐尖。花蕾白色,5瓣花居多,花药粉红色,花瓣相接,卵圆,柱头高于花药。

2.2 物候期

沪晶梨18号,在上海气候条件下3月中旬芽萌动,4月初盛花,花期10 d左右,7月上中旬果实成熟,属早熟品种。果实发育期100 d左右,11月上旬落叶。

2.3 果实主要经济性状

沪晶梨18号果实扁圆形,平均单果质量250 g,纵径6.91 cm、横径8.20 cm,果皮褐色,套袋后黄褐色,外观美;果心小,果肉脆、甜,肉质中细,汁液多,石细胞少,平均可溶性固形物含量(w ,后同)为12%(表1),蔗糖含量 $17.52 \text{ mg} \cdot \text{g}^{-1}$,葡萄糖含量 $17.04 \text{ mg} \cdot \text{g}^{-1}$,果糖含量 $40.78 \text{ mg} \cdot \text{g}^{-1}$,苹果酸含量 $2.24 \text{ mg} \cdot \text{g}^{-1}$,品质上。同亲本早生新水相比,成熟期早,果实大,肉质相似。

2.4 生长结果习性

沪晶梨18号萌芽率较高,平均为86.3%。成枝力中等,长中短枝比率为3.4:1:7.7。沪晶梨18号幼龄树生长健壮,成年树生长势中庸,花芽较易形成,坐果率较高,花序坐果率为86.7%,花朵坐果率为58.8%;短果枝连续结果能力较差,宜采用腋花芽结果。新定植树3 a开始结果,密植栽培条件下4-5 a生树平均产量为 $10\ 822 \text{ kg} \cdot \text{hm}^{-2}$ 。

3 栽培技术要点

3.1 种植密度与授粉品种

可采用早期密植栽培、叶幕增多后再间伐的方式。疏散分层形树形,可采用行株距 $4 \text{ m} \times 2 \text{ m}$ 种植;圆柱形、二主枝形等紧凑型树形,可采用行株距 $(3\sim 4) \text{ m} \times (1\sim 1.5) \text{ m}$ 种植。授粉品种有翠冠、清香、黄花、雪青等。

3.2 花果管理

沪晶梨18号短果枝连续结果能力较差,宜采用

表1 沪晶梨18号和早生新水果实品质比较

Table 1 Comparison of fruit characters of Hujingli 18 and Zaosheng xinshui

品种 Cultivar	年份 Year	果形 Fruit shape	平均单果质量 Average single fruit weight/g	肉质 Flesh texture	w(平均可溶性固形物) Soluble solid content/%	成熟期 Ripening date
沪晶梨18号 Hujingli 18	2015	扁圆形 Oblate	255	脆、细、石细胞极少 Crisp, fine, stone cells rarely	12.4	7月中旬 Mid-July
	2016	扁圆形 Oblate	265	脆、中细、甜 Crisp, fine, sweet	12.0	7月上旬 Early July
	2017	扁圆形 Oblate	305	脆、细、甜、石细胞少 Crisp, fine, sweet, stone cells rarely	12.0	7月中下旬 Mid-late July
	2018	扁圆形 Oblate	263	松脆、细、甜 Soft and Crisp, fine, sweet	11.8	7月中旬 Mid-July
	2019	扁圆形 Oblate	333	松脆、中细、甜 Soft and Crisp, fine, sweet	12.1	7月中旬 Middle of July
早生新水 Zaosheng xinshui	2015	扁圆形 Oblate	200	脆、细、甜 Crisp, fine, sweet	12.0	7月底 End of July
	2016	扁圆形 Oblate	205	脆、细、甜 Crisp, fine, sweet	12.0	7月底 End of July
	2017	扁圆形 Oblate	230	脆、中细、甜 Crisp, fine, sweet	12.0	7月底—8月初 End of July to Early August
	2018	扁圆形 Oblate	231	脆、中细、甜 Crisp, fine, sweet	12.0	7月下旬 Late July
	2019	扁圆形 Oblate	248	松脆、中细、甜 Soft and crisp, fine, sweet	12.4	7月下旬 Late July

腋花芽结果。花芽较易形成,要及时进行疏花、疏果,减少养分无效消耗,冬春季修剪时疏除过多花芽,花前疏花蕾。花期授粉花序授第3~4位花,花后2周进行疏果,保持合适的叶果比,以增强光照,增大果型,提高品质。适期套袋,改善外观,减少果面污染。

3.3 整形修剪

常规栽培,幼树培养合理骨架,抹去背上枝,刻芽促分枝,投产树通过撑、拉、扭枝开角透光,形成健壮稳定的结果枝组,保持有效结果体积,使树体丰满。因该品种宜采用腋花芽结果,需注意及时培养与更新结果枝,同时结合拉枝,培养更新花芽,达到丰产稳产的目标。密植栽培,重视前期管理,当年促使主干迅速形成,次年萌芽期刻芽,促进侧枝抽生,通过撑、拉枝,缓和树势,促进腋花芽形成,以后注意更新修剪。

3.4 肥水管理

以秋施腐熟有机肥为主,生长结果季适量补充化肥作速效肥。追肥以前期为主,N:P:K质量比为1:0.5:1,N肥用量150 kg·hm⁻²。

3.5 病虫害防治等

沪晶梨18号感轮纹病。不耐贮藏,宜鲜食,幼果期尤其忌用赤霉素软膏涂抹果柄。采后应加强树体病虫害和土壤水分管理,防止早期落叶和二次开花现象的发生。

3.6 适宜种植区

沪晶梨18号适宜在长江流域等砂梨适栽区种植。

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