



Hargreaves
Plants

Albion

- a better tasting variety



**Plant type, yield, fruit
quality and market
review**

Introduction

Albion is the most recent strawberry release from Professor Douglas Shaw's breeding program at University California, Davis. The strawberry breeding program there is by far the most successful in the world. In fact it is thought that 65% of the strawberries produced worldwide are from U.C cultivars. In California they account for 64% of the planted area and 82% of the fruit. This alone demonstrates their yield potential.

Hargreaves Plants – Albion

Hargreaves Plants is the only UK licensed propagator of Albion and has an extremely close working relationship with both U.C Davis and Eurosemillas, who are the managers of the intellectual property in Europe and other territories. Hargreaves identified Albion as a winner for the U.K market based on trials results three years ago from its own Research and Development unit.

Here, Hargreaves Plants is providing an update on Albion in terms of yield, fruit quality, plant health and market perception. Hargreaves is confident that, when you have digested the facts and figures, you will see clearly why Albion has to play an important role in your future business.

Albion – plant health/ disease resistance

With increased pressure on soil sterilisation and therefore an increasing trend to use second hand beds, the choice of varieties with higher levels of disease resistance is paramount. Albion is the obvious variety for growers. It is also worth noting that when a variety starts off with higher levels of disease resistance it generally requires less chemical during its growing season, a real benefit to retail customers. The table below demonstrates its disease resistance qualities compared with the well known but now dated variety Diamante. The information has been produced by U.C Davis and was collected prior to launching the variety.

DISEASE RESISTANCE SCORES

Genotype	<i>Phytophthora</i> Resistance Score (5=best)	<i>Verticillium</i> Resistance Score (5=best)	<i>Colletotrichum</i> Resistance Score (5=best)
Albion	4.9	3.4	3.1
Diamante	2.4	2.7	2.6

SO ALBION SCORES WELL



This photograph taken in the U.K, shows Albion next to Elsinore. Elsinore demonstrates low levels of disease resistance as seen in the photograph. Elsinore demonstrates a high % of class II fruit with very poor flavour.



ALBION

EL SINORE

The plant health qualities of Albion are so good that along with its excellent flavour, it is also now the No.1 variety used by leading organic strawberry growers.

Albion – management and harvesting

Plant density

Albion is recommended to be grown at a density of 17,000 plants per acre (42,500 per hectare). The plants are hardy and compact with well presented flower trusses. Some experience has been gained in substrate production and based on favourable results on grower farms, more will take place in 2008.

Growing tips in agronomy

All plants, irrespective of plant types and dates had their first flower trusses removed in the spring. This was to take any fruit out of the main crop Junebearer season and also to establish a strong plant.

During the early growth stages it is recommended to apply water and general feed at a rate of 25% more than Everest. Continue this up to the time when the second crown is produced then 'starve and shrink' (no food and water for 10 days depending on soil type). After this period start to feed and water at 75% then increase back up to 125% for the rest of the season.

A good general soft fruit mix with Ammonium Nitrate and Magnesium Sulphate added should be applied via the fertigation system up to 5 times per week.

Runners

With Albion it is important to de-runner the plants as often as possible. Experience has shown that a 25% increase in yield can be achieved where plants are de-runnered regularly.

Note

This info is provided from Hargreaves trials and observations but should not be taken as definitive advice. Consult your own advisor.

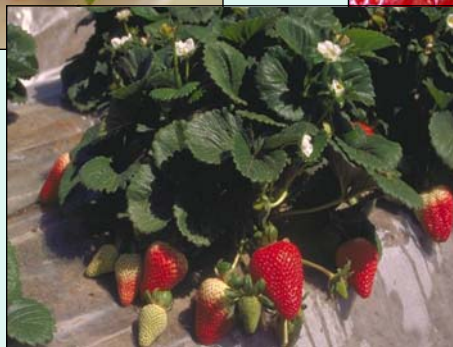
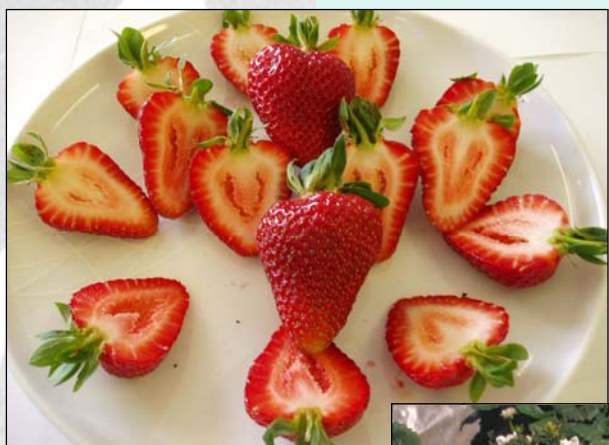
Picking / harvesting costs

In consultation with commercial growers Hargreaves has established that harvesting costs are 22% less for Albion than, for example, Everest. The figure averaged at 64p kilo for Everest compared with 50p for Albion.

This results in a lower unit cost, therefore higher margin. More fruit harvested per picker per day means either more fruit can be produced per farm or a reduced number of pickers is required.

The reason behind the above facts is largely down to the fruit being extremely well displayed with a high % of class I and large regular shaped berries. This also makes it an ideal variety for rig harvesting, reducing costs even further.

ALBION BERRIES AND PLANT HABIT



Albion – plant type trials

It can be seen from the table below that Albion has achieved the magic 1 kilo per plant in replicated trials at Hargreaves Plants trial site.

The reason for the plant type trials was to help to determine how to get the full potential from the variety. The % of class I appears relatively low compared with what commercial growers are experiencing. Unless the shape was absolutely perfect it was deliberately deemed class II. Having said that with yields of 17 tonnes per acre with 22% cheaper harvesting costs it makes Albion the most attractive everbearer to grow.

Albion Data updated to 31st October 2007

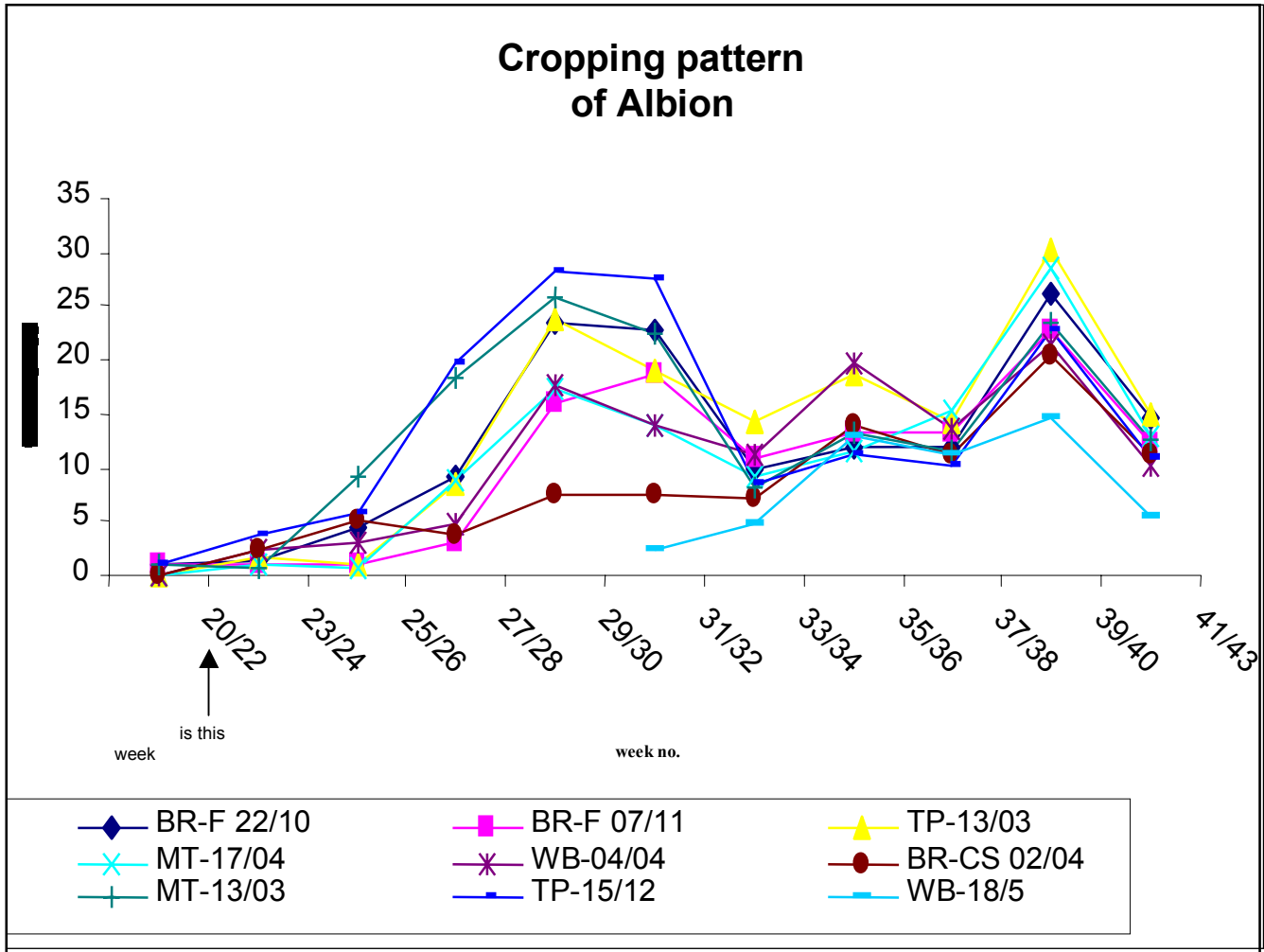
Plot no.	Code	Plant no.	1st pick date	Total Class 1(kg)	Total Class 2 (kg)	Total Yield (kg)	Total Yield /plant (g)	% Class 1	Total Yield /plant (t/ac) at 17K	Total Yield/ Plant (t/ha) at 17K
A001	BR-F 22/10/06	127	31/05	120.04	15.28	135.76	1068.98	90.0	18.172	43.61
A002	BR-F 07/11/06	115	31/05	96.43	15.56	112.69	979.91	87.0	16.658	41.15
A003	TP 13/03/07	137	04/06	118.17	20.47	146.60	1070.07	83.0	18.191	44.93
A004	MT 17/04/07	134	04/06	97.27	19.52	119.52	891.94	84.0	15.163	37.45
A005	WB 04/04/07	132	04/06	104.61	13.20	118.22	895.60	90.0	15.215	37.58
A006	BR-CS 02/04/07	126	04/06	76.03	13.42	90.14	715.39	85.0	12.161	30.04
A007	MT 13/03/07	132	31/05	130.67	13.10	146.57	1110.38	90.0	18.876	46.62
A008	TP 15/12/06	144	31/05	126.11	14.57	149.29	1036.74	85.2	17.625	43.53
A009	WB 18/05/07	149	02/07	53.20	8.39	66.43	445.83	82.0	7.759	19.16

BR-F=BARE ROOT FRESH MT=MISTED TIP TP=TRAY PLANT
WB = WAITING BED BR-CS = BARE ROOT COLD STORE

A similar Albion plant type trial will take place in 2008 with alterations to planting dates for some of the plant types. A trial with an inter-planting of heavy waiting bed for one single quick crop of June fruit may also take place.

This may increase hugely the return per acre without compromise to either the Albion crop or the Elsanta crop.

Albion - cropping pattern graph



Please note the huge increase in fruit produced in late July early August by using different plant types and planting dates.

The graph demonstrates potted plants and autumn planted bare root plants give the most favourable results. For the 2008 trial some cold stored plants were planted late July with the idea it may increase the week 26-31 peak.

Fruit Quality

There is truly no doubt that the taste of Albion is exceptional and that it is the only everbearer comparable in flavour to Jubilee. The Brix is consistently higher than its competitors with an excellent balanced flavour as seen in the table below.

SUPERMARKET FRUITS IN COMPARISON TO ALBION			
Data taken on 30 th August 2007 for Evie, Everest, Jubilee and Albion			
CODE	BRIX	FLAVOUR	OBSERVATIONS
Everest	7.4	4 (bland)	Bruising & Dark
Jubilee	9.0	7 (sweet, aromatic)	Very Good
Evie (supplier 1)	5.6	4 (bland)	Dark & Bruised
Evie (supplier 2)	5.8	1 (acid)	Uneven Ripeness. Soft
Albion	9.8	7 (balanced)	Very Good

The fruit is post box red in colour and red throughout the berry when sliced. The skin and flesh are both very firm making transport and shelf life parameters easily achievable. There were two main lessons to be learnt from fruit harvesting in 2007. Firstly, the early fruits can be ribbed and some ripened with a white tip. These should not be packed for retailers. It only equates to the first 1-3 berries per plant. Secondly, the fruit may need to be harvested every two days. This prevents the darker red fruit getting mixed into the sample and giving customers a poor image of the variety. These are both management issues and not varietal issues. Genetics do not vary from farm to farm but management techniques can do.

The fruit is evenly shaped, conical and virtually all class I making the fruit sample on the shelf very even.

Conclusion

Albion is the most exciting strawberry variety yet to enter the everbearer market, offering growers a potential of 1 kilo per plant or 17 tonnes per acre.

The variety has featured on all retailer shelves during 2007 and has been well received by all except Co-op. It is also the preferred variety for many in the confectionary and food service industry.

With high yields, high percentage of class I fruit, excellent disease resistance, cheaper picking costs and unquestionably good flavour, Albion enables growers to deliver exactly what the retail and food services customers have been asking for, which is:

“a better tasting variety”

“Having had a great success with 30 acres of Albion in 2006, I invested in a further 150 acres for 2007. The fruit size and shape has been excellent, with all fields achieving in excess of 95% class I over the season. The sugars have been higher than other varieties grown on our farms in the past therefore delivering a better tasting variety to our customers.”

Says Paul Mansfield of FW Mansfield.

“For the second year running, Albion has been my preferred Everbearer variety. In the 2006 season, it was the only one not to suffer from thermo dormancy, producing 13 tonnes per acre. This year yields have been from 12 to 15 tonnes. An excellent variety”

Says Ben Drummond of EC Drummond & Son.

Fruit show awards 2007 season

Albion – 1st ~ F.W Mansfield and 2nd ~ Hargreaves Plants.

Everbearer class National Fruit Show October 2007

Albion – 1st ~ F.W Mansfield Strawberry Market Pack Class July 2007

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