Perennial Horticulture Development Project
Ministry of Agriculture, Irrigation and Livestock
Horticulture Building
Jamal Mina, Kabul, Afghanistan
afghanistanhorticulture@gmail.com

PHDP 2010 Recommendations on"foreign" apricot varieties

Some 136 accessions of apricot varieties from all around Afghanistan were collected from single *in situ* trees by budding onto native wild apricot seedling rootstocks in 2007. These varieties were planted out in the National Collection plots in Kabul and Mazar in February/ March 2009, and four newly imported varieties have since been added in 2009 and 2010. Among the varieties collected from Afghanistan orchard and nursery growers, several named varieties of obvious American or European origin have been identified. These varieties were probably introduced around 1997 or 1998, but only the variety Tomcot is grown under its own name to any extent, in Laghman province.

While there was blossom on most of the apricot trees in the month or so after planting out the collections in 2009, there was almost no fruit set on any variety, and the weather at blossom time was unfavourable in any case. In 2010 there was heavy blossom on all varieties, but in spite of favourable warm conditions at blossom time, including placing of beehives in the orchards in Mazar, most of the varieties set very limited amounts of fruit, or almost no fruits at all. The Amiri types, in particular, mostly set no fruit, so for the most part it is even difficult to verify that the accessions named Amiri actually are true Amiri types.

It was noted that the American/European types, which are known to have very similar genetic origins, exhibited several common characteristics. From these common characteristics, it was possible to identify two accessions which were misleadingly named. Two accessions, 0206 Amiri, and 6313 Turki, can be included in this American/European group. Out of 18 accessions named Amiri, only accession number 0206 set a heavy crop of fruit, and of five accessions named Turki, only 6313 set a heavy crop of fruit. Further investigation of shoot and leaf characters show that accessions 0206 and 6313 are almost the same as each other, but certainly have no connection to Amiri or Turki types in the national collection.

Six characteristics which are shared by this "American/European group" are:

Early flowering: These foreign varieties are earlier flowering than the average of the apricot varieties in the National Collection. This is in contrast to almonds where the foreign varieties flower later than most of the native almond varieties. Even so, these early flowering apricot varieties still flower later than most almond varieties, and there were no problems with frost in 2010. In other seasons and locations, these early flowering foreign varieties may be at a disadvantage, with increased risk of poor weather at flowering time.

Heavy fruit set in young trees: The foreign varieties set fruit well or even heavily in 2010 (second year after planting), but all the local varieties set a light crop, or almost no crop at all.

Fruit colour: All the foreign varieties have a strong orange flesh colour, with or without red over colour. *Note: some native varieties do have orange colour*

Pollination: All the foreign varieties were shown to be self compatible, so do not need to be planted with pollinator varieties (NOTE: planting with pollinators is often shown to be beneficial even with self pollinating varieties). *Self compatibility by itself does not identify this group. Some foreign varieties will be self incompatible and some native varieties will be self compatible.*

Seed kernels: Bitter seed kernels seemed to be the norm in the foreign varieties. *The bitterness/sweetness of kernels in the Afghan types still needs to be determined in later years when all the varieties can be harvested, but it could be linked to various groupings or sub groupings of varieties (Amiri, Qaisi, etc)*

Flavour/taste: The foreign varieties have a distinctive flavour or taste, which might be called by Europeans as an "apricot taste", with some varying hints of acidity. Afghan varieties are generally without acid, and when fully ripe have various flowery aromas (even coconut aroma?!). This may be a somewhat subjective criteria, but links well with this group.

RECOMMENDATIONS

While the best Amiri types will probably remain the most popular apricot type in Afghanistan and surrounding countries for many years to come, the best foreign varieties offer a distinctive alternative, particularly those varieties maturing ahead of Amiri. The growers should look at large size and early maturity. The following table gives the varieties in order of maturity with average fruit weight measured in grams.

Accession number	**Variety Name**	**Mazar**	**Kabul**	**Mazar**	**Kabul**
		Harvest Date	**Harvest Date**	**Weight (gms)**	**Weight (gms)**
0267	Goldkist	16 May	06 June	33	28
0268	Ambercot	18 May	05 June	46	50
0266	Tomcot	22 May	07 June	35	30
6211	Trevatt	22 May	05 June	28	26
7136	Goldrich	Not Planted	16 June	-	50
0265	Goldcot	26 May	14 June	19	26
6313	*(Turki)**	26 May	12 June	41	36
0206	*(Amiri)**	26 May	19 June	41	32
0266	Patterson	26 May	19 June	41	32

**Varieties misnamed – they belong to this foreign group, based on the six criteria listed*

Which varieties to grow and where to grow them
The grower has a good chance of making profit with early production of these foreign varieties. In order to get early production he needs to be in a warm area. Mazar and similar areas have a good chance to out-compete the areas around Kabul which are growing Amiri types. We do not have results yet of Amiri types grown in Mazar, where earlier ripening crops should be possible, compared to the growing areas around Kabul.

By the time the 0206 and 6313 varieties were ripening, the supply of Amiri apricots to the Kabul market was becoming heavier and prices were starting to drop. These two varieties, which are almost the same, have a very flattened shape and not a very good flavour for fresh market. They may be useful for drying or other processing, as they had a very good yield in 2010. This needs to be investigated, along with other varieties providing successional maturity for processing.

Varieties for general use for early fresh market
Of the varieties maturing earlier than 0206 and 6313, the varieties **Ambercot**, **Tomcot** and **Goldrich** look promising. Ambercot is an earlier introduction into Afghanistan, but appears to have been overlooked for its potential. Tomcot has been grown successfully and fairly widely in Laghman for some years, but it has a relatively high winter chill requirement and this causes problems. Goldrich was only imported by GPFA in 2009, but already has produced some large, round attractive fruit, and is considered a promising variety.

Variety for special use for very early fresh market
The variety **Goldkist** is listed in American catalogues as needing just 250 hours winter chill. While the fruit is smaller than that of Ambercot, it should have potential for growing in the milder winter areas such as Jalalabad and Laghman, where it could mature much earlier than any other variety of comparable quality. *(The variety **Katy** also features in American catalogues as a low chill variety).*

Not recommended
Trevatt gave poor quality fruit which was easily bruised
Goldcot is a hardy variety, but the small fruit size gives no market advantages in Afghanistan
Patterson is used for canning in America, but it is too small and late to be of interest in Afghanistan when Amiri types are in the market

New varieties
PHDP has planted three new varieties in 2010, imported from Italy by GPFA. These are **Aurora**, **Pinkcot** and **Portici**. These are basically for GPFA requirements but we expect Pinkcot to fit in the group of early large fruited varieties for market. The Italian nursery which provided the trees suggests a pollinator is needed for Pinkcot.

Availability
Ambercot is not available in any MSNs. Mother stock & demo trees to bud in 2010
Goldkist is available in small quantities in Kabul & Wardak province MSNs, which is the wrong area. Should bud some trees for MSNs in eastern region, and trees for trial/demo
Tomcot has plenty of trees in MSNs in eastern region, but not in north, where it has potential
Goldrich is not available in any MSNs (except GPFA?). Mother stock & demo trees to bud in 2010
Pinkcot is not available in any MSNs (except GPFA?). Mother stock & demo trees to bud in 2010
0206 and **6313** have large numbers of mother stock trees in eastern region NGAs, also Kandahar.
Report compiled GJC 30 June 2010