How to graft an adult fig tree step by step

After having read everything "readable" about fig tree grafting, including Mundani's experiences regarding the topic, last year I decided to change the variety of an adult fig tree that I own. It produced mediocre-quality figs that matured late; which means that in the cool climate of Cantabria (Northern Spain, similar to US Pacific Northwest), they mature when the cloudy days and rains of autumn begin, which is not at all suitable to the ripening of figs.

To begin, I drastically pruned the fig tree, so that it would emit new shoots to make it possible to graft (via the chip method) the new varieties.

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Photo of the fig tree in February, recently pruned

In contrast to what Mudani has described, upon making the grafts, I cut the petiole and covered everything with plastic tape to keep dehydration to a minimum. After 2 weeks I uncovered the eyes while leaving the remainder taped.

As I had my doubts about how to make the grafts, I used another fig tree as a Guinea pig for trying these different types of grafts:

- Grafts of chips from woody growth put on a woody branch and refrigerated
- Grafts of chips from this year's growth put on woody branches of different diameters
- Grafts of chips from this year's growth put on this year's branches

I began the tests in May (North Hemisphere), and although it is still too soon to draw conclusions, I can offer the following observations:

- **Grafts of chips from woody growth put on a woody branch and refrigerated** have not performed well, although some it seems to make the battle, in general they have failed.
- **Grafts of chips from this year's growth put on woody branches of different diameters** seem to have a high percentage of success, even on branches of quite greater diameter than the chip. But it takes time to form the callus.

  After 4 weeks, upon loosening the plastic tape, if the chip is green and without wrinkles, but has a fragile bond and hardly has any callus, the eye, although having a good appearance, probably won't sprout successfully.

  In some cases a small green growth appears, but develops very slowly. In this case I keep the tape on. I am learning that if they are unwrapped before the callous is well-formed, they are much more prone to dry out and or fall off.
- **Grafts of chips from this year's growth put on this year's branches These** are the last types of grafts I have done and therefore it is not possible to make a learned observation, although after one week, they seem to be doing well.

To prevent sunscalding of the grafts, I have slightly modified the technique of how I take care of the green area. After covering the graft area with plastic tape, I cover it with aluminum foil [shiny side out] to protect it from the sun, both from the sunshine but also the "greenhouse effect" of heat that can build up underneath the plastic tape.


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I have made these last grafts on the fig tree that I want to change, and are the one that really interest me. I must say that I was hoping for greater bud vigor, but it wasn't until mid- May that there were signs of bud appearance.

What is the Chip Graft?

The Chip Graft is a very old technique that in the past few years is being 'rediscovered', and is considered by many people to be one of the best grafting techniques. This does not mean that it is a "one solution fits all", each species has an appropriate technique, but it is useful in a large majority of species.

This technique, that is called the "Mallorcan chip" the English and French call "Chip Budding"
(in case somebody wants to look for information in Google). It is described perfectly by Mundani in his Web on grafts (very recommendable a visit):
http://www.jardin-mundani.com/empelts/INJERTOS.htm

To provide an idea and example, these photos (which belong to Mudani and are linked to from his website) could be useful:

Update as of 14 -September-06:

My rate of success has been about 60%, but after what I have learned and experimented, I am certain that I could raise it to 80% or more the next year. Following are some of the conclusions I have reached (beneath are pictures of grafts I have made):

- **The best method is the chip graft**. The T graft or the side graft can work but fail more frequently so I don't advise them
- **The best results have come from host and chip coming from a branch of the same year**.
- Host/Chip combinations: woody/green and vice versa also can work although it works more slowly. Also woody/wood is even slower and fails more often
- It's possible to use chips from cuttings gathered in winter and kept in the refrigerator.
- **The best results are obtained from green host and chip, when they are as mature as possible**, when they begin to change color and start becoming semi-woody.
- It is important that the chip eye is as developed as possible. I have obtained good results even with eyes that were on the verge of appearing. It seems that the development of the eye induces the acceleration of the healing of the union.
- Protect the graft from the sun for the first 10 days. I have always covered the grafts with aluminum foil, This way, sunburning is avoided and humidity is conserved.
- If you cover the graft with aluminum foil it is not necessary to cover the eye with the grafting tape. If this is done, be sure to cover the entire graft union area with grafting tape. In any case, I don't leave the petiole attached; I have always cut it from its base and have covered the cut with grafting tape.
- If water enters the graft while the tape is in place, there is a risk of rotting, so take this into account of you live where it rains during the summer. When possible, I covered it with an aluminum bag to prevent the entry of water. Obviously, in this case had to eliminate leaves and trim back some of the branches.
- I suggest you don't use mástic, If feel you must, apply it sparingly, only in areas that have healed badly and very little extension. When I have used a lot of it, the graft ended up dying, probably for lack of oxygen.
- Normally, 3 or 4 weeks is sufficient for the grafts to take hold. Past this time, you can remove the grafting tape but do so carefully because the union is delicate. If the chip has a good color, without wrinkles nor blackened area and is hard to the touch, it is very probable that the graft

is doing well. On the contrary, if putting some finger pressure on the chip makes it give way and it feels spongy, the graft will probably fail.

- Finally, leave on the covering over the graft at least until one eye is in an advanced state of budding, until you are certain that the graft has begun to sprout. Healthy growing parts acquire the needed sap and guarantee that the sap continues flowing towards the graft, otherwise the fig tree might reject it as a sterile branch and let it dry out. Fig trees quickly keep sap away from the areas of the branch that lack leaves and eyes, which would dry the graft. What has happened to me is that for chips that had taken hold but they had not begun to appear, I made the mistake of cutting all the leaves and eyes past it on the branch, which ended causing the entire branch to dry out. On the contrary, if you wait until the graft has begun to sprout before cutting the leaves and eyes past it on the branch, the sap will go to the graft and it will grow vigorously
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Surely I have forgotten some details but I believe that with what I have written you can get an idea of where I am going. These are my conclusions and experiences, which of course might differ from other peoples' experiences and conclusions based upon variables such as location, methods, etc.

Some Pictures

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This is one of the few T grafts that has turned out well

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View of the graft at the beginning of September:

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