An experience-based approach to managing rubber vine

John Steel, "Liontown", Charters Towers

History

I've been at Liontown for 20 years. We came from a 5000 acre block between Home Hill and Bowen, where my brother and I were partners. We couldn't afford to let rubber vine take over there and we also had bad chinee apple. We just about had it cleaned up, so we had 15 years of sharpening our teeth before we came to Liontown.

We did have some unpleasant experiences, and learnt from our mistakes on our previous property. One mistake was with knapsack sprays, 2,4,5-T and diesel doing all the big ones on the creek that were in the shade of big trees. We got a shocking result, as we probably weren't doing them thoroughly enough, so we went back the next year and cut them all and poisoned them. It's a bloody hard lesson getting a bad result like that.

On Liontown, the previous owners had already started a major program on rubber vine and chinee apple. The old Liontown mining area was a thicket of rubber vine and chinee apple. This infestation was isolated from the main Charters Towers infestation. On this place, I knew what I was up against and it used to daunt me a bit. Liontown is a fairly developed block, and it was a bit of good country that you just couldn't let go. The critical thing is to get back to what you've done within a few years and you have to follow it, follow it, and follow it up.

The problem

Liontown is approximately 40,000 acres, and when I came here rubber vine was over the whole place. The main creek (Oakey Creek) had been done fairly well by the previous owners, but in the 10 years before I came it was neglected. Windsor Creek, the other main creek, had considerable thickets and islands of rubber vine. We've got 18,000acres of pulled country, which had big patches of rubber vine. There is 1500 acres ploughed or cutter-barred country, and the rest is native. This includes Brigalow scrub, iron bark and bloodwood forest. The rubber vine was scattered all through this country too. The weed was mainly down watercourses and on alluvials, where it really thrives. It's slow getting out onto the other country, but grows everywhere in due course. It thrives on the creeks and gradually spreads out. We've got the whole place clean now, but we still have to keep looking and doing follow-up.

Roads

You've got to put in a considerable road system. The creeks were very inaccessible, so you've got to have a bit of a road system to get at them. You'd do a lot of walking otherwise. When I was out with the dozer I'd put in $500 worth (five hours) to get at the infestation. It's there for the next five years, and you can easily get in there to work. We also dozed tracks all through the pulled country to get access.

Chemicals

I used 2,4,5–T and diesel for 20 years. It worked well as long as it was used properly. You had to spray all stems from all sides and let a bit go down in the soil, just to do them thoroughly. I'm always inclined to overkill than underkill. I think anyone going back for a second time isn't in the hunt.

We used 2,4,5–T and diesel for the first five years on Liontown, and then went onto Tordon. We always used Tordon and diesel for the knapsacks. We've got Tordon left over from our original bulk purchases, and this has kept us going in later years. We use Tordon and water now. They tell me modern poisons are a lot better, but it doesn't matter how good the poison is, the critical thing is to apply it properly.

We carry Graslan pellets in our saddle bags. Everyone has a little bottle of Graslan pellets, so if you see a rubber vine you just use half or quarter of a lid and you just sprinkle it around and then away you go, and it's just as simple as that. That's been a real help, we couldn't get around to carrying liquids when we were mustering, it would get a bit unbearable. But with Graslan we had a little pill bottle, so if you saw a rubber vine it could be done there and then. It's a big help. It really makes you feel good too, because you do it when you see it. The isolated ones cost a lot of money to get back to, and you can't find them when you do go back.

Equipment

We've always carried a mattock and a bottle of poison, a four-litre bottle with a home-made pourer. There were specific circumstances when we carried a mattock and an axe and the bottle of poison. That was mainly in the pulled country where there was a lot of big healthy individual rubber vines. It seems a bit cruel when you first start throwing a mattock and an axe over your shoulder, but it's a bloody sight easier at the end of the day. The axe made the job a lot easier in certain situations, but most of the time the mattock was quite adequate.

We had Rega knapsacks that held about 15 litres. We used knapsacks when there were patches of rubber vine. We'd carry a mattock and a bottle of poison for all the scattered stuff, but once we got a patch, we'd go back and get the knapsack. If you hump a knapsack for

Taken from *Managing Rubber Vine: An experience-based approach to managing a weed of national significance*, Department of Natural Resources Queensland, (2000).

miles getting one here and there, then it gets too heavy. A mattock and a bottle of poison is quite moderate, you can travel around a bit.

Humping a knapsack gets the load on your back, and away you go— you can be pumping and spraying and getting the job done. You've got to be meticulous with the service of them, especially with diesel mixes in them. The seal on the lid has to be working properly. There is a compression chamber on the side of them that has to be bled every so often. It drives you mad if they don't work properly, they've got to have a build up of pressure so that you can stop pumping and still keep spraying. I always carried all the parts I needed for the sprayers in the vehicle. We used to have a 44 gallon drum with the stub of an inch pipe welded in the bottom, a hose attached and a handpeice, just like a bowser. You could just have it on the truck and fill your knapsack up with diesel. It was simple and convenient. We'd mix every individual knapsack. For a start I used to mix the brew in bulk, but I gave that away, because you'd knock off for a month and the stuff would go off. You've got to mix your chemicals when you want to use them, not have them mixed for months. They get stale and don't work.

For the last six or seven years or more any pods we found, we used to pick them up and bring them home. We'd have a shopping bag on our belt and just stick them in the shopping bag. Probably a lot of pods wouldn't have been viable anyway, but we were just not taking the chance. Most were fairly mature pods and might have dried out and had viable seed. We used to have bags of them and burn them, bring them home in buckets and tip them into a plastic bag and then burn them in the incinerator.

Cut stumping

We carried the mattock and a bottle of poison wherever we went on the place. We just cut the rubber vine off at ground level with the mattock, split the stump with the axe end of the mattock, and gave them a dose of poison. We did that all year round. Cut and split. I didn't use a chainsaw because I didn't think it was as effective as using an axe or a mattock. The chainsaw takes it off clean, puts an oily film on, I wasn't confident of getting good chemical intake. I think if you've got to go back a second time you may as well not be in it.

Basal bark spraying

We always tried to limit basal bark spraying to when there was a bit of active growth. I always did them thoroughly, and let a bit of poison run down into the soil. I knew how critical it was. The plant had to be sprayed from all sides, not just the sides you could get at easily, it had to be all done. When they are not done properly and three-quarters dead, then they are twice as hard to cut with an axe when you go back. While they are fleshy and healthy they cut off pretty easily, so that's what I preferred to do. It is critical if you are spraying to do it right the first time. If you've got a lot of work to do and get along half doing it, then you get a lot half done— which isn't done at all.

Dozer

We had a dozer right from the word go. We learnt right from very early that it's the best way to get rid of thick patches of rubber vine, but it has to be done right. I think you've gotta do a job properly with the dozer, take it all out, cut it all out, cut right down to your bottom. Shake all your dirt out so you don't have a big stack of silt. That also makes it better to burn. All those things are critical, otherwise you end up with a big stack of regrowth. The worst thing to do is doze your banks in and bury stuff. Bloody disaster doing those sort of things. All your money's wasted and you've achieved nothing. To get a good result you've got to spend say $2000 instead of $1000, do it properly. It's cheapest in the long run, because you could spend another $5000 spraying if you don't do it properly the first time. I think having a dozer is critical.

Fire

In the early stages I used to just burn when I had the opportunity to eg. just burn along a creek with the wind blowing the right way, because I'd want to work that area in the next year or two and hopefully that'd keep it clean. We rotate and spell paddocks all the time, so I didn't fence off and burn specifically for rubber vine. It's a critical lesson. You can't make something happen that won't happen. When the big wet season comes that's the year, you can have the paddock shut in preparation for trying to burn. I was thinking of fencing off some frontage to try and burn at one stage, but never got around to it. It's a lot of mucking around, the costs of fencing, the costs of fire breaking and having men on to burn, a few thousand ticks over to burn a little paddock off. If one man went out there with a few thousand dollars he can clean it up without having the problem of burning all that country.

Scrub fires had pretty sketchy results on rubber vine. The fire would burn the tops and they'd come up again. I don't think fires are a magic wand or anything, they certainly open things up and let you get in work. It's hard to get a really good hot fire. I'm not knocking fire, it's definitely a handy tool, but we didn't use it a lot. It's nice when we had a paddock pulled and burnt because that meant it was going to be a nice area to work in from then on, but all the creeks were pulled too, so that gave us full access to get at the rubber vine.

Mapping

I traced maps of all the paddocks. All the major infestations were marked with a cross and they were the infestations that had to be found and looked at. A lot of the high country only had infestations on the water courses, so where there was a major infestation you'd mark it and they had to be checked properly and not missed. Otherwise you'd be just walking around forever looking.

Hard work

In the early stages I did most of the work on my own, but I did end up having a few blokes help. We'd use every opportunity and work all the time we could on it.

We started off from very small beginnings, just doing what we could. That's the key. Anyone that goes into a big scheme straight away might make big mistakes, unless they get a lot of good advice. If you start out small, then only make small mistakes you can learn from them. At times I didn't think we would ever make it, but I wanted to see the day when we had it all clean. When I began, the only thing that was free was my sweat.

The creeks

There was a considerable infestation along Oakey Creek, and it was a long slow process getting it done. It used to be my hobby, I'd start at seven in the morning and dark would chase me home. I'd come home at five o'clock for a cup of tea, and then I'd be up the creek for two or three hours. I didn't daydream either, I just kept chipping away, and because I knew if I didn't get it done it would be beating me. You've gotta love your land, I couldn't let those good alluvial flats go to rubber vine. Re-infestation is the big problem in Oakey Creek. The 7 or 8 miles of creek are walked every year, carrying a mattock and bottle of poison.

Windsor Creek is our other main creek, and it had considerable thickets and islands of rubber vine. There were bad patches that were just impossible with the axe, so we skirted around them and left them. We got in and did the stuff that wasn't real bad that we could do by hand.

I had Wambiana Creek all done, except there might have been 8–10 plants missed. It's a beautiful alluvial little gully, and when I went back there there were the plants I'd missed. In three years you wouldn't believe the size they'd grown to. There was about 10 of them, but there were a million seedlings around each one. It's only about a mile and half to walk that gully, and I thought I'd just do that one day when I'm on my way home and have an hour to spare. You don't make a special job of it. It really devastated me. I didn't usually have that happen, especially when we'd exhausted all the seeds for five or six years and then we just slipped up. It was so good and so clean that you'd think, oh, it'll be just a walk one hour on the way home one day, but it's back, it's five more years. You gotta check it every year or every second year for another five years.

Back creek had the last big patch left that hadn't been touched. The previous owners hadn't touched it and there was a jungle of rubber vine, growing up trees, just one for the too hard basket. It's a good heavy grass growing gully, so we pulled that area, put a fire break around it all and stoked it up. It was a real windfall. We'd had a really bad frost year and it had burnt the tops off. We had a good fire and it left stumps everywhere. It was a real winner. The big stumps sprouted again out of the banks, but we followed up spraying. That cleaned it up.

Brigalow Dam

At Brigalow dam, there was a gully full of rubber vine. It was left for years and years, I waited until everything was right. I ripped each side of the gully and really cut it out. The gully was all dozed, bringing all the rubber vine out. We cut it all down considerably and pushed it all out and we didn't get much seedling regrowth, we only humped knapsacks around it to clean it up, spot spraying for cut of stumps. I thought it was going to be a vegetable patch of seedlings. We dozed the whole gully out and I was amazed that we didn't get much seedling regrowth. Where we cleaned up we had heavy concentrations of stock, it was a cattle camp more or less, and they worked it. We did chuck Urochloa seed in all the silt, but weren't worried, because we weren't trying to protect it, we just chucked it in there for something to chuck in. I think the heavy concentrations of cattle might have been the most critical factor. With the silt left there it might have just been a real vegetable patch of rubber vine.

'The last big patch'

Our last big patch of rubber vine was in bottom paddock and covered 140 acres. It was a really dense area of rubber vine, up the trees, a shocking mess. There were rubber vine patches out through the gidgee scrub as well. We just kept on skirting around it, picking up the perimeter stuff over the years. Wouldn't waste any time on it. They put fear in you a bit that they are seeding, but they're not that much of a problem. You can isolate them for twenty years if you want to, and just the odd seedling may come around, nothing major. We pulled it at the end of '93, raked it at the beginning of '94, and then burnt at the end of '94. It was a very simple patch to pull. We've had bugger all follow up there. We were really thrilled with it. We went to a little bit of extra cost, stacking all that timber with the rake, but the result was worth it.

Every rubber vine stump must have been fractured and knocked about by the rake teeth going back and forth, and they were like hairs on a cats back in the bulldust, and they were all killed. The intense heat from the fire we had also made a big difference. It was incredible. That was the last patch of rubber vine on the place. It was left and left, it wasn't touched. It was spreading and it was pretty isolated with a bit of rougher country around it. It was pretty dry then, and if we'd had more moisture around then there might have been a lot more regrowth. We had bags of Verano and Seca handy, and there was a bit of buffel scattered through the country before. Once it was cleared and raked, the buffel went mad. It is now virtually all buffel and we didn't really plant anything, only Verano and Seca.

Planning the attack

I didn't keep any records at the start. In the early years you can keep it all in your head, but then it gets confusing and you've gone three years and haven't been back to a paddock, so we started keeping a book of records. The records would state what creek in what paddock was done, the day it was done, we just kept it simple. They were critical and without them you could easily let areas slip. The records gave you a bit more incentive. When you start off you spread out, you clean a patch with the dozer and two years go by; you think, I've got to get back there, but you're doing other stuff

and if you aren't careful you have to get the dozer again, it's easy to let it slip a bit too long. It's cheapest to have a book of records, because if you let it go too long you have to go and clean it again.

Priorities

We worked in the timbered country first. In the pulled country you can see what's going on, but in the timbered country we didn't want it getting it out of hand. We got it out of the road before it got bad. We are fortunate in that a lot of our water rises from on the place, and we used to like getting to the head of the infestation. I used to cross the boundary and check the gullies up further to make sure I wasn't going to leave a dozen plants up there would re-infest us forever. I think doing your perimetre plants, getting it back to your big infestations is the best thing to do.

Weed control dominated our work program, it absolutely dominated it. Without the rubber vine and chinee apple control programs we could have done a massive amount of pasture development and other work, but you just have to get your priorities right. We've got a reasonable area that is developed, but we could have done a lot more if there was no weed work.

Economics

Economics are just going against you all the time. If the industry were profitable it would make a hell of a difference. But you can make a start, you can just start on the perimetre stuff, and the isolated stuff. A stitch in time with these damn things, they used to haunt me every time I'd see them getting out of hand.

I don't think rubber vine purely robbed us of production. But every acre's an acre, and your best acres are the ones you are inclined to lose. Alluvial country is what you tend to lose, because the rubber vines loves that sort of country. It wasn't that big a problem on Liontown, because it wasn't covering a big enough area to effect me greatly.

I did a bit of a run down on economics three or four years ago, and I reckon there'd been about $350 000 put into it in labour, mainly labour. We didn't tally up dozer hours or anything like that because the dozer was there and available and just parked on the job. We are spending $15,000 per year, but that doesn't go far, your labour soon uses up $15,000. When there is spare time, we just grab the horse float and the horse, a bottle of poison and the little baby mattock and ride. You could ride all day and only get 10 rubber vines, but its got to be checked. It seems pathetic that you gotta do so much riding and checking, but if you don't do it, then you are back behind where you started. You've got to accept that, you can't maintain things for nothing. In a business like this you should be able to spend $25 000 per year or something like that on maintenance of your country. It's hard to accept when you've never done it. It is critical, works like an insurance policy.

You won't get your money back on property value. I've been through that as I've just had a valuation on the place. You'd never get back what it's cost, it doesn't make that much of a difference. A block that's filthy with rubber vine doesn't have a carrying capacity much different to an identical block. We haven't made much difference to carrying capacity on Liontown with the rubber vine program. We've really lifted the carrying capacity through the pulling and pasture development.

I did all the work because I want to look after the country. It's not economics at all. I couldn't justify if on economic grounds. I've just dreamed all my life of having a bit of dirt and a few cows. I just want to see the day when I had it all clean.

Properties are still very forgiving, and people might not have seen rubber vine affect their economics. They are still producing much the same, but the weed problem is building and building. If they want to develop they have to make a start on the weeds and then follow it; it will be counterproductive if they can't follow it through.

Knowledge

I think it's important to have a practical knowledge of the problem you are up against. My knowledge comes from experience, but you can't come up with much yourself, you've got to get research and other people's opinions. You can really learn a lot if you do that, and I think it's critical. You never have enough time to learn everything yourself, so anything you find out from other people is valuable.

Just a small example that I learnt 35 years ago was to tow away the plants a bit after you cut them. We cut big plants and just dropped them there, and we came back in two years time and the rubber vine plant was there, full of grass, and full of rubber vine seedlings all tangled up. If you tried to pull it away, it wouldn't come, and you couldn't spray the seedlings because there's so much grass, it just consumes all your spray. The thing to do is pull him five yards away where there's very little seed stocks, the cattle work where you cut the rubber vine and they keep the seedlings under control a lot.

In the open, where the cattle have been working, you can spray all the seedlings, but where they've been protected it's bloody hard to get at them. When we were cutting and poisoning patches we'd just stack them, and

Afterword: John Steele no longers manages Liontown, and his brother has taken over the property. John still helps out though, and says that the impact of rust which has spread since the above account was recorded, on the rubbervine populations on the property has been enormous. The rust has acted to limit the expasion of already existant infestations and the germination of young plants. However, they still are sure to carry small mattocks with them where ever they go on Liontown, to keep surviving populations in check.

put a match to them some time later if you could. People probably think that's a lot of stupid hard work. But just that little bit of extra effort, makes it a hell of a lot easier in the long run.

Opportunities

We always took common-sense opportunities. We were always very aware that big-grass seasons made everything twice as hard, and when the season was a bit light we had cleaner going and we'd take the opportunity. When you have a paddock with cattle and pretty short grass, then that's the time to be working in it. When you get grass up around your waist it drives you mad when you try to work in it.

Disclaimer:

Some of the herbicides used for the control of rubber vine within this case study are not registered and hence not recommended by the Tropical Savannas CRC.

For more information about land-management issues in northern Australia, go to the Savanna Explorer section of our website at http://savanna.ntu.edu.au/
For information about the Centre's extensive research program go to our research section.

For more information about the manual: *Managing Rubber Vine: An experience-based approach to managing a weed of national significance*, Department of Natural Resources Queensland, (2000),

Contact: John McKenzie or Shane Campbell (QDNR) on Tel: (07) 4787 0600.

Queensland Dept. Natural Resources: Tel: (07) 3896 3111, Website: http://www.dnr.qld.gov.au/