

# Ibogaine Data Analysis Results

Presented at the 4th International Ibogaine Provider's Conference  
which took place between May 7th and 10th, 2014  
at the Blue Waters Hotel in Durban, South Africa.



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<http://puzzlepiece.org>

# This Slide Show had been Edited

This slide presentation was originally prepared in collaboration with and presented with Ben De Loenen of ICEERS (<http://iceers.org>) to present the analytical results from a series of iboga samples donated by customers from around the world. In the 16 months following the May, 2014 conference, it has not been possible to obtain full permission from ICEERS to retain their content in this presentation, so it has been removed to make the remainder publicly available. Ben De Loenen can be reached at [bendeloenen@iceers.org](mailto:bendeloenen@iceers.org).

Note: This slide was not present in the original presentation.

# Analysis of *iboga* Products

- [Paragraph Removed].
- A commercial service is provided by Biochemical and Scientific Consultants (BSC, <http://bsclaboratory.com>) of Hilton, South Africa, to provide certified quantitative analysis of *iboga* alkaloids. Please contact Dr. Sandy Bye at [info@bsclaboratory.com](mailto:info@bsclaboratory.com) to have your *iboga* products analyzed.

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# HPLC of Iboga Bark from Minds Alive

2014/04/29 04:51 PM

Chromatogram C:\Clarity\Ibogaine\Calib\HPLC (Right) - 2014\_04\_29 04\_49 PM.PRM

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## BSC

Biochemical and Scientific Consultants cc

### Sample Info:

Sample ID	: Anwar bark analysis 042814 with 70% ACN buffer	Amount [ug]	: 574.4
Sample	:	ISTD Amount	: 0
Inj. Volume [ml]	: 0.02	Dilution	: 1
Method	: ibogaine2	By	: chris
Description	: Ibogaine base standardization	Modified	: 2014/04/29 04:50 PM
Created	: 2013/10/11 12:21 PM		
Column	: C18 12.5 cm Sum (right)	Detection	: 278 nm
Mobile Phase	: 70% ACN with 38 ppm ammonium formate and 140 ppm trimethylamine	Temperature	: ambient
Flow Rate	: 1 mL/min	Pressure	: 1050 psi
Note	: Highly pure ibogaine base for reference		

Autostop : 10.00, min

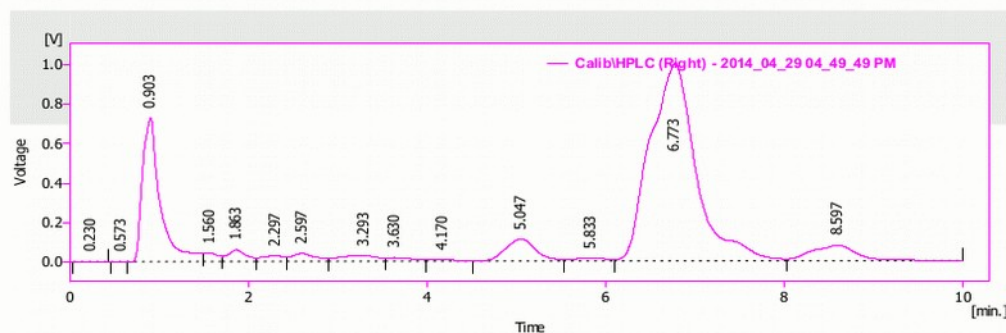
Detector 1 : Signal 1

Subtraction Chromatogram : (None)

External Start : Start - Stop, Down

Range 1 : Bipolar, 1250 mV, 10 Samp. per Sec.

Matching : No Change

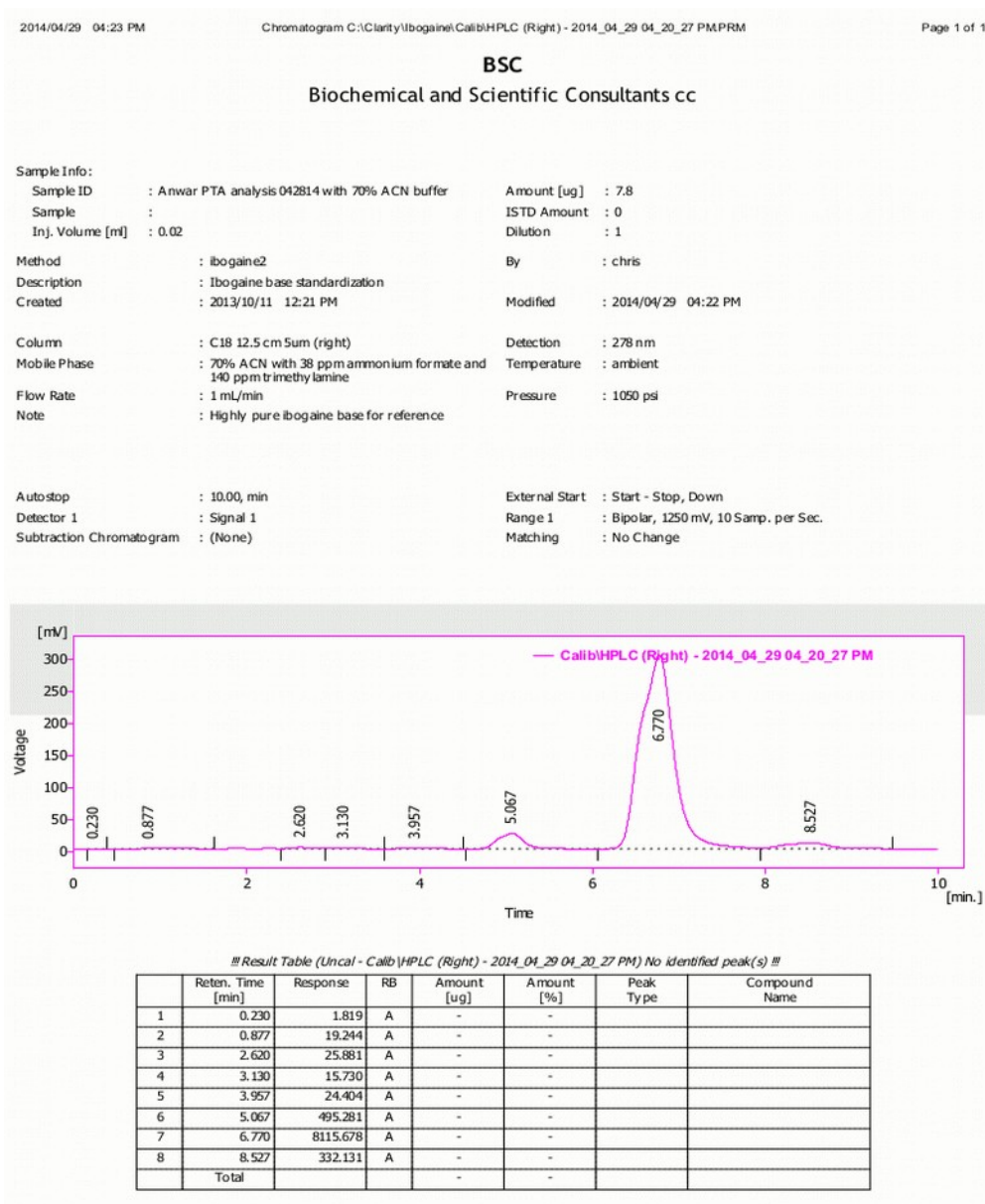


Result Table (Uncal - Calib\HPLC (Right) - 2014\_04\_29 04\_49 PM) No identified peak(s) !!

	Reten. Time [min]	Response	RB	Amount [ug]	Amount [%]	Peak Type	Compound Name
1	0.230	2.422	A	-	-		
2	0.573	1.259	A	-	-		
3	0.903	10119.873	A	-	-		
4	1.560	460.165	A	-	-		
5	1.863	835.410	A	-	-		
6	2.297	494.573	A	-	-		
7	2.597	743.823	A	-	-		
8	3.293	857.169	A	-	-		
9	3.630	377.720	A	-	-		
10	4.170	187.783	A	-	-		
11	5.047	2632.910	A	-	-		
12	5.833	381.557	A	-	-		
13	6.773	35641.636	A	-	-		
14	8.597	2747.518	A	-	-		
Total				-	-		



# HPLC of PTA HCl from Minds Alive



# Results of BSC Analyses

- Voacangine was present at 1-2% in both Voacanga root and trunk bark, more than reported previously.
- The conversion of TA to PTA HCl strips out nearly all the voacangine, which ends up in the RA.
- Tabernanthine was never detected, but may be hidden in the ibogaine peak due to chemical similarity.

# Recovered *iboga* Alkaloid (RA)

2013/10/16 02:34 PM

Chromatogram C:\Clarity\Ibogaine\Data\HPLC (Right) - 2013\_10\_16 02\_33\_25 PM.PRM

## BSC

Biochemical and Scientific Consultants cc

### Sample Info:

Sample ID : 448 ppm BSC5 RA in ACN buffer  
Sample :  
Inj. Volume [ml] : 0.02

Amount [ug] : 8.96  
ISTD Amount : 0  
Dilution : 1

Method : Ibogaine

By : valerie

Description : Ibogaine

Created : 2013/10/04 12:16 PM

Modified : 2013/10/16 02:33 PM

Column : C18, 125 mm

Detection : 278 nm

Mobile Phase : 70% ACN with 38 ppm ammonium formate and 140 ppm trimethylamine

Temperature : ambient

Flow Rate : 1.0 ml/min

Pressure : ~ 1430 psi

Note : Sample was dissolved in straight acetonitrile

Autostop : 10.00, min

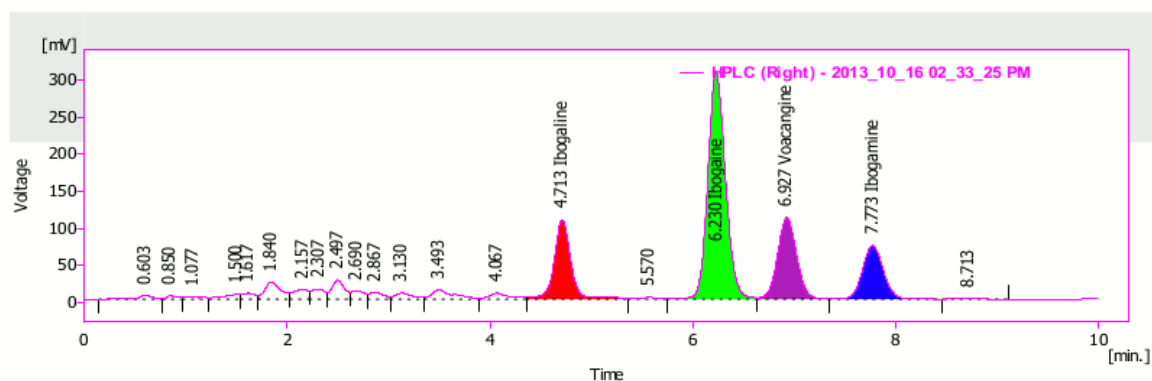
External Start : Start - Restart, Down

Detector 1 : Signal 1

Range 1 : Bipolar, 1250 mV, 10 Samp. per Sec.

Subtraction Chromatogram : (None)

Matching : No Change

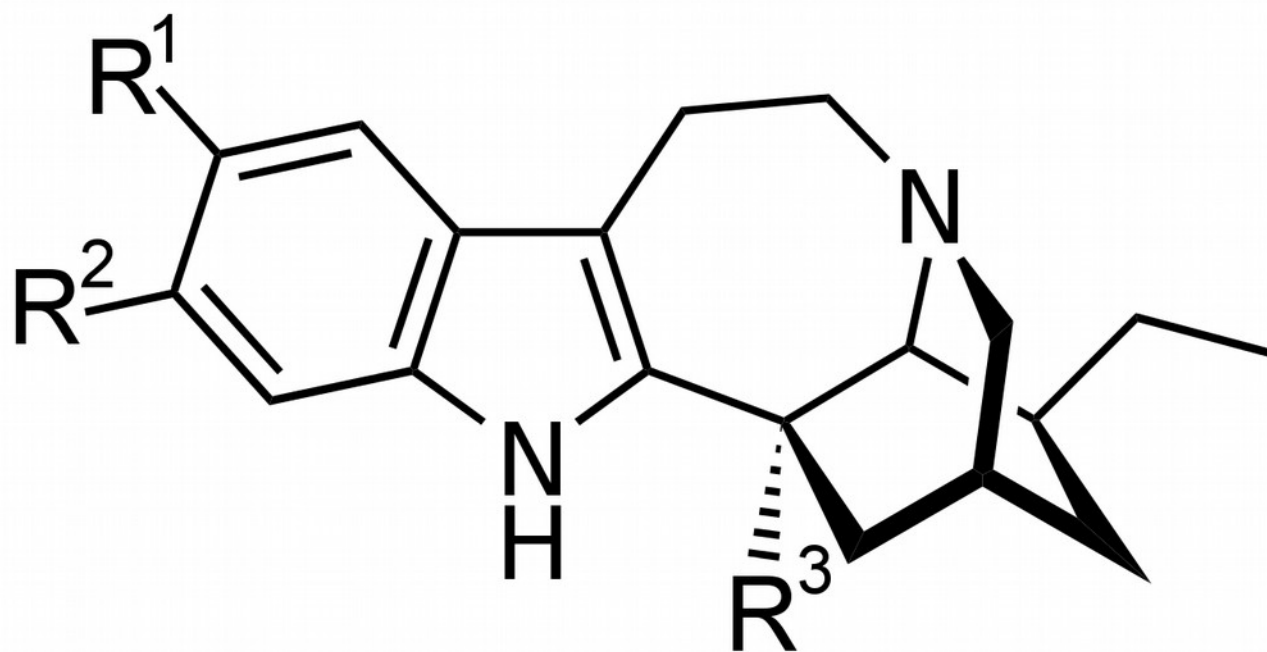


Result Table (ESTD - HPLC (Right) - 2013\_10\_16 02\_33\_25 PM)

	Reten. Time [min]	Response	RB	Amount [ug]	Amount [%]	Peak Type	Compound Name
15	4.713	1248.014	A	1.160	12.9	Ordnr	Ibogaine
16	5.570	40.229	A	0.000	0.0		
17	6.230	3721.786	A	3.458	38.6	Ordnr	Ibogaine
18	6.927	1436.081	A	1.333	14.9	Ordnr	Voacangine
19	7.773	1027.436	A	0.954	10.6	Ordnr	Ibogamine
20	8.713	14.621	A	0.000	0.0		
	Total			8.960	77.1		

# There are Other Possibly Useful *Iboga* Alkaloids Besides Ibogaine

Iboga Alkaloids for Addiction Treatment Research



	$R^1$	$R^2$	$R^3$		$R^1$	$R^2$	$R^3$
Ibogamine	H	H	H	Coronaridine	H	H	$\text{CO}_2\text{CH}_3$
Ibogaine	$\text{OCH}_3$	H	H	Voacangine	$\text{OCH}_3$	H	$\text{CO}_2\text{CH}_3$
Tabernanthine	H	$\text{OCH}_3$	H	Isovoacangine	H	$\text{OCH}_3$	$\text{CO}_2\text{CH}_3$
Ibogaline	$\text{OCH}_3$	$\text{OCH}_3$	H	Conopharyngine	$\text{OCH}_3$	$\text{OCH}_3$	$\text{CO}_2\text{CH}_3$

# Possible Alternatives to Ibogaine

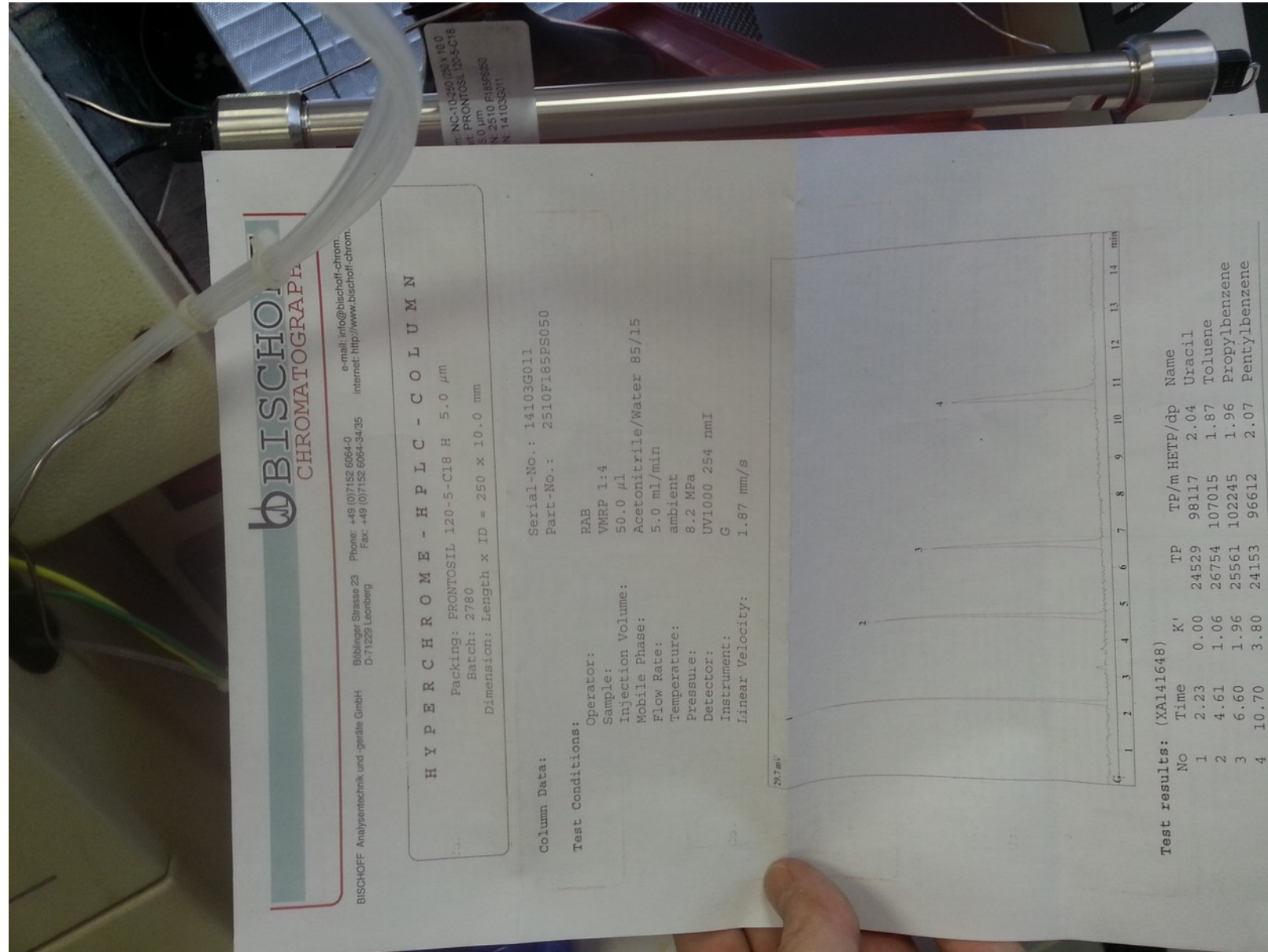
## Iboga Alkaloids Tested by Humans:

- Ibogaline: Psychoactivity similar to ibogaine with 2-3 times the potency; can be isolated from iboga RA or made from conopharyngine.
- Noribogaine: Not psychoactive at 160 mg.
- Voacangine: Not psychoactive or antiaddictive but causes severe gastrointestinal distress at 200 – 700 mg.

## Examples of unexplored but potentially promising alternatives to ibogaine:

- Ibogamine – Present in larger proportion in “especially potent” TA; available from coronaridine, the most naturally common of the simple *iboga* alkaloids.
- Tabernanthine – Patented by Ciba along with ibogaine to potentiate opiates in human beings.
- Ethoxyibogamine – The ethyl analog of ibogaine or tabernanthine which can be synthesized from either in a few steps.

# The Preparative HPLC Column Arrived Too Late for This Presentation

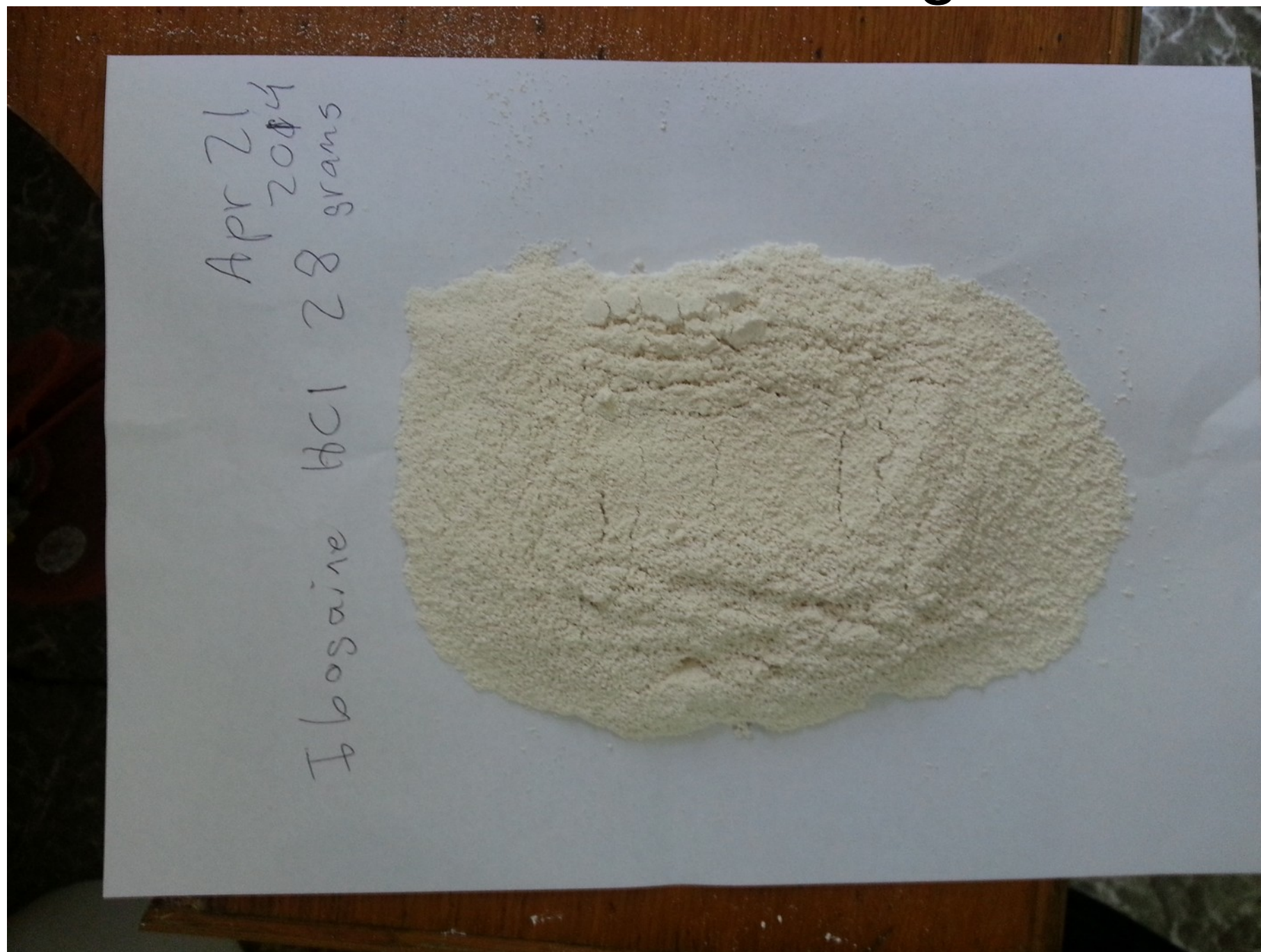


# Ibogaine Factory in Durban

- Acidgaine, LTD.
- Sole product is ibogaine HCl and intermediates derived from the bark of *Voacanga africana* trees cultivated in Ghana for seed.
- Contact Abdul Gani at +27 84 886 2872 or [abduhrahimgani@gmail.com](mailto:abduhrahimgani@gmail.com) for details.
- Starting production this year, with anticipated eventual output of one kilogram of ibogaine HCl per month.
- Purity of ibogaine HCl to be certified by BSC.
- Elaborations to the production method described at the 2012 GITA conference in Vancouver will remain proprietary until August 2015 to allow recovery of investment in materials by Acidgaine.



# First Test Batch, 98.7% Ibogaine HCl





# A 20 Acre *Voacanga* Farm in Ghana





# Mr. Gani with a Flowering *V. africana*





# Flowering *Voacanga africana*





*V. africana* is cultivated for seed





*T. iboga* on the left and *V. africana* on the right,  
both planted as seed three years ago in Cameroon.





# Three year old *iboga* from seed





# *iboga* flower





# *iboga* seeds in Cameroon





# 20 Hectares of Cameroon Forest Cleared to Grow *Iboga*





# But Currently Used to Grow Egusi (Squash) for Seed



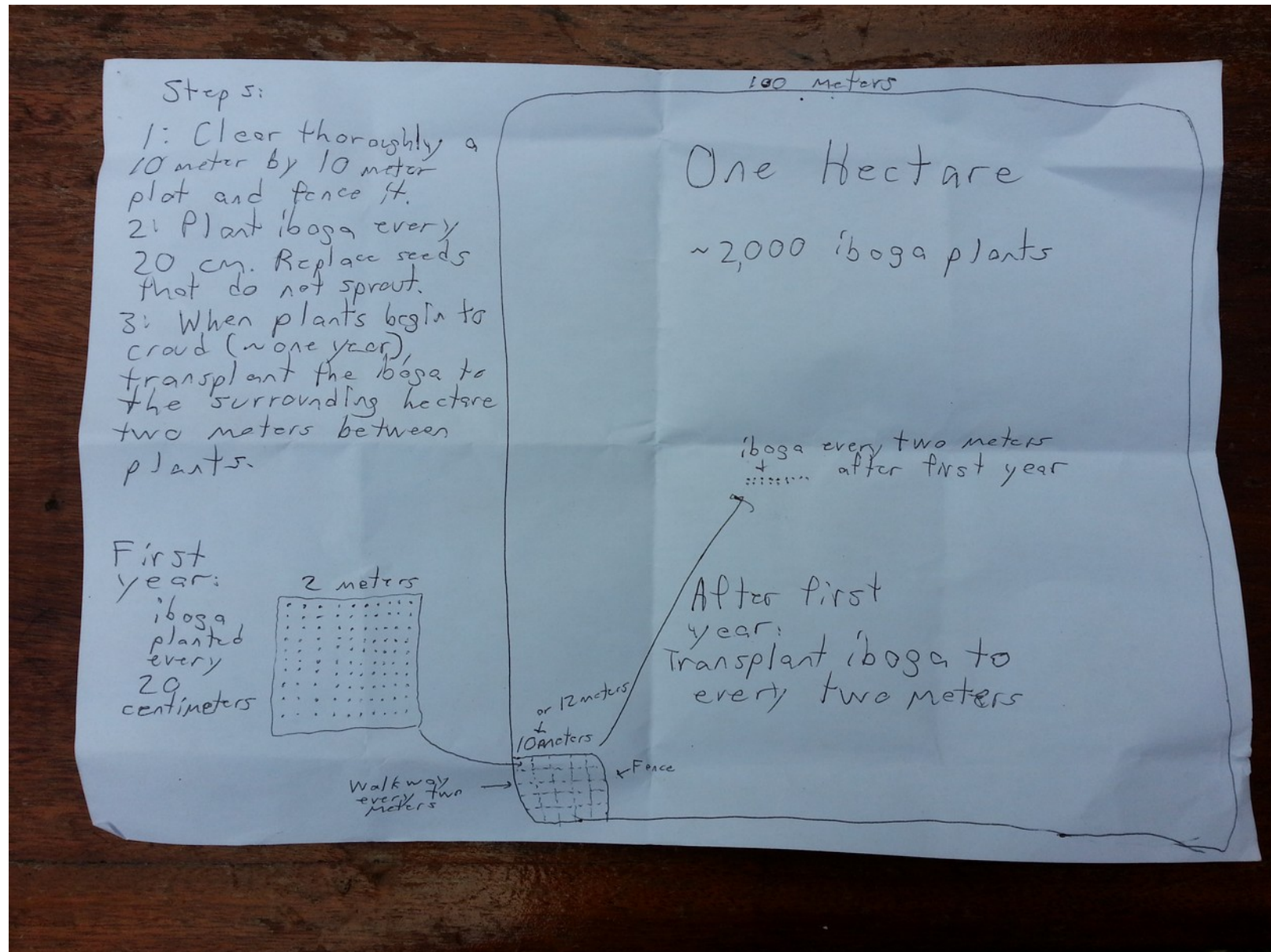


# *Iboga* Seedlings to be Transplanted to the 20 Hectares





# My Suggestion for Starting an *Iboga* Farm in a Place Like Cameroon



# Iboga Seed Obtained for Durban Pilot Farm

- 53 Cultivated seeds were generously donated by Ben Fuller of Cerberus Extract in Canada: ~80% germination.
- 50 Cultivated seeds were purchased for \$150 from Emmanuel Lih in Cameroon: 0% germination
- 110 Cultivated seeds were generously donated by Rolando Monteiro in Brazil: ~50% germination
- 264 Wildharvested seeds were generously donated by Christopher Awa in Cameroon: ~12% germination





# Beginning Farm After Two Months





# Pilot Farm as of Last Sunday





# The Effect of Full Sun on Iboga





# A Few Lessons Learned So Far

- Plants seem to have thrived despite night time temperatures dropping below 15C.
- Full direct sun seems to make leaves yellow and narrow – but so does a deficiency in nitrogen.
- Small plants do well in pots, even better than in the ground in this garden maybe due to better protection from pests.

# Thanks for Support

- Donors at University Covenant Church of Davis, CA
- Friends, fellow Christians and family through DELTA Ministries International
- Anwar Jeewa of Minds Alive Wellness Centre
- Ismail Tayob and Abdul Gani of Acidgaine, LTD
- The use of materials and instruments at BSC
- A big thanks to VISA and MasterCard

My Grandson Ben is One Today.  
There Will Be Cake At Lunch.

