



Discovery, Development and Commercialization of New Bio-active and Traditional Preparations (NWP-037)

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It was a CSIR coordinated inter-laboratory network project. Twenty laboratories of CSIR were working together under this project. Some of the laboratories were working for development of Drugs and some other for the development of herbal pesticide. The main objective of the pesticide development group was to "discover new pest management agents with herbal and single molecules which are plant based and non toxic to humans". Among all - CIMAP, NBRI,

CSMCRI, NCL, IIIM (Jammu), IHBT, RRL (Jorhat), IMMT (Bhubaneswar), AMPRI (Bhopal) and IICB Kolkata were associated in this project for collection and extraction of plants while CFTRI, CIMAP, ICT, IHBT, NCL, RRL (Jorhat), RRL (Thrivanatpuram) and CBRI Roorkee were screening laboratories. Total 149 samples of plant extractives were evaluated during interim period for their termiticidal properties, but none of the samples were found positive. Total 301 samples were received during the interim period. Overall, more than 320 samples were found positive, which have shown termite mortality more than 85% in the laboratory condition. (Photo 17, Table-3&4)



Photo 17: Various types of herbal material having pesticidal properties



Table 3. Progress of work during the interim period (2009)

Sl No.	Laboratory	Sample Received	Sample Screened	Positive Samples
1	CBT	00	00	00
2	CIMAP	20	10	00
3	CSMCRI	28	26	00
4	IHBT	95	33	00
5	IICB	00	00	00
6	NBRI	10	00	00
7	NCL	10	00	00
8	AMPRI	94	59	00
9	IIIM	00	00	00
10	RRL	44	21	00
11	IMMT	00	00	00
	TOTAL	301	149	00

Table 4. Overall, laboratory wise break up of samples received

Sl No.	Laboratory	Sample Received	Sample Screened	Positive Samples
1	CBT	20	20	02
2	CIMAP	1880	773	48
3	CSMCRI	559	309	27
4	IHBT	1029	504	58
5	IICB	397	249	53
6	NBRI	428	271	15
7	NCL	532	248	09
8	AMPRI	1051	293	05
9	IIIM	1212	1063	93
10	RRL	329	144	10
11	IMMT	95	09	00
	TOTAL	7530	3883	320

The only task of screening of herbal extractives was assigned to this laboratory. Some of the extractives have shown excellent results with more than 85% insect mortality during primary screening, out of which some of the samples could not performed well in secondary screening. It may be due to the seasonal variation and other environmental condition during collection of raw material. The test dose was 1000 ppm, number

of test insect 10 and duration of test was 24 hrs for each herbal extractive. Further, all the positive samples require detailed chemical investigation for fractionation, isolation, structure elucidation and formulation of effective molecule. We need expert help of other associated chemical laboratory as we do not have these facilities in the institute. Final report has been submitted to nodal laboratory.