

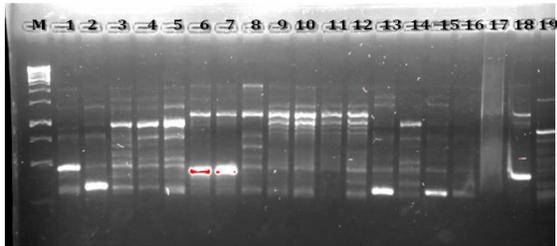
Hello everyone!

My name is Shiv Charan Kumar from ICAR-NBAIM, Mau, Uttar Pradesh, India. My lab is one of the participating labs in the India-UK Nitrogen Fixation Centre, working on optimization of symbiosis between *Rhizobium* and Pigeon pea for nodulation, nitrogen fixation and grain yield in the area of Indo-gangatic plane soils of India.

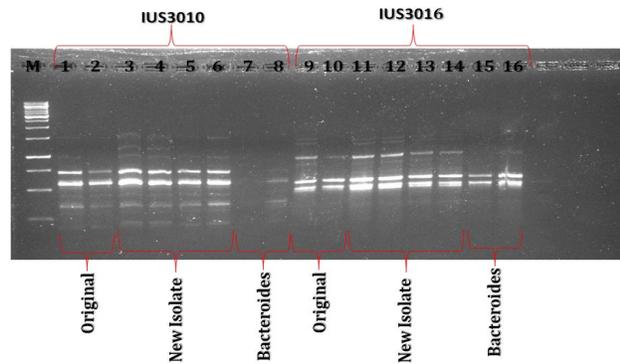
I visited the Dr. Philip Poole Lab in 22 May 2018 and I spend two months that was a really memorable, The Poole lab is one of the most prestigious labs in the field of rhizobial genetics.

My projects involved

1. Generation and evaluation of BOX PCR profile and generate a data table for similar and different strains of pigeon pea rhizobia based on the BOX pattern, for nod test and ARA test.



BOX PCR profile 1 to 19

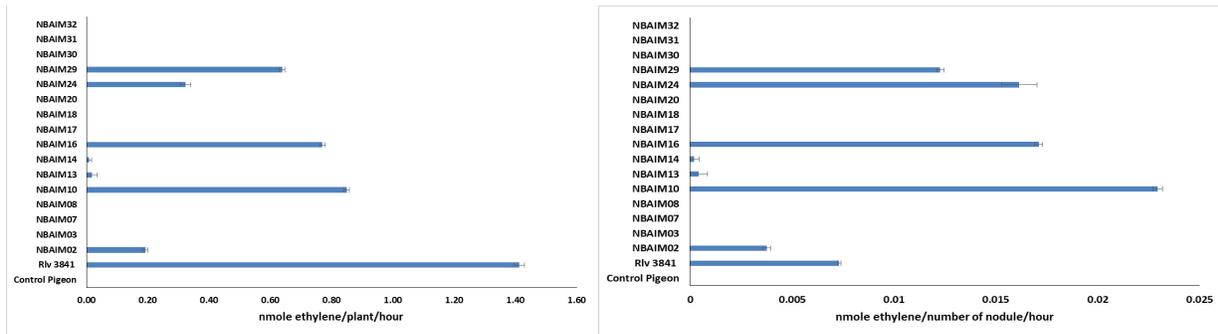


BOX PCR profile of IUS3010 and IUS3016

Strains used for nodulation test and ARA

Strains	New code	ARA Pots	Box PCR	Strains	New code	ARA Pots	Box PCR
NBAIM1	IUS3001	-	K	NBAIM17	IUS3017	+	P
NBAIM2	IUS3002	+	L	NBAIM18	IUS3018	+	Q
NBAIM3	IUS3003	+	A	NBAIM19	IUS3019	-	R
NBAIM4	IUS3004	+	A	NBAIM20	IUS3020	+	E
NBAIM5	IUS3005	+	A	NBAIM21	IUS3021	+	E
NBAIM6	IUS3006	-	B	NBAIM22	IUS3022	+	E
NBAIM7	IUS3007	+	B	NBAIM23	IUS3023	+	E
NBAIM8	IUS3008	+	M	NBAIM24	IUS3024	+	S
NBAIM9	IUS3009	+	C	NBAIM25	IUS3025	-	E
NBAIM10	IUS3010	+	C	NBAIM26	IUS3026	+	E
NBAIM11	IUS3011	+	C	NBAIM27	IUS3027	+	T
NBAIM12	IUS3012	+	C	NBAIM28	IUS3028	+	F
NBAIM13	IUS3013	+	D	NBAIM29	IUS3029	+	F
NBAIM14	IUS3014	+	N	NBAIM30	IUS3030	+	G
NBAIM15	IUS3015	+	D	NBAIM31	IUS3031	+	H
NBAIM16	IUS3016	+	O	NBAIM32	IUS3032	+	I

Acetylene Reduction Assay:



Experiment was conducted in boiling tube for nod test and pots for ARA test. Following parameters were recorded to detect the growth promotion by bacterial strains such as nodule number, nodule weight, shoot dry weight and nmole ethylene / plant / hour , nmole ethylene / g nod / hour etc. The result indicates that the performance of rhizobial strains varied. The strain IUS3010, IUS3016, IUS3024 and IUS3029, show good ARA activity. (Pea and Rlv 3841 used as positive control (conjugated with psNifH::sfGFP-pOGG026)).

It was a great experience to work in Dr. Poole's Lab

The Dr. Poole's lab is extremely well-organized and every scholar rigorously maintains it. This made working very smooth. It was a great experience to work in Dr. Poole's Lab. Dr. Poole's lab has vast expertise on rhizobia from different leguminous plants to boost up nitrogen fixation efficiency, which develops my enthusiasm to carry this work forward and lots of memorable moments spent there. Dr. Philip, Dr. Alison and Dr. Beatriz provide their support to me during my stay in Oxford. Dr. Beatriz helped me throughout my research program at Oxford; she was always there for me to solve my problems related research or any others. I got to hear and know so many new things. Towards the end of my stay and I got a chance to visit James Hutton Institute, Scotland for one month. It was a memorable day.

Thank you all members of Dr. Poole lab for your help and guidance for successful completion of my visit.

Thank You Dr. Poole's lab

