

Progress Report on Mix cropping demonstration

Introduction:

Inter cropping is a cropping pattern where main crop and companion crop are grown in the same piece of land. Farmers can enhance the production by optimum utilization of space available by investing less. In case of failure of one crop, production from the other crop gives some insurance against total crop failure. Therefore demonstration on mix cropping has been laid down in 1.5 acres of land in the farmer's field at Banuaguda village. The crop selected for the demonstration was: Rice, Finger millet, Black gram, Pigeon pea and maize. In case of maize both composite and HQPM varieties were under taken in the demonstration. The detail of the demonstration is as follows.

Details of mix cropping trials:

<i>Demonstration</i>	<i>Crop</i>	<i>Variety</i>	<i>Spacing</i>	<i>Total area (acre)</i>	<i>Area of the individual crop (acre)</i>
Demo.1 FM:BG:PS (60.25.15)	Finger millet	GPU-67	20 cm X 10 cm	0.4	0.24
	Black gram	Nirmal No.7	30 cm X 15 cm		0.10
	Pop Sorghum	Traditional	50 cm X 20 cm		0.06
Demo.2 FM:BG:PS (60.25.15)	Finger millet	GPU-45	20 cm X 10 cm	0.4	0.24
	Black gram	Nirmal No.7	30 cm X 15 cm		0.10
	Pop Sorghum	Traditional	50 cm X 20 cm		0.06
Demo.3 Rice: Maize :PP (40:40:20)	Rice	Jyotirmayee	15 cm X 10 cm	0.35	0.14
	Maize	HQPM-1	60 cm X 25 cm		0.14
	Pigeon Pea	Durga-30	45 cm X 20 cm		0.07
Demo.4 Rice: Maize :BG (40:40:20)	Rice	Jyotirmayee	15 cm X 10 cm	0.35	0.14
	Maize	Pusa Composite -4	60 cm X 25 cm		0.14
	Black gram	Nirmal No.7	30 cm X 15 cm		0.07

Average productivity of the crop in Koraput climatic condition:

<i>Sl.No.</i>	<i>Crop</i>	<i>Average Yield (Qtl.)/ha</i>
1	Finger millet	09.34
2	Maize	17.45
3	Black gram	10.00
4	Rice (upland)	12.00

Package of practices adopted:

Modified method of package of practices was adopted with the following details.

<i>Activity</i>	<i>Crop</i>	<i>Variety</i>	<i>Method</i>	<i>Organic manure (FYM in Qtl.</i>	<i>Fertilizer Application stages</i>						
					<i>Basal</i>			<i>Tillering</i>	<i>Pod formation/ Panicle initiation</i>		
					<i>N(kg)</i>	<i>P(kg)</i>	<i>K(kg)</i>	<i>N(kg)</i>	<i>N(kg)</i>	<i>K(kg)</i>	
Demo 1 & 2 FM:BG:PS (60:25:15)	Finger millet	GPU-67	Modified method with line sowing	8	4.5	12	12	NA	4.5	0	
	Finger millet	GPU-45									
	Black gram	Nirmal No.7									
	Pop Sorghum	Traditional									
Demo 3 Rice:Maize:PP (40:40:20)	Rice	Jyotirmayee		4	4.2	4.2	2.1	2.1	2.1	2.1	2.1
	Maize	HQPM-1									
	Pigeon Pea	Durga-30									
Demo 4 Rice:Maize:BG (40:40:20)	Rice	Jyotirmayee		4	3.5	4.2	1.75	1.75	1.75	1.75	1.75
	Maize	Pusa Composite -4									
	Black gram	Nirmal No.7									

Result:

<i>Demonstration</i>	<i>Crop</i>	<i>Variety</i>	<i>Spacing</i>	<i>Total area (acre)</i>	<i>Area of the individual crop (acre)</i>	<i>Plot yield (kg)</i>	<i>Avg. yield (qtl)/ha</i>
Demo.1 FM:BG:PS (60.25.15)	Finger millet	GPU-67	20 cm X 10 cm	0.4	0.24	68	7.10
	Black gram	Nirmal No.7	30 cm X 15 cm		0.10	29	7.25
	Pop Sorghum	Traditional	50 cm X 20 cm		0.06	Not yet harvested	
Demo.2 FM:BG:PS (60.25.15)	Finger millet	GPU-45	20 cm X 10 cm	0.4	0.24	88	9.20
	Black gram	Nirmal No.7	30 cm X 15 cm		0.10	25	6.25
	Pop Sorghum	Traditional	50 cm X 20 cm		0.06	Not yet harvested	
Demo.3 Rice: Maize :PP (40:40:20)	Rice	Jyotirmayee	15 cm X 10 cm	0.35	0.14	61	10.90
	Maize	HQPM-1	60 cm X 25 cm		0.14	238	42.50
	Pigeon Pea	Durga-30	45 cm X 20 cm		0.07	Not yet harvested	
Demo.4 Rice: Maize :BG (40:40:20)	Rice	Jyotirmayee	15 cm X 10 cm	0.35	0.14	35	6.25
	Maize	Pusa Composite -4	60 cm X 25 cm		0.14	129	23.00
	Black gram	Nirmal No.7	30 cm X 15 cm		0.07	15	5.35

Conclusion: The land which was selected for the demonstration was kept fallow for a long period. Although the yield was not satisfactory but it has a greater impact both in social and economic benefit of the community. Due to continuous rain the sowing was delay which reflects on the yield potential. Quality protein maize with Pigeon pea demonstration is a good combination for farming system for nutrition as farmers understand the importance of protein rich cereals and pulses. Yield potential of GPU -45 in case of finger millet is 30% higher that GPU-67. Average productivity of Black gram is 6.28Qtl/ha in different combination which ranges from 5.35 qtl/ha to 7.25 qtl/ha. Productivity of quality protein maize is double in comparison to composite variety. Average production of rice in upland mix cropping is 8.6 qtl/ha.

Some photographs of mix cropping demonstration:



IFDC scientist visiting the mix cropping plot



A view of mix cropping plot : rice : maize : pigeon pea



A view of the trial plot just after 15 days after sowing



A view of mix cropping plot : rice : maize : pigeon pea



A view of finger millet in mix cropping trials (var. GPU-45)



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