

to ensure that moisture does not converge, because it may lead to combustion. Air movement through the grain volume is useful to maintain a low temperature.

5.0 Conclusion

The study assessed the effect of the Zamfara Agricultural Comprehensive Revolution Programme (ZACAREP) on Soybean Production. Information was obtained from both participating and non-participating farmers. The socio-economic characteristics of the farmers were determined, the study sought to provide information on the level of production. The result of this study indicated that most of the soybean farmers were male and middle aged with relatively large household. They cultivated less than five hectares and are categorised as small scale farmers. The study showed that most of the farmers had farming experience in soybean production and were members of soybean farmers' cooperative society. Majority of the farmers used improved seeds sourced from ZACAREP, ADP and Ministry of Agriculture. Farmers also used combination of both organic and inorganic fertilizer on soybean production. It was evident that from this study these farmers applied fertilizer after three leaves vegetative stage. Farmers treated their seeds with seed dressing chemical before planting and most of them acknowledged the presence of insects on their crop sprayed insecticide to control their attack.

6.0 Recommendations

Based on the findings of this study, the following recommendations were made:

- i. Farmers should be encouraged to access formal training so that they form viable corporative societies to enable them participates in development programme.
- ii. Government should fully involve women in extension work in the area of the study so as to assist, train women on improved farming technology in soybean production.
- iii. Soybean production attracts profit; famers should be mobilized by the state government to participate to increase large scale production for foreign exchange earnings.

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Table 2: Distribution of respondents by socio-economic characteristics

Variables	Participating farmer			Non-Participating farmer	
	Category	Frequency	Percentage	Frequency	Percentage
Age	<30	8	3.2	10	4.0
	31-40	41	16.4	48	19.2
	41-50	128	51.2	113	45.2
	51-60	73	29.2	74	29.6
	>60			5	2.0
	Mean		47.80		47.18
	Std. Deviation		6.940		7.782
	Std. Error		0.439		0.492
Gender	Male	204	81.6	219	87.6
	Female	46	18.4	31	12.4
Education	Non formal	3	1.2	16	6.4
	Primary	167	66.8	125	50
	Secondary	50	20	71	28.4
	Tertiary	30	12	37	14.8
	Others			1	0.4
Marital status	Single	3	1.2	2	0.8
	Married	235	94	241	96.4
Household size	1-5	50	20	89	35.6
	6-10	128	51.2	115	46
	11-15	54	21.6	34	13.6
	>15	18	7.2	12	4.8
Occupation	Farming	121	48.4	111	44.4
	Civil Servant	9	3.6	22	8.8
	Artisan	7	2.8	6	2.4
	Farming and Civil Servant	45	18	42	16.8
	Farming and Trading	68	27.2	69	27.6
Farm size	0-2	63	25.2	55	22
	1-3	77	30.8	89	35.6
	1-4	61	24.4	52	20.8
	1-5	49	19.6	54	21.6
	Mean	3.193		3.246	
	Std. Deviation		1.033		1.021
Std. Error		0.065		0.064	
Labour source	Family labour	1	4	13	5.2
	Hired labour	22	8.8	49	19.6
	Both labour	227	90.8	188	75.2
Years/ experience	<10	67	26.6	225	90.
	11-20	166	66.4	10	4.0

21-30	19	7	11	5.64
<30				
Mean		10.66		0.00
Std. Deviation		2.410		0.000
Std. Error		0.152		0.000

Source: Field data survey, 2016

Table 3: Distribution of participating and non-participating farmers based on Level of farming activities covered by ZACAREP

Variables	Participating farmer		Non-Participating farmer	
	Frequency	Percentage	Frequency	Percentage
Seed				
Improved	79	31.6	76	30.4
Local	34	13.6	41	16.4
Large/Medium	8	3.2	15	6
Early Maturing	60	24.0	37	14.8
Drought tolerant crop	60	27.6	81	32.4
Seed treatment				
Yes	247	98.8	241	96.4
No	3	1.2	9	3.6
Chemical used for seed treatment				
Apron plus	236	94.4	230	92.0
Captan	8	3.2	8	3.2
Fanasan D.	2	0.8	4	1.6
D Force	4	1.6	5	2.0
Wood ash			3	1.2
Planting date				
Early June	153	61.2	133	53.2
Late June	38	15.2	43	17.2
Early July	59	23.6	74	29.6
Cropping system				
Sole Cropping	70	28	83	33.2
Intercropping	51	20.4	65	26
Both	129	51.6	102	40.8
Planting method				
Broadcasting	42	16.8	44	17.6
Drilling	118	47.2	93	37.2
Spot Planting	49	19.6	62	24.8
Double row Planting	41	16.4	51	20.4
Spacing				
75cm x 10cm	216	86.4	205	82
Drill seeds at 50 -75cm				
x5cm	2	0.8	5	2
75cm x 15cm	6	2.4	12	4.8
50 cm between rows	24	9.6	26	10.4
5 - 10cm within rows	2	0.8	2	0.8
Weed control				

Hand weeding	173	69.2	195	78
Chemical weeding	77	30.8	55	22

Source: Field data survey, 2016

Table 4: Distribution of participating and non-participating farmers based on level of farming activities covered by ZACAREP

Variables	Participating farmer		Non-Participating farmer	
	Frequency	Percentage	Frequency	Percentage
Fertilizer application				
No	6	2.4	13	5.2
Yes	244	97.6	237	94.8
Type of fertilizer used				
Organic	7	2.8	14	5.6
Inorganic	19	7.6	30	12
Both	224	89.6	206	82.4
Inorganic used				
NPK	130	52	154	61.6
SSP	2	0.8	1	0.4
NPK and SSP	12	4.8	21	8.4
NPK and Urea	106	42.4	74	29.6
Organic applied				
Compost	30	12	40	16
Farm Yard Manure	77	30.8	103	41.2
Poultry manure	34	13.6	30	12
Tine of fertilizer application				
Before Planting	66	26.4	50	20
After 3 Leaves Stage	124	49.6	127	50.8
At Full Vegetative stage	60	24	73	29.2
Pest observed				
No	26	10.4	31	12.4
Yes	224	89.6	219	87.6
Type of damage by insect				
Eat Leaves	126	50.4	127	50.8
Suck the plant Pod	6	2.4	7	2.8
Both	118	47.2	116	46.4
Noticed Pest At flowering				
No	24	9.6	31	12.4
Yes	226	90.4	219	87.6
Spray insect				
No	115	46	135	46
Yes	135	54	115	54
Treat seeds when stored				

postoxin	79	31.6	73	29.2
Acetelic	69	27.6	48	19.2
Others	4	1.6	8	3.2
None	98	39.2	121	48.4

Source: Field data survey, 2016.

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