INTRODUCTION OF THE INSTITUTE

The Institute is located at a distance of 11 kilometers from Sahiwal city towards east on Lahore-Multan Highway. It is situated at latitude of 30° 41 N and longitude of 73° 12 E and the elevation of 175 meters. The land of Yusafwala, District Sahiwal was converted in to Government Seed Farm in the year 1925 and was handed over to the Agriculture Department (Extension Wing) for multiplication of quality seed of wheat, Maize and cotton etc.

Research work on maize was started in the 1940's which was abandoned in its infancy with the partition of Sub-continent. A regular research work on maize was restarted after partition in the year 1953-54 at Faisalabad. The seed farm Yusafwala was transferred to research wing of Agriculture Department in the year 1958-59 and converted into a Hybrid Maize Seed Farm for conducting research and seed production of hybrid maize on large scale. 30

In 1968-69 the status of this farm was raised to a Research Institute, named as Maize & Millets Research Institute, Yusafwala. Research work on Sorghum and Pearl Millet was also initiated in addition to maize with the establishment of the Institute. The objectives of Institute are

- To evolve high yielding varieties/hybrids of maize, sorghum and pearl millet.
- Breeding for biotic and a-biotic stresses.
- To develop improved package of production technology.
- To demonstrate improved production technology.
- Transfer of technology through print and electronic media.
- To produce BNS, pre-basic, basic and certified seed.

Three maize hybrids YH-1898, FH-949 and FH-1046, one maize variety Malka-2016, one sorghum dual purpose variety YS-16 and one pearl millet variety YBS-98 were approved by the Seed Council during 2015-16 for general cultivation.

The Institute has evolved 12 varieties & 5 hybrids of maize, 3 varieties of sorghum and two varieties of pearl millet since its establishment.

Two single cross maize hybrids FH-1036 and FH-1046 were included in NUYT-Kh.2015 and ranked 1st and 14th, respectively. Two hybrids FH-922 and FH-1046 were included in NUYT-Sp.2016 while a maize hybrid FH-1231, a sorghum hybrid YSH-95 and a pearl millet variety YBS-95 in NUYT-Kh.2016.

Five hybrids YH-5397 (14473 kg/ha), YH-5421 (14440 kg/ha), FH-1269 (13920 kg/ha), FH-1258 (12800 kg/ha) & FH-1256 (12667 kg/ha) were found promising in different trials.

Annual Program of Research Work for 2016-17 is given in subsequent pages:-

HYBRID MAIZE

GERMPLASM MAINTENANCE

01. TITLE	MAINTENANCE OF INBRED LINES.			
OBJECTIVE	To maintain the inbred lines for use in breeding program.			
RESEARCH	Yusafwala	Mr. Khadim	n Hussain	
WORKER(S)		Mr. Shahid	Hussain	
		Mr. Amir G	hani	
		Dr. Muham	mad Arshad	
	Faisalabad	Saira Saleer	n	
		Muhammad	Altaf	
		Ahsan Raza	Mallhi	
		Muhammad	Rafique	
PROJECT DURATION	Kharif 2016 & Sprin	ng 2017 (Co	ntinuous)	
LOCATIONS	1. Maize & Millets	Research Ins	titute, Yusafwala-Sahiwal.	
	2. Maize Research S	Station, Faisa	llabad.	
TREATMENTS	Yusafwala	Kharif 20	16 = Inbred lines $= 285$	
		Spring 20	17 = Inbred lines = 300 (Tentative)	
	Faisalabad	Inbred lin	es = 182	
		1		
METHODOLOGY	Layout	= Ear to r	OW	
	Replications	= Non-replicated		
	Plot Size	$=4m \ge 0.75m$		
	Plant to plant	= 20 cm		
	Row to row	= 75 cm		
	Fertilizer	= 297 - 14	8–124 NPK Kg/ha	
	Date of sowing	= Februar	$x & 2^{nd}$ fortnight of July	
			y & 2 Tortingit of July	
	All the lines will be maintained through self-pollination		ned through self-pollination to assure	
	homozygosity Data	regarding f	ollowing traits will be collected in each	
	inbred lines for tw	o vears alon	g with display of pictorial features to	
	prepare germplasm	directory E	ach year data of freshly included inbred	
	lines will also be red	corded in sin	nilar fashion	
			inter rushion.	
	Seed/Seedling.			
	1 Days to seedling	emergence	2. Seedling emergence % age	
	3 Seedling vigor	emergenee	4 Anthocyanin pigment	
	5. Seeding vigor			
	Loof			
	Leaf 5. No. of Leaves per plant 7. Leaf angle (drooping / semi-		6 Leaf size (length / width)	
			0. Lear size (lengur / width)	
	drooping / erect)			
	Stom			
	9 Doot or shar		0 Stom at 1/2 mater mouth store	
	8. Koot anchor		7. Stelli at 1/2 lifeter growth stage	
	10 040		(purple / Oreen)	
	10. Stem at maturity		11. Stem thickness	

10 0 1	1.		
12. Stem height			
(dwall/medium/tall)			
Reproducti	vo Traits		
12 Dave to	toggaling	14 Days to silk amorgance	
15. Days to	hadding Dariad	14. Days to slik emergence	
17 Type of	tassal	10. Number of tass	
(spreading/	vrect)	10. 1 45501	
19 Days to	maturity		
17. Days to	maturity		
Ear / Cob t	raits		
20. Husk co	lor	21. Husk hairiness	
23. Ear dian	neter	24. Ear length	
25. Ear heig	ht	26. Ear aspect (ope	ening tip score
		(1-5)	
27. Ear rot		28. Pith color	
29. Kernel p	oith ratio	30. Prolificacy (%	age)
Seed			
31. Seed		32. Seed size	
33. Seed sha	ape (Dent, semi	34. No. of kernel r	ows per ear
dent / semi f	flint / flint)		
35. 100 grai	n weight		
Lodging		1	
10 D 11			,
42. Root lodging %age		43. Stalk lodging 9	%age
Disease			
Disease			
44 Stalls not 0/ aga		45 Deat rat 0/ and	
44. Stark fot % age		43. Root fot %age	ium turcioum (1.5)
(1-5)		47. Heminulospoi	ium turcicum (1-3)
48 Any other			
Seedling	Days to seedling	Seedling	Anthocyanine
0	emergence	emergence %	pigment (D/M/A)
	3-5 days	60-100 %	3/22/4
Leaf	Leaf color	Leaf Size	Leaf Angle
	(L-light/G-green	(B-broad/	(drooping / Semi
/D-Dark green)		M-medium/	drooping/erect)
		N-Narrow)	
5/5/19		5/17/7	4/15/10
Stem Root anchor		Stem at 1/2m	Stem color at
	(week/medium/st	growth stage.	maturity
	rong)	(purple/Green)	(green/dry)
	5/18/6	9/20	21/8
	Stem thickness	Stem height	1
		(dwarf/medium/ ta	11)
1.2-2.5 cm		2/23/4 (75-150 cm)
Reproduc	Days to tassel	Days to silk	Period of pollen
tive traits	emergence	emergence	shedding

		42-60 days	45-65 days	5-8 days
		Number of tassel branches	Type of tassel (Spreading/Semi erect/Erect)	Tassel color (Green/Purple)
	6-19		5/15/9	43/60
	Days to maturity			
		100-115 days		
	Ear/Cob Traits	Husk Color (Green/ purple)	Ear length	Ear height
		24/5	10-18 cm	40-80 cm
		Ear diameter	Husk hairiness (Hairy/ Absent)	Pith color (White/pink)
		2.7-4.4 cm	12/17	20/9
		Ear aspect (1-5)	Ear rot (Score 1-5)	Kernel pith ratio
		1-2	1	78-92 %
		Prolificacy Present/ Absent		
		23/6		
	Seed	Seed Color (White/yellow/ dark yellow)	Seed size (Small/ medium / bold)	No. of kernel rows per ear
		2/24/3	5/18/6	12-18
		100-grain weight	Seed shape (Dent/	flint)
		19-26 g	16/13	
	Lodging	Root lodging %	Stalk lodging %	
		0	0	
	Disease	Stalk rot	Root rot	H. maydis
		1-2	0	1-2
		H. turcicum		
		1-2		
PREVIOUS YEAR'S	Yusafwala			
RESULTS:	One hundred and sixty five (165) inbred lines were maintained by hand pollination in Kh.2015 while 285 during Spring 2016.			
	Faisalabad			
	One hundred seventy four (174) inbred lines were maintained by hand pollination. Four (4) were discarded due to undesirable characters. Twelve (12) new lines were added.			

GERMPLASM DEVELOPMENT

02. TITLE	DERIVATION OF INBRED LINES THROUGH INBREEDING.				
OBJECTIVE	To develop new inbred lines with desirable characteristics for constitution of new hybrids.				

RESEARCH	Yusafwala	Mr. Shahid Hussain	
WORKER(S)	Mr Amir Ghani		
		Mr. Rahil Shahzad	
		Mr. Muhammad Irfan Yousaf	
	Faisalabad	Saira Salaam	
	Taisalabau	Muhammad Altaf	
		Abeen Dozo Mellhi	
		Alisali Kaza Malili Muhammad Dafigua	
DDOJECT DUDATION	$V_{\rm h} = 16.2016$ $P_{\rm h} = 0.000$	mina 2017 (Continuous)	
PROJECT DURATION	Knarii 2010 & S	pring 2017 (Continuous)	
LOCATIONS	1 Maize & Mille	ets Research Institute, Yusafwala-Sahiwal	
	2 Maize Researc	ch Station Faisalabad	
TREATMENTS	Vusafwala	Kharif 2016 - 284 families (S25, S51, S27	
	I usal wala	$\begin{array}{c} \text{Knam 2010} = 204 \text{ nammes } (5_0 = 25, 5_1 = 51, 5_2 = 27, \\ \text{S}_2 = 16 \text{ S}_2 = 18 \text{ S}_2 = 14 \end{array}$	
		$S_3 = 10, S_4 = 10, S_5 = 14, S_5 = -37 \& S_5 = -96$	
		$S_6 = 57 \times 57 = 700$ Spring 2017 = 300 families (Tentative)	
		spring 2017 = 500 rammes (remaine)	
	Faisalabad	212 families $(S_0 = 30, S_1 = 30, S_2 = 16, S_3 = 16, S_4$	
		$=33 S_5 = 37 S_6 = 31 \& S7 = 19)$	
METHODOLOGY	Layout	= Ear to row	
	Replications	= Non-replicated	
	Plot Size	= 4 m x 0.75 m	
	Plant to plant	= 20 cm	
	Row to row	= 75 cm	
	Fertilizer	= 297–148–124 NPK, Kg/ha.	
	Date of sowing	= Month of February & Mid of July	
	The desirable/selected plants from each family will be selfed by hand pollination. Data of all traits will be collected in S_7 generation along		
	with display of pictorial features to prepare germplasm directory.		
PREVIOUS YEAR'S	Yusafwala.		
RESULT'S	Two hundre	d and seventy two (272) derivative families were sown	
	ear to row during	g Kharif 2015 for inbreeding through hand pollination.	
	Plants selected of	on the basis of desirable traits like erect to semi erect	
	leaves, medium	to heavy tassel, cob length, low cob placement, strong	
	root anchor and	d disease tolerance were self-pollinated in all the	
	families. At harv	vesting two hundred and sixty (260) derivatives were	
	selected for next	t cycle of inbreeding. While during Spring 2016, two	
	hundred and eig	ghty four derivative families were planted and self-	
	pollinated by har	nd for further inbreeding and selection.	
	Faisalabad		
	On	e hundred ninety five (195) families i.e. $S_0=30$, $S_1=16$,	
	$S_2=16$ $S_3=33$, $S_4=37$, $S_5=31$, $S_6=19$ & $S_7=13$ were selected from		
	different generations and 12 advanced derivative families / inbred lines		
	were selected from S_7 for inclusion in gene pool.		
03. TITLE	DERIVATION OF INBRED LINES OF WHITE MAIZE.		

To develop new inbred lines with desirable characteristics for
constitution of new hybrids.
Mr. Aamir Hussain

WODVED(S)	Mr. Chulom Muntoro	Mr. Charless Mastere	
WORKER(5)	Mi. Oliulalli Multaza		
	Mr. Waseem Akbar		
	Dr. Muhammad Arshad		
PROJECT DURATION	Kharif 2016 & Spring 2	2017	
LOCATIONS	Maize & Millets Resear	rch Institute, Yusafwala-Sahiwal.	
TREATMENTS	Kharif $2016 = 125$ Fam	alies $(S_0 = 6, S_1 = 17, S_2 = 19, S_3 = 12, S_4 = 6,$	
	G : 2015 150 C	$S_5 = 15, S_6 = 24 \& S_7 = 26)$	
	Spring $2017 = 150$ fam	llies (Tentative)	
		<u> </u>	
METHODOLOGY	Layout	= Ear to row	
	Reps.	= Non-replicated	
	Plot Size	$= 4m \ge 0.75m$	
	Plant to plant	= 20 cm	
	Row to row	= 75 cm	
	Fertilizer	= 297–148–124 NPK Kg/ha.	
	Date of sowing	= Month of July & February	
	Desirable / selected plants in each family will be selfed by hand pollination to increase homozygosity. Data of all traits will be collected in S_7 generation along with display of pictorial features to prepare germplasm directory.		
PREVIOUS YEAR'S	Kharif 2015:		
RESULTS:	During kharif 2015, 92 derivative lines ($S_0 = 21$, $S_1 = 05$, $S_2 = 09$, $S_3 = 04$, $S_4 = 07$, $S_5 = 23$ $S_6 = 12$ and $S_7 = 11$) were sown for derivation of inbred lines. At harvesting, 128 inbreeding families were selected from different generations on phenotypic superiority basis for future program.		
Spring 2016: During spring 2016, 128 families of different = 20, $S_2=8$, $S_3=6$, $S_4=10$, $S_5=19$, $S_6=15$, S_6 derivation of inbred lines. At maturity set separately in each family and seed of 125 further inbreeding programme.		8 families of different generations i.e. $S_0=32$, S_1 0, $S_5=19$, $S_6=15$, $S_7=14$ & $S_8=4$ were sown for nes. At maturity selfed plants were harvested ily and seed of 125 families was collected for ramme.	

GERMPLASM ENHANCEMENT

04. TITLE	SCREENING AND DEVELOPMENT OF GERMPLASM AGAINST STALK ROT (<i>Fusarium moniliforme</i>) TOLERANCE THROUGH INOCULATION.
OBJECTIVE	To develop germplasm tolerant to stalk rot.
RESEARCH	Mr. Amir Ghani
WORKER(S)	Mr. Rahil Shahzad
	Mr. Muhammad Irfan Yousaf
	Dr. Muhammad Arshad
PROJECT DURATION	Kharif 2016 & Spring 2017 (Continuous)

LOCATION	Maize & Millets Research Institute, Yusafwala-Sahiwal.		
TREATMENTS	1. Two hundred and eighty five (285) inbred lines.		
	2. Two hundred and eight	y four (284) derivative families.	
METHODOLOGY	Layout	= Ear to row	
	Replications	= Non-replicated	
	Plot Size	$= 5m \times 0.75m$	
	Plant to plant	= 20 cm	
	Row to row	= 75 cm	
	Fertilizer	= 297-148-124 NPK, Kg/ha.	
	Date of sowing	= Month of July & February	
	All the selfed plants will be inoculated with the pathogen carrier		
	toothpicks in second internode from soil surface. At maturity, all selfed		
	& inoculated plants will be torn apart with the help of scalpel and		
	disease reaction will be recorded according to Hooker's scale (1-10). Resistant inbred lines will be marked for breeding program.		
RESULTS:	During Kharif, One hundred and sixty five (165) inbred lines were planted for screening against stalk rot & two hundred and seventy two (272) segregating lines/families were sown ear to row for development of inbred lines tolerant to stalk rot. On the basis of disease reaction recorded, all the inbred lines and derivative families were selected for		
	next cycle of selection and screening.		

HYBRID CONSTITUTION

05. TITLE	EARLY GENERATION TESTING OF INBRED FAM	GENERAL COMBININGABILITY ILIES.	
OBJECTIVE	Evaluation of new derivatives at	early generations.	
RESEARCH WORKER(S)	Mr. Khadim Hussain		
	Mr. Shahid Hussain		
	Mr. Amir Ghani		
	Dr. Muhammad Arshad		
PROJECT DURATION	Kharif 2016 & Spring 2017 (Continuous)		
LOCATION	Maize & Millets Research Institute, Yusafwala-Sahiwal.		
TREATMENTS	Eighty (80) derivatives lines $(S_{4\&}S_5)$ with one male.		
		1	
METHODOLOGY	Lay out	= strip planting	
	Replications	= Non-replicated	
	Plot Size	$= 4m \ge 0.75m$	
	Plant to plant	= 20 cm	
	Row to row	= 75 cm	
	Fertilizer	= 297–148–124 NPK, Kg/ha.	
	Date of sowing	= Month of July & February	

	Eighty derivative lines will be planted in isolation with single male line to develop eighty (80) single crosses during Kharif 2016. These crosses will be evaluated in preliminary yield trials in next crop season (Spring 2017). Reconstitution of best performing single crosses will be done.		
PREVIOUS YEAR'S RESULTS:	Seventy (70) inbred lines were sown during Kharif 2015 with one male in isolation for developing new single crosses on an area of one Kanal. At harvesting twenty four inbred lines set seed. These single crosses were evaluated in Spring 2016 in Preliminary Yield trials. While sixty six (66) single crosses were developed during Spring 2016 with one male in isolation block. These crosses will be evaluated in Kharif 2016 in replicated yield trials.		
06. TITLE	CONSTITUTION OF NEW HYBRIDS IN ISOLATION AND THROUGH HAND POLLINATION.		
OBJECTIVE	To constitute new single crosses for selection of best single crosses.		
RESEARCH WORKER(S)	Yusafwala Mr. Khadim Hussain Mr. Shahid Hussain Mr. Amir Ghani Mr. Rahil Shahzad Mr. Muhammad Irfan Yousaf Dr. Muhammad Arshad Mr.		
	Faisalabad Saira Saleem Muhammad Altaf Ahsan Raza Mallhi Muhammad Rafique		
PROJECT DURATION	Kharif 2016 & Spring 2017 (Continuous)		
LOCATION	 Maize & Millets Research Institute, Yusafwala-Sahiwal. Maize Research Station, Faisalabad. 		
TREATMENTS	YusafwalaA. (Isolation)= 40 inbred lines (female) x one tester.B. (By hand)= 20 inbred lines (female) x 3 testers.		
	FaisalabadA. (Isolation-1) = 50 inbred lines (female) x one tester (Isolation-2) = 30 inbred lines (female) x one tester B. (By Hand) = 10 inbred lines (female) x 2 testers		
METHODOLOGY	 Yusafwala. A. Forty (40) inbred lines will be crossed with one good combiner / male line for the constitution of new hybrids in isolated block in Kharif 2016. B. While in hand pollination block, three pollinators will be used with 20 female lines. Faisalabad A. Indigenous 50 & 30 new inbred lines will be crossed in two isolations with male parent F165 and F-308, respectively in Kharif, 2016 for the development of new hybrids. B. Ten Indigenous inbred lines will be crossed by hand pollination with two male lines to find out best crosses as well as good male combiner. 		

PREVIOUS YEAR'S	Yusafwala.			
RESULTS:	Kharif, 2015			
	Twenty four (24) single crosses were constituted in an isolation block using 70 inbred lines as female and 1 as pollinator.			
	Spring, 2016			
	Twenty eight (preliminary yie	(28) crosses veld trials durin	were constituted which will be planted in ng Kharif 2016.	
	Faisalabad:			
	Seventy five (75) single crosses were constituted by hand pollination / isolation block using 60 inbred lines as female and 3 as pollinators.			
07. TITLE	SCREENING OF HEAT RESILIENT MAIZE INBRED LINES UNDER NATURAL CONDITIONS			
ODIECTIVE	To develop inh	rad lines tolo	rant to high temperature	
ODJECTIVE			ant to high temperature.	
RESEARCH WORKER(S)	Yusafwala	Mr. Khadim Mr. Shahid Mr. Amir G Mr. Rahil S Mr. Muham Dr. Muham	n Hussain Hussain hani hahzad mad Irfan Yousaf mad Arshad	
	Faisalabad	isalabad Saira Saleem Muhammad Altaf Ahsan Raza Mallhi Muhammad Rafique		
PROJECT DURATION	Spring 2017			
LOCATION	1. Maize & Millets Research Institute, Yusafwala-Sahiwal. 2. Maize Research Station, Faisalabad.			
TDEATMENTS	Vucefuele	Sixty (60) in	abrad lines	
IKEAIWENIS	Faisalabad	Sixty (00) II Sixty four (6	54) inbred lines	
	Tuisuidedd	Sinty Iour (C		
METHODOLOGY	Lay out		= strip planting	
	Replications		= Non-replicated	
	Plot Size		$= 5m \ge 0.75-3m$	
	Plant to plant		= 20 cm	
	Row to row		= 75 cm	
	Fertilizer		= 297 - 148 - 124 NPK, Kg/na.	
	All the lines will be sown late after mid of March to provide high temperature + 40 $^{\circ}$ C at flowering stage. The lines will be maintained through self-pollination by hand and data will be recorded on characteristics selected to heat tolerance i.e. leaf firing, tassel blast and grain filling. The lines setting seed under high temperature will be selected as heat resilient lines.			

PREVIOUS YEAR'S RESULTS:	Yusafwala	Fifty (50) inbred lines were sown for screening against high temperature during spring 2016. At flowering the temperature remained above 40°C. At harvesting thirty
		nine (39) lines set seed which will be planted for next
		cycle of selection under high temperature.
	Faisalabad	One hundred and eight (108) inbred lines were sown for
		screening against high temperature during spring 2016.
		At flowering the temperature remained above 40°C. At
		harvesting sixty four (64) local inbred lines of maize
		were found heat stress tolerant which will be planted for
		next cycle of selection under high temperature.

HYBRID EVALUATION

STATION TRIALS

08. TITLE	PRELIMIN	ARY MAIZ	E HYBRID YIELD TRIALS.		
OBJECTIVE	To evaluate	high yieldin	ng new hybrids with desirable characteristics		
	and diseases	tolerance.			
RESEARCH	Yusafwala	Mr. Khadin	n Hussain		
WORKER(S)		Mr. Shahid	Hussain		
	D · 1 1 1	Dr. Muham	imad Arshad		
	Faisalabad	Saira Saleei	Saira Saleem		
		Muhammad Altat			
		Ahsan Kaza Mallhi Muhammad Dafiana			
		Wiunanninac	i Kalique		
PROJECT DURATION	Kharif 2016	& Spring 2	017 (Continuous)		
		a oping, 2			
LOCATION	1. Maize & I	Millets Resea	rch Institute, Yusafwala-Sahiwal.		
	2. Maize Research Station, Faisalabad.				
TREATMENTS	Yusafwala	A trial with	forty six single crosses including four		
		hybrids (Three commercial & one local) as check.			
	Faisalabad	Trial 1-3:	Twenty eight single crosses including three		
		hybrids (Two commercial & one local) as			
		(check.		
METHODOLOGY	Design		PCB		
WIETHODOLOGI	Replications		Тжо		
	Plot Size		4m x 0 75m		
	Plant to plan	t	20 cm		
	Row to row	-	75 cm		
	Fertilizer		297–148–124 NPK Kg/ha.		
	Date of sowi	ing Kharif	= 10 th July to 10 th August		
		Spring	$= 10^{\text{th}}$ January to 20^{th} February		
	Data will be	recorded for	different agronomic/ morphological traits and		
	high yielding	g combination	ns will be selected.		

PREVIOUS YEAR'S	Yusafwala.								
RESULTS:	.								
	Tria	ul No. 1: Khar	if-2015:						
	Thi	s trial compri	ising of	thirty two	single	e crosse	es includin	g three	
	com	mercial hybri	ds as c	heck was c	ondu	cted. T	he results	of top	
	rank	ing entries are	given be	elow: -					
	S	Entries	Plant	Grain v	ield	Davs t	o Plant	Cob	
	No.	Lintres	Stand	l (kg/h	a)	50%	ht.	ht.	
					<i>.</i>	silk.	(Cm)	(Cm)	
	1	6654 (C)	22	1066	7 a	57	188	95	
	2	YH-5389	21	10440) ab	55	160	81	
	3	YH-5371	19	10147	abc	52	158	75	
	4	YH-5370	14	99/3	abc	54	148	70	
	5	VH_5387	13	3813	a-u I	54	158	63	
	0	Range	10-1	7 3813-10) 667	51-58	<u>135</u> <u>135-</u>	62-95	
		C V %	24 0	18.47		3.12	5.41	14.1	
		LSD at 5%	7.09	2752		3.45	17.5	20.8	
			,,	2702		0110	1,10	2010	
	Tria	d No. 2: Khar	rif-2015:						
				C" C. C	• 1			.1	
	This	trial compri	sing of	fifty four	single	crosse	s includin	g three	
	rank	ing entries are	us as c oiven he	neck was c	ondu	cied. I	he results	or top	
	Turns	ing churcs are	Siven by						
	S.	Entries	Plant	Grain yield	D	ays to	Plant	Cob	
	No.		Stand	(kg/ha)	50	% silk.	ht.	ht.	
							(Cm)	(Cm)	
	1	6654 (C)	43	10993 a		57	193	95	
	2	YH-5427	40	9507 ab		54	170	90	
	3	YH-5403	42	9393 abc		53	183	95	
	4	YH-5406	43	9340 abc		51	185	94	
	5	YH-5393	39	9207 a-d	_	54	195	93	
	6	YH-5405	39	3727 n		54	158	80	
		Range	14- 20	3/2/-	2	0-57	213-146	65-107	
		CV%	39 11 5	10993		1.82	4 86	14 24	
		LSD at 5%	81	2291.0		1.02	16.4	NS	
		LOD at 370	0.1	22)1.0		1.75	10.1	110	
	Spri	ing: 2016:							
		Spring. 2010.							
	This trial comprising of sixteen crosses including three commercial								
	Thi	s trial compris	ing of siz	teen crosses	inclu	iding thi	ee comme	ios ara	
	Thi hybi give	s trial compris rids as check w n below:	ing of siz vas condu	tteen crosses ucted. The re	inclu sults	iding thi of top ra	nking entr	ies are	
	Thi hybi give	s trial compris ids as check w n below:	ing of siz	tteen crosses	inclu sults	iding thi of top ra	nking entr	ies are	
	Thi hybi give S.	s trial compris ids as check w n below: Entries	ing of siz vas condu Plant	Grain	inclu sults	of top ra	Plant ht.	ies are	
	Thi hybr give S. No.	s trial compris ids as check w n below: Entries	ing of siz vas condu Plant Stand	Grain yield	inclusults	ading thi of top ra ays to 50%	Plant ht. (Cm)	Cob ht.	
	Thi hybi give S. No.	s trial compris rids as check w n below: Entries YH-5440	ing of siz vas condu Plant Stand 29	Grain yield (kg/ha)	inclu sults	ading thi of top ra ays to 50% silk. 80	Plant ht. (Cm)	Cob ht. (Cm) 163	
	Thi hybr give S. No. 1 2	s trial compris ids as check w n below: Entries YH-5440 YH-5474	ing of siz vas condu Plant Stand 29 26	Grain yield (kg/ha) 12427 a 11960 al	D	adding thi of top ra ays to 50% silk. 80 81	Plant ht. (Cm) 215 183	Cob ht. (Cm) 163 103	
	Thi hybr give S. No. 1 2 3	s trial compris rids as check w n below: Entries YH-5440 YH-5474 YH-5473	Plant Stand 29 26 26	Grain yield (kg/ha) 12427 a 11960 a 11880 a	D D D D D D D D D D	ays to 50% silk. 80 81 82	Plant ht. (Cm) 215 183 189	Cob ht. (Cm) 163 103 98	
	Thi hybr give S. No. 1 2 3 4 4	s trial compris rids as check w n below: Entries YH-5440 YH-5474 YH-5473 YH-5213	Plant Stand 29 26 26 28	Grain yield (kg/ha) 12427 a 11960 a 11880 a 11827ab	D D D D D D D D D D D D D	ays to ays to 50% silk. 80 81 82 82	Plant ht. (Cm) 215 183 189 168	Cob ht. (Cm) 163 103 98 83	
	Thi hybr give S. No. 1 2 3 4 5	s trial compris ids as check w n below: Entries YH-5440 YH-5474 YH-5473 YH-5213 P1543 (C)	Plant Stand 29 26 26 28 30	Grain yield (kg/ha) 12427 a 11960 al 11827ab 11493ab	D D D D D D D D D D D D D D D D D D D	adding thi of top ra ays to 50% silk. 80 81 82 82 81	Plant ht. (Cm) 215 183 189 168 210	Cob ht. (Cm) 163 103 98 83 123	

Range	26-31	8773- 12427	80-84	170-215	83-163
CV%	7.41	8.75	1.5	12.1	21.9
LSD at 5%	4.5	1992.1	2.5	48.7	48.6

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Trial-1: Kharif: 2015:

This trial comprised of twenty seven single crosses including two commercial hybrids as check was conducted. The results of top ranking entries are given below: -

S. No.	Entries	Plant Stand	Grain yield (kg/ha)	Days to 50% silk.	Plant ht. (Cm)	Cob ht. (Cm)
1	FH-1258	28	12800 a	80	184	62
2	FH-1256	32	12667 a	82	178	85
3	FH-1246	26	11947 ab	81	189	93
4	FH-1266	28	11493 abc	76	199	85
5	FH-1243	29	11353 bcd	78	193	82
12	NT-6654(C)	27	8987 de	77	195	75
27	FH-1267	20	5333 g	77	185	76
	Range	20-32	5333-	76-84	153-	60-
			12800		213	106
	CV%	5.61	6.15	2.35	3.56	3.27
	LSD at 5%	4.34	933	3.71	5.17	4.87

Trial-2: Kharif: 2015

This trial comprised of twenty seven single crosses including two commercial hybrids as check was conducted. The results of top ranking entries are given below: -

S. No.	Entries	Plant Stand	Grain yield (kg/ha)	Days to 50% silk.	Plant ht. (Cm)	Cob ht. (Cm)
1	FH-1269	29	13920 a	79	172	77
2	FH-810	30	12347 a	79	180	93
3	FH-1276	31	12186 a	78	196	96
4	FH-1274	30	11387 ab	79	200	105
5	FH-1279	30	11173 ab	78	194	103
19	NT-6654(C)	23	7947 cd	77	198	109
27	FH-1291	12	2344 g	77	187	81
	Range	12-31	2344-	76-83	120-	58-
			13920		216	113
	CV%	2.83	8.56	2.54	3.12	3.21
	LSD at 5%	2.37	1267	3.02	3.87	2.94

Trial-1: Spring: 2016:

This trial comprised of twenty eight single crosses including three commercial hybrids as check was conducted. The results of top ranking entries are given below: -

S.	Entries	Plant	Grain yield	Days to	Plant	Cob
No.		Stand	(kg/ha)	50%	ht.	ht.
				silk.	(Cm)	(Cm)
1	FH-949 (C)	31	10394 a	80	209	102
2	FH-1313	30	10164 a	79	195	89
3	FH-1315	18	9609 ab	80	198	88
4	FH-1306	30	9585 ab	73	199	89
5	FH-1310	29	9257 bc	80	216	110
6	FH-1314	27	9196 d	80	208	105
27	31P41 (C)	30	9042 e	78	212	104
28	Maxima	24	4404 h	79	211	107
	Range	18-	4404-10394	73-81	176-	77-
		31			216	110
	CV%	5.14	10.06	0.94	4.23	3.07
	LSD at 5%	4.17	1123	1.83	5.26	2.61

Trial-2: Spring: 2016:

This trial comprised of twenty eight single crosses including three commercial hybrids as check was conducted. The results of top ranking entries are given below: -

S. No.	Entries	Plant Stand	Grain yield (kg/ha)	Days to 50%	Plant ht.	Cob ht.
				silk.	(Cm)	(Cm)
1	FH-1323	28	9372 a	78	220	107
2	FH-1329	27	9363 a	82	199	89
3	FH-1333	26	9350 a	81	216	110
4	FH-1332	26	9318 a	82	208	105
5	FH-1330	28	9151 ab	76	188	85
6	FH-949 (C)	25	8780 c	79	207	107
18	NK-8711(C)	26	6952 ef	78	180	78
28	MV-531(C)	22	4066 g	75	199	89
	Range	14-29	4066-9372	75-85	180-220	78-110
	CV%	5.07	8.21	2.13	3.15	4.54
	LSD at 5%	3.97	897	1.85	6.26	7.12

Trial-3: Spring: 2016:

This trial comprised of twenty eight single crosses including three commercial hybrids as check was conducted. The results of top ranking entries are given below: -

S. No.	Entries	Plant Stand	Grain yield (kg/ha)	Days to 50% silk.	Plant ht. (Cm)	Cob ht. (Cm)
1	FH-1348	30	9419 a	83	214	110
2	FH-1347	26	9360 ab	80	203	102
3	FH-1367	21	8629 c	82	188	85
4	NK-8711(C)	26	8411 cd	77	216	104
5	FH-1344	25	8363 de	78	207	107
6	FH-1368	23	8238 de	88	180	78

	15	31P41(C)	20	7433 e	79	199	89
	28	FH-1349	10	788 h	73	160	73
		Range	10-30	788-9419	73-88	160-216	73-112
		CV%	1.83	14.61	4.02	3.26	5.71
		LSD at 5%	2.15	1708	5.10	6.21	3.45
			2.110				<u>.</u>
09. TITLE	MIC	RO HYBRID	MAIZE	YIELD TRIA	ALS.		
OBJECTIVE	To charae	selected hig cteristics.	h yieldii	ng single	crosses 1	aving d	esirable
RESEARCH WORKER (S)	Yusaf	wala	Mr. Khad	im Hussain			
			Mr. Shahi	d Hussain			
	Mr. Amir Ghani						
	Faisalabad Saira Saleem						
	Munammad Altar Ahsan Raza Mallhi						
			Muhamm	ad Rafique			
PROJECT DURATION	Khari	f 2016 & Spri	ng 2017	•			
			D			<u> </u>	
LOCATION	1. Ma	ize & Millets	Research	Institute, Yus	afwala-Sal	nwal.	
	2.1VIa	ize Research	Station, Fa	ilsalabau.			
TREATMENTS	Yusaf	wala	A trial w	vith twenty sin	ngle crosse	s includin	g three
			hybri	ds (Two com	nercial &	one local)	as
			check				
	Faisa	labad	Trial 1-	3: Sixteen sin	gle crosses	s including	g two
				commercia	ii iiyoiids e	.5 CHECKS.	
METHODOLOGY	Desig	n	= R.C.B				
	Reps		= 2				
	Plot s	ize	=4m x	l.5 m			
	Row 1	to row	= 75 cm				
	Fertil	to plant	= 20 cm = 297.12	18·124 NPK F	ζσ/ha		
	Date	of Sowing	= 277.1 Kharif =	10^{th} July to 10	O th August		
		0	Spring =	10 th January	to 20 th Feb	ruary	
	Data will be recorded for the following morphological traits: stand count, days to 50% tasseling, days to 50% silking, plant height, cob height, No. of plants/plot (at harvest), No. of cobs/plot (at harvest), fresh cob wt. moisture percentage, lodging %age, stalk rot %age and grain yield.						
PREVIOUS YEAR'S	Yusa	fwala					
RESULTS:	Sprin	ng 2016:					
	Tł hybrio given	iis trial compr ds as check w below: -	ising of fi as conduc	fty four entrie ted. The resul	es includin Its of top r	g two com anking ent	imercial tries are
	D	Entrica	Dla=4	Croin	Down 4-	Dlant	Cab
	к. No.	LITTLES	Stand	Yield	50 %	ht.	ht.

			(Kg/ha)	silk	(cm)	(cm)
1	YH-5421	30.0	14440 a	81.5	175	95
2	P1543 (C)	30.0	13040 ab	81.5	207	97
3	YH-5423	30.0	12906 abc	83.5	207	105
4	YH-5416	28.0	12320 abc	87.5	182	89
5	YH-5404	28.5	12306 abc	86.0	182	104
6	YH-5436	27.0	4360 n	84.5	185	102
	Range	19-30	4360-	76-87	150-	72-
			14440		210	112
	CV%	12.3	15.85	1.16	4.7	15.9
	LSD at 5%	6.3	3118.6	1.9	17.2	19.1

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Trial 1: Kharif: 2015:

This trial comprising of eighteen single crosses including two commercial hybrids as check was conducted. The results of top ranking entries are given below: -

R. No.	Entries	Plant Stand	Grain Yield	Days to 50 %	Plant ht.	Cob ht.
			(Kg/ha)	silk	(cm)	(cm)
1	FH-1127	47	9840 a	47	172	96
2	FH-1143	46	9640 a	48	173	101
3	FH-1117	45	9573 a	53	181	110
4	FH-1166	48	9520 a	57	176	106
5	FH-1167	43	9360 a	49	177	108
16	HI-339 (C)	39	7627 bc	52	165	96
18	NT-6654 (C)	37	7053 с	55	168	117
	Range	37-48	7053-9840	47-57	141-213	82-125
	CV%	2.53	6.37	1.26	4.35	3.18
	LSD at 5%	1.87	789	1.91	3.80	5.37

Trial 2: Kharif 2015

This trial comprising of eighteen single crosses including two commercial hybrids as check was conducted. The results of top ranking entries are given below: -

R. No.	Entries	Plant Stand	Grain Yield (Kg/ha)	Days to 50 % silk	Plant ht. (cm)	Cob ha
1	FH-1205	48	11333 a	52	186	91
2	FH-1184	48	10707 a	52	168	99
3	FH-1178	47	10560 a	53	179	107
4	FH-1206	48	10547 a	53	177	96
5	FH-1203	47	9907 ab	54	173	94
9	NT- 6654(C)	44	9400 bc	54	178	74
15	HI-339 (C)	35	7613 cd	55	167	79
18	FH-1202	23	4973 e	53	163	88
	Range	23-48	4973-11333	50-55	163-202	74-110
	CV%	4.02	10.37	0.78	3.84	3.27
	LSD at 5%	3.29	1371	1.59	6.27	4.89

Tı	ial 3: Kharif 20	15				
Th	is trial compris	ing of e	ighteen singl	e crosses	includir	ng two
со	mmercial hybrid	ls as che	ck was cond	ucted. The	e results	of top
ra	king entries are	given be	low: -			Ŧ
R	Entries	Plant	Grain	Days to	Plant	Cob
	Entrics	Stand	Vield	50 %	ht	ht
	•	Stand	(Kg/ha)	silk	(cm)	(cm)
1	FH-1218	50	11727 a	55	189	99
	FH-1219	47	11/27 a	55	186	100
9	30Y87 (C)	50	11207 a	56	174	85
10	NT-6654 (C)	46	11187 a	53	166	79
14	FH-1229	49	9447 bc	53	174	104
18	FH-1231	51	8853 e	53	183	96
	Range	43-51	8853-	50-56	166-	88-
	Itunge	15 51	11727	50 50	192	117
	CV%	2.71	7.83	1 23	2.54	2.01
	LSD at 5%	1 37	1021	2.72	3 57	2.89
	LOD at 570	1.57	1021	2.72	5.57	2.07
Т	ial 1: Spring: 2	016:				
R.	Entries	Plant	Grain	Days to	Plant	Cob
No	•	Stand	Yield	50 %	ht.	ht.
			(Kg/ha)	silk	(cm)	(cm)
	FH-1166	53	9761 a	80	203	102
	2 FH-1163	49	9048 ab	82	188	85
	3 FH-1214	41	8882 bc	77	216	104
	4 FH-1172	48	8757 bc	78	207	107
	5 FH-1125	51	8752 bc	88	180	78
1	4 31P41 (C)	43	7690 cd	79	199	89
1	3 FH-1212	38	5618 d	73	160	73
	Range	38-53	5618-9761	70-88	160- 210	71- 107
	CV%	2.47	9.67	3.67	4.31	3.90
	LSD 5%	3.81	853	5.27	6.06	3.17
	LSD 570	5.01	055	5.21	0.00	5.17
Т	ial 2: Spring: 2	016:				
R.	Entries	Plant	Grain	Days to	Plant	Cob
No	•	Stand	Yield	50 %	ht.	ht.
			(Kg/ha)	silk	(cm)	(cm)
	FH-1255	52	9765 a	83	187	83
	2 FH-1243	49	9280 a	78	220	104
	3 FH-1252	54	9239 a	80	206	102
	4 FH-1233	50	9016 a	82	188	85
	5 FH-1257	50	8761 bc	77	216	104
	7 NK-8711 (C)	44	8564 bc	78	207	107
1	7 Maxima	45	5477 de	88	180	78
1	3 FH-1249	42	5048 e	79	199	89
	Range	42-54	5048-9765	77-88	177-	78-
	Č				220	107
	CV%	3.25	12.21	4.09	5.21	4.10
	LSD 5%	2 78	1028	2 79	3 94	3 54

	Tria	d 3: Spring: 2	016:						
	R. No.	Entries	Plant Stand	Grain Yield (Kg/ha)	Days to 50 % silk	Plant ht. (cm)	Cob ht. (cm)		
	1	FH-1269	51	10696.2	74	162	106		
	2	FH-1284	50	9970 a	74	162	85		
	3	FH-1275	48	9966 a	74	172	90		
	4	FH-1270	47	9513 ab	75	185	106		
	5	FH-1287	50	9387 ab	73	183	93		
	7	NK-8711	46	9094 bc	70	163	69		
	17	MV-531	47	5364 e	68	173	75		
		Range	47-	5364-	68-83	155-	61-		
		C	51	10696		187	106		
		CV%	1.08	11.43	2.35	3.07	3.73		
		LSD at 5%	1.87	1209	3.28	4.94	5.09		
10. TITLE	MA	CRO HYBRID	MAIZE	YIELD TRI	ALS.				
OBJECTIVE	To s	elect high yieldi	ng hybrid	s.					
RESEARCH WORKER(S)	Saira Muh Ahsa Muh	a Saleem ammad Altaf an Raza Mallhi ammad Rafique	9						
PROJECT DURATION	Khai	rif 2016 & Spriv	ng 2017						
	Tinu		<u>ng 2017</u>						
LOCATION	Mai	ze Research Sta	tion, Fais	alabad.					
TREATMENTS	Trial Trial chec	1: Nine singl check. 2: Twelve sin k.	e crosses gle crosse	including tw	wo comme	rcial hyb ercial hyb	rids as orids as		
METHODOLOGY	Deci	an		- RCB					
WILTHODOLOGI	Renl	ications		- Two					
	Plot	Size		= 1 wo					
	Plan	t to plant	$= 3 \text{m} \times 3 \text{m}$ ant $= 20 \text{ cm}$						
	Row	to row		= 75 cm					
	Ferti	lizer		= 297 - 148 -	124 NPK K	g/ha.			
	Date	of sowing		= Month of .	July & Febr	uary.			
		C			<u> </u>	2			
	Data high	will be recorde yielding combined	d for diffe nations w	erent agronom ill be selected	ic/ morpho	logical tra	aits and		
PREVIOUS YEAR'S RESULTS:	Trial-1: Kharif: 2015: This trial comprising of nine single crosses including two commer hybrids as check was conducted. The results of top ranking entries given below: -				ercial es are				

R.	Entries	Plant	Grain	Days to	Plant	Cob
No.		Stand	Yield	50 %	ht.	ht.
			(Kg/ha)	SIIK	(cm)	(cm)
1	FH-1036	86	9687 a	54	168	99
2	FH-810 (C)	93	9493 a	53	179	107
3	FH-793	82	8793 ab	55	177	96
4	NT-6654(C)	88	8720 ab	52	173	94
8	30Y87 (C)	90	7993 bc	54	178	74
9	FH-985	82	7920 c	53	167	79
	Range	82-93	7920-9687	52-55	167-	73-
					197	107
	CV%	3.71	7.26	0.97	3.21	4.23
	LSD at 5%	2.57	931	3.16	2.99	3.37
Tria This com rank	I -2: Kharif: 2 trial comprisin mercial hybrids ing entries are g	015: g of twelv as check given belo	ve single cross was conducte ow: -	es includin d. The resu	g two lts of top	
Tria This com rank	I -2: Kharif: 2 trial comprisin mercial hybrids ing entries are g	015: g of twelv as check given belo	ve single cross was conducte ow: -	es including d. The resu Days to	g two lts of top	Coh
Tria This com rank R. No.	I -2: Kharif: 2 trial comprisin mercial hybrids ing entries are g Entries	015: g of twelv as check given belo Plant Stand	ve single cross was conducte ow: - Grain Vield	es including d. The resu Days to 50 %	g two lts of top Plant ht.	Cob ht.
Tria This com rank R. No.	I -2: Kharif: 2 trial comprisin mercial hybrids ing entries are g Entries	015: g of twelv as check given belo Plant Stand	ve single cross was conducte ow: - Grain Yield (Kg/ha)	es including d. The resu Days to 50 % silk	g two lts of top Plant ht. (cm)	Cob ht. (cm)
Tria This com rank R. No.	I -2: Kharif: 2 trial comprisin mercial hybrids ing entries are g Entries FH-976	015: g of twelv as check given belo Plant Stand 71	ve single cross was conducte ow: - Grain Yield (Kg/ha) 10604 a	es including d. The resu Days to 50 % silk 54	g two lts of top Plant ht. (cm) 186	Cob ht. (cm) 96
Tria This com rank R. No. 1 2	LSD at 376 Il -2: Kharif: 20 trial comprisin mercial hybrids ing entries are g Entries FH-976 FH-929	015: g of twelv as check given belo Plant Stand 71 66	/e single cross was conducte ow: - Grain Yield (Kg/ha) 10604 a 10560 a	es including d. The resu Days to 50 % silk 54 55	g two lts of top Plant ht. (cm) 186 182	Cob ht. (cm) 96 95
Tria This com rank R. No. 1 2 3	LSD at 376 I -2: Kharif: 20 trial comprisin mercial hybrids ing entries are g Entries FH-976 FH-929 FH-928	015: g of twelv as check given belo Plant Stand 71 66 65	ve single cross was conducte ow: - Grain Yield (Kg/ha) 10604 a 10560 a 10391 a	es including d. The resu Days to 50 % silk 54 55 55 56	g two lts of top Plant ht. (cm) 186 182 174	Cob ht. (cm) 96 95 85
Tria This com rank R. No. 1 2 3 4	LSD at 376 II -2: Kharif: 20 trial comprisin mercial hybrids ing entries are g Entries FH-976 FH-929 FH-928 FH-932	015: g of twelv as check given belo Plant Stand 71 66 65 70	ve single cross was conducte ow: - Grain Yield (Kg/ha) 10604 a 10560 a 10391 a 10178 a	es including d. The resu Days to 50 % silk 55 55 56 53	g two lts of top Plant ht. (cm) 186 182 174 166	Cob ht. (cm) 96 95 85 79
Tria This com rank R. No. 1 2 3 4 5	LSD at 376 I -2: Kharif: 20 trial comprisin mercial hybrids ing entries are g Entries FH-976 FH-929 FH-928 FH-932 FH-1137	015: g of twelv as check given belo Plant Stand 71 66 65 70 68	ve single cross was conducte ow: - Grain Yield (Kg/ha) 10604 a 10560 a 10391 a 10178 a 10169 a	es including d. The resu Days to 50 % silk 54 55 56 53 54	g two lts of top Plant ht. (cm) 186 182 174 166 178	Cob ht. (cm) 96 95 85 79 94
Tria This com rank R. No. 1 2 3 4 5 10	LSD at 376 I -2: Kharif: 20 trial comprisin mercial hybrids ing entries are § Entries FH-976 FH-929 FH-928 FH-932 FH-932 FH-1137 NT-6654 (C)	Plant 71 66 65 70 68 58	ve single cross was conducte ow: - Grain Yield (Kg/ha) 10604 a 10560 a 10391 a 10178 a 10169 a 7929 cd	es including d. The resu Days to 50 % silk 54 55 56 53 54 52	g two lts of top Plant ht. (cm) 186 182 174 166 178 183	Cob ht. (cm) 96 95 85 79 94 96
Tria This com rank R. No. 1 2 3 4 5 10 12	LSD at 376 I -2: Kharif: 20 trial comprisin mercial hybrids ing entries are g Entries FH-976 FH-929 FH-928 FH-928 FH-932 FH-932 FH-1137 NT-6654 (C) Hi-339 (C)	Plant 71 66 65 70 68 58 57	ve single cross was conducte ow: - Grain Yield (Kg/ha) 10604 a 10560 a 10391 a 10178 a 10178 a 10169 a 7929 cd 7698 e	es including d. The resu Days to 50 % silk 54 55 56 53 54 52 51	g two lts of top Plant ht. (cm) 186 182 174 166 178 183 180	Cob ht. (cm) 96 95 85 79 94 96 94
Tria This com rank R. No. 1 2 3 4 5 10 12	LSD at 376 I -2: Kharif: 20 trial comprisin mercial hybrids ing entries are g Entries FH-976 FH-929 FH-928 FH-928 FH-932 FH-1137 NT-6654 (C) Hi-339 (C) Range	Plant 71 66 65 70 68 58 57 57-71	re single cross was conducte ow: - Grain Yield (Kg/ha) 10604 a 10560 a 10391 a 10178 a 10178 a 10169 a 7929 cd 7698 e 7698-10604	es including d. The resu Days to 50 % silk 54 55 56 53 54 52 51 51-56	2.55 g two lts of top Plant ht. (cm) 186 182 174 166 178 183 180 166-186	Cob ht. (cm) 96 95 85 79 94 96 94 94 78-96
Tria This com rank R. No. 1 2 3 4 5 10 12	LSD at 376 I -2: Kharif: 20 trial comprisin mercial hybrids ing entries are g Entries FH-976 FH-929 FH-928 FH-928 FH-932 FH-1137 NT-6654 (C) Hi-339 (C) Range CV%	Plant 71 66 70 68 57 57-71 4.05	ve single cross was conducte ow: - Grain Yield (Kg/ha) 10604 a 10560 a 10391 a 10178 a 10178 a 10169 a 7929 cd 7698 e 7698-10604 10.21	es including d. The resu Days to 50 % silk 54 55 56 53 54 52 51 51-56 1.13	g two lts of top Plant ht. (cm) 186 182 174 166 178 183 180 166-186 4.41	Cob ht. (cm) 96 95 85 79 94 96 94 94 78-96 3.07

11. TITLE	EVALUATI MAIZE UNI	ON AND SCREENING OF SINGLE CROSSES OF DER HIGH TEMPERATURE						
OBJECTIVE	To develop si	To develop single crosses tolerant to high temperature.						
RESEARCH WORKER(S)	Yusafwala	Mr. Khadim Hussain Mr. Shahid Hussain Mr. Amir Ghani Mr. Rahil Shahzad Mr. Muhammad Irfan Yousaf Dr. Muhammad Arshad						
	Faisalabad	Saira Saleem Muhammad Altaf Ahsan Raza Mallhi Muhammad Rafique						
PROJECT DURATION	Spring 2017							

	4 3 4							
LOCATION	1. Maize & Millets Research Institute, Yusarwala-Saniwal.							
	2. M	aize Research S	tation, Fai	Isalabad.				
	V	f1- C'(((0))	-1				
IREAIMENIS	YUSE	arwala Sixt	$y(60) \sin (50)$	gle crosses				
	Faisa	alsaladad Fifty (50) single crosses						
METHODOLOGY	Layout			= strip pla	= strip planting			
	Rep	olications		= Non-rep	olicated			
	Plot	t Size		$= 5m \times 3r$	n			
	Plai	nt to plant		= 20 cm				
	Rov	w to row		=75 cm				
	Fer	tilizer		= 297 - 143	8–124 NPK	, Kg/ha.		
	Dat	e of sowing		2 nd fortnig	ght of Marc	h		
	All high und	the single cross temperature at er high temperat	ses will b flowering ture will b	be sown late a g stage. The sin be selected as h	fter mid of ngle crosses neat resilien	f March t s giving h t single c	o provide igh yields rosses.	
PREVIOUS YEAR'S RESULTS:	Yusa	afwala 1 – 1 Spring 201	14					
	111a	I = I Spring 20	10					
		Twenty eight (2	28) single	e crosses were	e evaluated	in replic	ated yield	
	trial	for screening u	nder high	temperature.	At floweri	ng the te	mperature	
	rema	ained above 40°C	C. The res	ults of top ranl	king entries	are giver	below.	
		· _ ·	1	_	_			
	R .	Entries	Plant	Grain	Days to	Plant	Cob ht.	
	No.		Stand	Yield	50 % silk	ht.	(cm)	
			1.5	(Kg/ha)	SIIK	(cm)	100	
	1	YH-5397	17	14473 a	62	193	108	
	2	YH-5410	17	12452 b	63	193	108	
	3	FH-949 (C)	20	12398 b	63	195	83	
	4	YH-5395	18	12235 bc	64	193	113	
	5	YH-1898 (C)	18	11317 cd	68	178	105	
	6	YH-5305	10	2530 o	68	190	103	
		Range	10-	2530-	61-68	170-	83-123	
		8-	20	14473		205		
		CV%	12.7	4.96	1.4	2.42	2.55	
		LSD at 5%	21.2	942.47	1.9	9.59	5.45	
	Tria	l = 2 Spring 201	16					
	trial rema	Twenty eight (2 for screening u lined above 40°C	28) single nder high C. The res	e crosses were temperature. ults of top ranl	e evaluated At floweri king entries	in replic ng the te are giver	ated yield mperature below.	
	R	Entries	Plant	Grain	Days to	Plant	Coh ht	
	No		Stand	Vield	50 %	ht	(cm)	
	1100		Stand	(Kg/ha)	silk	(cm)	(cm)	
	1	YH-1898 (C)	14	13877 a	67	205	113	
	2	YH-5415	15	12487 b	67	185	108	
	3	YH-5439	17	12405 b	65	210	118	
	<u></u>	YH-5421	17	12703 b	66	183	88	
	5	YH-5427	17	11567 bed	68	180	83	
	5	VH_5/126	17	2863 m	67	100	100	
	0	Panga	10	2003 111	07	172	100	
		Kange	10-20	13877	64-68	210	78-118	

CV%	16.5	7.05	1.1	3.36	5.27
LSD at 5%	4.83	1074.3	12.9	10.8	12.9

Faisalabad

Trial: 1: Spring 2016:

This trial comprised of nine single crosses including one commercial hybrid as check was conducted for screening under high temperature. At flowering the temperature remained above 40°C. The results of top ranking entries are given below.

R. No.	Entries	Plant Stand	Grain Yield (Kg/ha)	Days to 50 % silk	Plant ht. (cm)	Cob ht. (cm)
1	FH-1046	102	11943 a	77	193	109
2	FH-949	96	11297 a	78	171	83
3	FH-1012	99	11056 a	79	182	104
4	FH-793	100	11019 a	79	182	101
5	FH-810	95	10809 ab	80	194	102
9	31P41(C)	92	8721 d	73	205	93
	Range	92-	8721-	73-83	171-	83-112
		102	11943		217	
	CV%	4.12	11.37	3.78	4.26	5.23
	LSD 5%	5.07	1235	2.57	4.87	4.03

Trial = 2 Spring 2016

This trial comprised of twelve single crosses including two commercial hybrids as check was conducted for screening under high temperature. At flowering the temperature remained above 40°C. The results of top ranking entries are given below.

R. No.	Entries	Plant Stand	Grain Yield (Kg/ha)	Days to 50 % silk	Plant ht. (cm)	Cob ht (cm)
1	FH-929	71	10505 a	79	203	108
2	FH-1042	73	9975 ab	80	192	114
3	FH-928	68	9292 bc	79	189	107
4	FH-1231	62	9277 bc	81	201	122
5	FH-1117	69	8849 de	80	190	109
8	NK-8711(C)	64	8734 de	75	184	80
9	31P41 (C)	73	8708 de	74	207	82
12	FH-1124	69	8129 f	76	161	80
	Range	62-73	8129-	72-81	161-	80-122
			10505		207	
	CV%	3.67	10.14	3.27	6.32	4.59
	LSD 5%	4.07	1212	4.23	5.21	5.57

12. TITLE	DEMONSTRATION	OF	LOCAL	MAIZE	HYBRID	S IN
	COMPARISON TO	COM	MERCIAL	HYBRIDS	UNDER	HIGH
	TEMPERATURE					

OBJECTIVE	To deve	lop single crosses tole	rant to high temperature.			
RESEARCH	Mr. Khao	Mr. Khadim Hussain				
WORKER(S)	Mr. Shah	id Hussain				
	Mr. Ami	Mr. Amir Ghani				
	Mr. Rahi	l Shahzad				
	Mr. Muh	ammad Irfan Yousaf				
	Dr. Muha	ammad Arshad				
DDOIECT	Caring	2017				
PROJECT	Spring,	2017				
DUKATION						
LOCATION	Maize &	Millets Research Inst	titute, Yusafwala-Sahiwal.			
TREATMENTS	Eightee	n single crosses				
METHODOLOGY	Lavout		– strip planting			
METHODOLOGI	Replicat	ions	= Non-replicated			
	Plot Siz	e	$= 5m \times 6m$			
	Plant to	plant	= 20 cm			
	Row to	row	=75 cm			
	Fertilize	er	= 297–148–124 NPK, Kg/ha.			
	Date of	sowing	= Mid of March			
	All the	single crosses will be	e sown late after mid of March to provide			
	high ten	nperature at flowering	stage. The single crosses giving high yields			
	under hi	gh temperature will be	e selected as heat resilient single crosses.			
PREVIOUS YEAR'S		During spring 2016 s	ixteen (16) single crosses were sown for			
RESULTS:	screening	g under high temperatu	ire. The trial was sown in strip keeping plot			
	size 246.91 m ² At flowering the temperatures remained above 4					
	Followin	g hybrids showed bes	t performance under high temperature. The			
	yield of o	butstanding hybrids are	e as under:			
	S. No.	Name of Hybrid	Grain Yield (kg/ha)			
	1	FH-988	10829			
	2	DK-9108	10172			
	3	YH-1898	9975			
	4	YH-5213	9881			
	5	JPL-2066	9866			
13. TITLE	EVALUA	TION OF PROM	ISING MAIZE HYBRIDS AGAINST			

13. TITLE	EVALUATION OF PROMISING MAIZE HYBRIDS AGAINST COMMERCIAL HYBRIDS.
OBJECTIVE	To evaluate local maize hybrids versus multinational hybrids
RESEARCH	Mr. Khadim Hussain
WORKER(S)	Mr. Shahid Hussain
	Mr. Amir Ghani
	Mr. Rahil Shahzad
	Mr. Muhammad Irfan Yousaf
	Dr. Muhammad Arshad

PROJECT DURATION	Kharif 2016 & Spring 2017							
LOCATION	Maize	Maize & Millets Research Institute, Yusafwala-Sahiwal.						
TREATMENTS	Entrie	Entries =10 (YH-1898, Yusafwala hybrid,FH-949,FH-963, FH-793, FH- 1231, FH-1012, FH-922, YH-1898 & 31P41)						
METHODOLOGY	Lay o Repli	out cations		$= RCBD$ $= 03$ $= 25m \times 6m$				
	Plant	to plant		= 20 cm				
	Row	to row		=75 cm		-		
	Fertil	izer	1 . 6	= 297 - 148 - 12	24 NPK, Kg	g/ha.		
	Date	of sowing K SI	harif oring	$= 10^{\text{th}}$ July to $= 10^{\text{th}}$ January	10 th August y to 20 th Fel	oruary		
	Data 1 age, p	regarding stand lants harvest/plo	count, da ot, fresh c	ys to 50% silk ob weight, moi	ing, plant sture perce	height, lo ntage and	odging % l shelling	
	% age	will be collecte	d and grai	in yield will be	calculated.			
PREVIOUS YEAR'S RESULTS:	Khari	f: 2015:						
	R. No.	Entries	Plant Stand	Grain Yield (Kg/ha)	Days to 50 % silk	Plant ht. (cm)	Cob ht (cm)	
	1	DK 6714(C)	148	8225 a	58	203	93	
	2	FH-922	176	8146 ab	55	183	104	
	3	DK-6789(C)	171	8016 ab	56	199	87	
	4	FH-1012	155	7997 ab	58	184	89	
	5	YH-1898(C)	170	7771 abc	56	190	79	
	6	FH-1231	157	4324 i	55	208	104	
		Range	96- 177	4324-8225	55-58	138- 208	68-104	
		CV%	10.2	7.92	0.96	7.4	5.43	
		LSD at 5%	29.9	1070.7	1.14	NS	10.0	
	Spring: 2016: This trial comprising fourteen entries including two varieties and t commercial hybrids as check was conducted. The results of top rank entries are given below.							
	R.	Entries	Plant	Grain	Days to	Plant	Cob ht	
	No.		Stand	Y ield (Kg/ha)	50 % silk	ht. (cm)	(cm)	
	1	FH-988	147	12369 a	80	237	135	
	2	FH-922	150	12304 a	81	211	119	
	3	YH-1898 (C)	140	12027 a	74	205	105	
	4	FH-1046	161	12024 a	75	208	113	
	5	JPL-2066	150	10589 b	73	208	108	
	6	NK8711 (C)	142	10478 bc	78	209	103	
	7	MAXIMA	164	7775 e	78	209	103	
		Range	140-	7775-	72-82	188-	93-135	

	164	12369		237	
CV%	3.75	5.33	0.59	1.31	1.89
LSD at 5%	12.5	1195	0.97	5.95	4.38

NATIONAL UNIFORM YIELD TRIALS

14. TITLE	NATIONALUNIFORM/ADAPTABILITYMAIZEHYBRIDYIELD TRIALS (YELLOW).2 Sets: One Normal And Second For Screening Against Insect Pests.						
OBJECTIVE	To evaluate exotic/local hybrids at various locations throughout the country.						
RESEARCH WORKER(S)	Yusafwa	afwala Sadia Kanwal Malik Riaz Hussain Muhammad Shakeel Ahmad Dr. Muhammad Arshad					
	Faisalab	ad	Muhammad Al Muhammad Ra	taf fique			
PROJECT DURATION	Kharif 2	016 & Spr	ing 2017				
		•	0				
LOCATION	 Maize & Millets Research Institute, Yusafwala-Sahiwal. Maize Research Station, AARI, Faisalabad. 						
TREATMENTS:	As provided by National Coordinator (Cereal System) PARC, Islamabad.						
METHODOLOGY:	As per instructions of National Coordinator (Cereal System) PARC, Islamabad.						
PREVIOUS YEAR'S RESULTS:	MAIZE HYBRID ADAPTABILITY TRIAL Entries: 26, Year: Kharif - 2015, Locations: 10						
	R. No.	Hybrid	Name	Grain Yield (Kg/Ha.) (Average)			
	1	FH-103	6	10427			
	2	PN-9208	3-S	10186			
	3	ST-6293	}	10020			
	4	6619		9823			
	5	1616		9703			
	Source	: NARC, I	Islamabad.				
	MAIZE HYBRID ADAPTABILITY TRIAL, SPRING 2016 The results are under compilation at NARC. Islamabad.						

15. TITLE	NATIONALUNIFORM/ADAPTABILITYMAIZEHYBRIDYIELD TRIALS (WHITE).2 Sets: One Normal And Second For Screening Against Insect Pests.
OBJECTIVE	 To evaluate exotic/local hybrids at various locations throughout the country. Screening of local hybrids against insect pests.

RESEARCH WORKER(S)	Yusafwala	Mr. Ghulam Murtaza Mr. Aamir Hussain Muhammad Shakeel Ahmad Dr. Muhammad Arshad				
	Faisalabad	Muhammad Altaf Muhammad Rafique				
PROJECT DURATION	Kharif 2016 & Spi	ring 2017				
LOCATION	 Maize & Millets Research Institute, Yusafwala-Sahiwal. Maize Research Station, AARI, Faisalabad. 					
TREATMENTS:	As provided by Islamabad.	v National Coordinator (Cereal System) PARC,				
METHODOLOGY:	As per instructions of National Coordinator (Cereal System) PARC, Islamabad.					
PREVIOUS YEAR'S RESULTS:	New experiment.					

SEED PRODUCTION

16. TITLE	SEED M	ULTIPI	LICATION.				
OBJECTIVE	To multip	ly seed	of single cross hybrids and their parental inbred lines				
	for experi	mental a	and commercial purposes.				
RESEARCH	Yusafwal	a	Sadia Kanwal				
WORKER(S)			Malik Riaz Hussain				
			Dr. Muhammad Arshad				
	Faisalaba	d	Muhammad Altaf				
			Amer Hussain				
			Muhammad Rafique				
PROJECT DURATION	Kharif 20	16 & Sp	ring 2017				
LOCATION	1. Maize & Millets Research Institute, Yusafwala-Sahiwal.						
	2. Maize	Research	n Station, AARI, Faisalabad.				
			1				
TREATMENTS	Yusafwal	a	A. Inbred lines $= 03$ i.e. Y-14, Y-22, Y-27				
			B. Single crosses = 02 i.e. Yusafwala Hybrid,				
			YH-1898 & FH-1046				
	Faisalaba	d	A. Inbred lines $= 06$ i.e. F-107, F-165, F-182,				
			F-271, F-299, F308				
			B. Single crosses = 07 i.e. FH-810, FH-949, FH-				
			963, FH-985, FH-988,				
			FH- 1036, FH-1046				
METHODOLOGY	Lay out		Isolation				
	Plot size		1-10 Kanals for inbred lines				
			1-8 Acres for single crosses				
	Row to re	W	75 cm				
	Plant to p	lant	20 cm				
	Fertilizer	1	297:148:124 NPK, Kg/ha				
	Date of	Kh.	$= 10^{\text{tn}}$ July to 10^{tn} August				

	Sowing Sp	$= 10^{\text{th}}$ Januar	ry to 20 th February					
PREVIOUS YEAR'S RESULTS	The following quantity of inbred lines seed was produced:							
	Yusafwala Faisalabad Quantity (kg)							
	Inbred line	s Y-22	-	378				
		Y-27		313				
		-	F-107	02				
		-	F-308	40				
		-	F-165	105				
		-	F-182	03				
		-	F-271	100				
	Single Cross	es YH-1898	-	3642				
			FH-793	05				
			FH-922	05				
			FH- 949	90				
			FH-985	05				
			FH-988	05				
			FH-1012	10				
			FH-1046	30				
	Double Cros	s -	DTC-1	1000				

17. TITLE	MAINTENANCE OF PARENTAL INBRED LINES OF APPROVED HYBRIDS.					
OBJECTIVE	To achieve uniformity regarding flowering, maturity, number of rows, cob					
	placement and b	etter root anchor.				
RESEARCH	Yusafwala	Sadia Kanwal				
WORKER(S)		Malik Riaz Hussain				
		Dr. Muhammad Arshad				
PROJECT DURATION	Kharif 2016 & S	pring 2017				
LOCATION	1. Maize & Mille	ets Research Institute, Yusafwala-Sahiwal.				
IREATMENTS	<u>Y-14, Y-22, Y-2</u>					
METHODOLOGY	Lay out	Strip				
	Plot size	1-2 Kanals for each inbred line,				
	Row to row	75 cm				
	Plant to plant	20 cm				
	Fertilizer	297:148:124 NPK Kg/ha				
	Date of Sowing	Month of January, February, July & August				
PREVIOUS YEAR'S	Kharif 2015.					
RESULTS	Kharn 2015:					
	100 plants were	selected from each of the three lines and selfed by hand				
	pollination.					
18. TITLE:	ON-FARM TES	STING OF PROMISING HYBRIDS.				
OBJECTIVE:	To evaluate maiz	ze hybrids on farmer's field.				

RESEARCH WORKER	Yusafwala	N	Ir. A	Aamir	Ghani					
(S):		D	r. N	Auhan	nmad Ar	shac	1			
	Faisalabad	Faisalabad Muhammad Rafique								
		N	luha	amma	d Altaf					
PROJECT DURATION:	Kharif 2016	& Spring	20	17						
LOCATION:	12 (Six in Fa	aisalabad	& s	ix in S	Sahiwal	divis	sion).			
TREATMENTS:	Hybrids = 0	08 i.e., (F	Ή9	963, FI	H 949, F	FH 9	85, FH 1	036,	FH-1046,	YH-1898,
	5	Ŷı	ısaf	wala l	Hybrid &	k on	e comme	ercial	hybrid)	,
METHODOLOGY:	Layout			= Str	rips					
	Reps			= Nc	on replic	ated				
	Plot size			= 45	m^2					
	Row to row			= 67	.5 cm					
	Plant to plan	ıt		= 20	cm					
	Fertilizer			= Fa	rmer's P	ract	ice.			
	Date of sow	ing Khari	if	= 10) th July t	o 10	th Augus	t		
		Sprin	g	$= 10^{4}$	th Januar	ry to	20 th Feb	oruar	у	
		•	-							
PREVIOUS YEAR'S	Spring 2016	6 (Condu	cted	d by N	IMRI,Y	usa	fwala)			
RESULTS:				v	,					
	Entry No.	60-5L	82	2-6R	267 (G.	B Kamalia		lia	Mian	Av.
		Sahiwal	Sal	hiwal	(T.T.Sin	gh)	(T.T.Sin	ıgh)	Channu	Yield
		05-02-16	24-	02-16	26-02-1	.0	27-02-1	.6	01-03-16	(kg/ha)
	FH-1046	10103	9	9974	1034	5	1114	15	10656	10445
	YH-1898	9346	1	1042	8030)	904	5	10120	9513
	FH-949 (C)	1/48	8	5800	9120		103	/8	9460	9101
	NK-8/11 (C)	78/1		2876	9864		919	0	0601	9070
	FH-922	7740	1	0140	8010	8010 906		5	9650	8921
	Y. Hybrid (C)	7678	1	9783	7990		8890		8690	8606
	P-1543 (C)	8273	1	0071	7220)	986	5	6829	8452
	Kharif 2015	5 (Condu	cte	d by N	MRS,Fai	isala	bad)			
	Entre	Saadaha	d	24	() IR		hinist	V	hiddor	A
	Entry	Ihang	u	30	J2JD		iiiiiot		nuuar wala	Avg.
		23-07-2015		27-07	-2015	04-	08-2015	10-	08-2015	
	30Y87	10616		10	0370	1	11066	1	0563	10654
	FH-793	11030		1(0543	1	11283	(9748	10651
	FH-810	9792		1	1082	1	11264	1	0237	10594
	NT-6654	9613		1()235	1	10450		9219	9879
	YH-1898	8088		10	0658	1	10833	(9184	9691
	FH-963	8525		0	613	1	10457	-	8717	9328
	V Hybrid	8676		9	013		95/0		8019	8865
	1.1190110	0070		, , , , , , , , , , , , , , , , , , , ,	223		<i>J</i> J T U	(5017	0005

Faisala	bad						
Spring 2016:							
Entry	437/G.B Noorpur	385/G.B Samundri	452/G.B Tandlian -wala	473/G.B Samundri	1/G.B Mureed- Wala	615/G.B Tandlian -wala	Av. (Kg/ha)
FH- 1046	10731	11471	10037	10388	11014	9979	10603

FH-949	10933	10848	9440	9621	10508	10191	10257
FH-922	9282	10267	9680	8491	9317	8835	9312
YH-1898	9970	9104	9664	8737	9234	9082	9299
FH-988	9744	9331	9827	8926	8277	9283	9231
Y. Hybrid	9305	8876	8703	8071	8321	8143	8570
P1543	9447	9017	8651	7896	8166	8219	8566

MAIZE OPV'S

1. TITLE:	MAINTENANCE AND IMPROVEMENT OF POOL - 50.						
OBJECTIVE:	To improve base population of pool 50 required for OPVs derivations.						
RESEARCH	Hafiz Mutther Javed						
WORKER(S):	Rana Abdul Hameed Khan						
	Dr. Muhammad Arshad						
PROJECT DURATION:	Continuous						
LOCATION:	Maize & Millets Research Instit	ute, Yusafwala-Sahiwal.					
TREATMENTS:	Base population of Yusafwala P	Pool-50.					
METHODOLOGY:	Lay out	= Strip					
	Plot size	$= 31.5 \text{m} \times 48.5 \text{m}$					
	Plant to plant distance	= 20 cm					
	Row to row distance	= 75cm					
	Fertilizer	= 227-114-62 NPK, Kg/ha					
	Date of sowing, Kharif	$= 10^{\text{m}}$ July to 10^{m} August					
	Spring	$= 10^{\text{th}}$ January to 20^{th} February					
	Presently available base populat	tion of pool-50 will be sown in isolation for their					
	maintenance. Undesirable plants	s will be roughed out before pollination and open					
	pollination will be allowed to be	roaden the genetic base. At maturity, crop will be					
	harvested as a whole. Random	representative samples will be kept for further					
	maintenance.						
PREVIOUS YEAR'S	The seed of selected cob's was	bulked and planted during kharif 2015 and open					
RESULTS:	pollination was allowed. Best p	plants were selected on the basis of plant height,					
	stem girth, cob placement, co	b length and resistance against lodging. Cobs					
	selected against above mentione	ed criteria were bulked and planted during Spring					
	2016. Same selection procedure	was performed after open pollination.					

02. TITLE:	MICRO PLOT MAIZE YIELD TRIAL (OPV)
OBJECTIVE:	To evaluate the promising maize experimental varieties for high yield potential.
RESEARCH WORKER	Mr. Ghulam Murtaza
(S):	Mr. Aamir Hussain
	Dr. Muhammad Arshad
PROJECT DURATION:	Kharif 2016 & Spring 2017

LOCATIONS:	Maize & Millets Research Institute, Yusafwala-Sahiwal.						
TREATMENTS:	9 = YY-15, YW-786, YW-787, CZP-132001, Pak-I, Pak-II, MMRI Yellow, Pearl & Agaiti-2002.						
METHODOLOGY:	Decign						
METHODOLOGT:	Design – KCD						
	Reps Dist size	-	= 3				
	PIOL SIZ	e =	= 5 III X 3	m			
	ROW to	row =	= 75 cm				
	Plant to	plant =	= 20 cm	4.CO NDV V	r _ /1		
	Fertilize	er =	= 227:11	4:62 NPK K	g/na		
	Date of	Sowing	= Month	of July & F	ebruary.		
	Data wi silking,	ill be recorded fo plant height, cob	or stand c height,	count, days t fresh cob we	to 50% tas eight/plot a	seling, da and grain	ays to 50% yield.
PREVIOUS YEAR'S	Kharif	2015:					
RESULTS:	The tria below.	1 comprising sev	ven entrie	es was conc	lucted. Th	e results	are given
	Sr.	Entries	Plant	Grain	Days	Plant	Cob ht.
	No.		Stand	Yield	to 50	ht.	(cm)
			0.5	(Kg/ha)	% silk	(cm)	0.2
	1	AH-15	95	8400 a	56	213	93
	2	Pak-I	95	7626 b	50	18/	87
	3	Pak-II	90	/415 b	50	198	93
	4	EV-6486	96	/240 bc	54	1//	101
	5	MMRI Yellow	96	6902 cd	54	218	112
	0	Pearl	93	6//Id	53	206	105
	/	EV-648/	91	5860 e	23	196	96
		LSD at 5%	3.35 NC	3.18	1.79	4.45	9.26
		LSD at 5%	IN2	405	1.68	15.76	INS
	Spring The tria below.	2015: 1 comprising eig	ght entrie	s was cond	ucted. The	e results	are given
	No.	121111165	Stand	Yield	50 %	ht.	(cm)
				(Kg/ha)	silk	(cm)	. /
	1	YY-15	74	9766 a	67	259	115
	2	MMRI Vallow	73	9200 ab	67	243	121
	3	Malka 2016	74	8764 bc	68	246	120
	4	YW-787	74	8359 cd	68	265	138
	5	YW-786	72	8104 cd	46	252	127
	6	Pearl	73	7739 de	66	250	121
	7	Pak-1	73	6954 ef	61	213	88
	8	CZP-132001	74	6726 f	65	233	107
		CV %	41	5.64	19 58	4.26	7 47
		LSD at 5%	NS	809.8	NS	18 29	153
			110		110		10.0
	Sr. No. 1 2 3 4 5 6 7 8	Entries YY-15 MMRI Yellow Malka 2016 YW-787 YW-786 Pearl Pak-1 CZP-132001 CV % LSD at 5%	Plant Stand 74 73 74 73 74 73 73 73 73 73 73 73 73 74 .41 NS	Grain Yield (Kg/ha) 9766 a 9200 ab 8764 bc 8359 cd 8104 cd 7739 de 6954 ef 6726 f 5.64 809.8	Days to 50 % silk 67 67 68 68 68 46 66 61 65 19.58 NS	Plant ht. (cm) 259 243 246 265 252 250 213 233 4.26 18.29	Cob ht. (cm) 115 121 120 138 127 121 88 107 7.47 15.3

03. TITLE:

MICRO PLOT MAIZE YIELD TRIAL (POP & SWEET CORN)

OBJECTIVE:	To evaluate the promising pop corn maize experimental varieties for high yield potential.							
RESEARCH WORKER (S):	Mr. 0 Mr. 4	Ghulam Murtaz Aamir Hussain	za					
	Dr. M	Muhammad Ars	shad					
PROJECT DURATION:	Khar	if 2016 & Spri	ng 2017					
LOCATIONS:	Maiz	e & Millets Re	search Inst	itute, Yusaf	wala-Sahi	iwal.		
TREATMENTS:	5 =	YPC-14, YSC-1	5, YPC-16,	Pop Corn (sw	rat) & Swe	et Corn (S	wat).	
METHODOLOGY:	Desi	an	- RCB					
	Reps		= 3					
	Plot	size	$= 4m \times 31$	m				
	Row	to row	= 75 cm					
	Plan	t to plant	= 20 cm					
	Ferti	lizer	= 227:114:62 NPK Kg/ha					
	Date	of Sowing	= Month	of July & Fe	bruary.			
	Data will be recorded for stand count, days to 50% tasseling, days to 50% silking, plant height, cob height, fresh cob weight/plot and grain yield.							
PREVIOUS VEAR'S	Snri	ng 2016.						
RESULTS:	Shir	lig 2010.						
	The t below	rial comprising w.	five entries	s was condu	icted. The	e results a	are given	
	Sr.	Entries	Plant	Grain	Davs	Plant	Cob ht.	
	No.		Stand	Yield	to 50	ht.	(cm)	
				(Kg/ha)	% silk	(cm)	105	
	1	YPC-14	74	6584 a	81	234	125	
	2	White Popcorn	/5	6158 a	/4	206	107	
	3	YSC-15	74	5929 a	82	226	125	
	4	Sweet Corn (Swat)	74	5059 b	78	218	117	
	5	Popcorn (Swat)	71	3172 c	77	211	112	
		CV %	2.03	8.78	1.14	5.43	8.05	
		LSD at 5%	2.30	727.76	1.37	18.30	NS	

04. TITLE:	NATIONAL UNIFORM MAIZE VARIETAL YIELD TRIAL.				
	Pests.				
OBJECTIVE:	 To evaluate maize varieties at various locations throughout the country. Screening of candidate maize varieties against insect pasts. 				
	2. Screening of candidate marze varieties against filsect pests.				

RESEARCH WORKER (S):	Yusafwala	Hafiz Mutther Jave	ed		
		Rana Abdul Hame	ed Khan		
		Muhammad Shake	el Ahmad		
		Dr. Muhammad An	rshad		
	Faisalabac	Mr. Muhammad	Altaf		
		Mr. Muhammad	Rafique		
	Rawalpino	di Mr. Muhammad	Siddique		
		Dr. Muhammad	Irshad-ul-Haq		
	<u></u>				
PROJECT DURATION:	Kharif 20	16 & Spring 2017			
LOCATIONS:	1-Maize &	z Millets Research Institu	te. Yusafwala-Sahiwal.		
	2-Maize R	Research Station, Faisalab	ad.		
TREATMENTS:	As per instructions of the National Coordinator (Cereal System PARC, Islamabad				
METHODOLOGY:	As per in PARC, Isl	structions of the Natior amabad	al Coordinator (Cereal System)		
PREVIOUS YEAR'S RESULTS:	NATIONAL UNIFORM MAIZE VARIETAL YIELD TRIAL. Entries: 24, Year: Kharif- 2015, Locations: 6				
	R. No.	Variety Name	Grain Yield (Kg/ha)		
			(Average)		
	1	WVAR-13	7027		
	2	WVAR-4	6504		
	3	WVAR-3	6492		
	4	WVAR-7	6486		
	5	WVAR-8	6462		
		Source: NARC	C, Islamabad.		
	NATION SPRING	AL UNIFORM MAIZE - 2016	VARIETAL YIELD TRIAL.		

05. TITLE:	SEED PRODUCTION OF YELLOW MAIZE VARITIES
OBJECTIVE:	To produce breeder, pre-basic, basic and certified seed of yellow maize varieties.
RESEARCH WORKER (S):	Hafiz Mutther Javed
	Rana Abdul Hameed Khan
	Mr. Tanweer Mukhtar
	Mr. Asrar Mahboob
PROJECT DURATION:	Kharif 2016 & Spring 2017
LOCATION:	Maize & Millets Research Institute, Yusafwala-Sahiwal.
TREATMENTS:	Breeder Seed: 12 verities (11Approved and one promising)

	Pre-Basic, Basic and Certified Seed: MMRI, Yellow & Pearl.							
METHODOLOGY:	Lay	out		= Stri	p			
	Plot	size, Breeder		= 5m	x 7.5m			
		Pre-basic		= 1 K	anal- 2 Kanal	s		
		Basic		= 2-3	Acres			
		Certified		= 4-6	Acres			
	Plant	t to plant distance		= 20c	em			
	Row	to row distance		= 75c	m			
	Ferti	lizer		= 227	= 227-114-62 NPK, Kg/ha			
	Date	of sowing		Kharif 10 th July to 10 th August				
			Spring	g 10 th Janu	uary to 20 th	¹ February		
	Breeder seed will be produced			d throug	h sib pollinati	ion while p	re-basic and	
	basic seed by half bib procedure.							
PREVIOUS YEAR'S	The	following varieties	seed	was pro	duced during	kharif 2015	5 and spring	
RESULTS:	2016	:		_	-			
	S.	Variety			Seed (Kgs)		
	No.		Bre	eeder	Pre-basic	Basic	Certified	
	1	MMRI Yellow		-	-	3720	6050	
	2	Pearl	6	5.5	140	5850	8615	

SORGHUM

01. TITLE	MAINTENANCE OF GENE POOL.				
OBJECTIVE	To maintain the germplasm for breeding program.				
RESEARCH WORKER (S)	Yusafwala	Mr. Aamir Mu	mtaz		
		Mr. Muhamma	d Saeed		
		Mr. Dilbar Hus	sain		
		Dr. Muhammad	d Arshad		
	D.G.Khan	Mr. Ihsanullah			
		Mrs.Zaib-un-N	isa		
PROJECT DURATION	Kharif 2016.				
LOCATION	1. Maize & Millet	s Research Institu	ite, Yusafwala-Sahiwal.		
	2. Sorghum Resea	rch Sub-station, I	D. G. Khan.		
TREATMENTS	80 entries each at MMRI, Yusafwala and SRSS, D. G. Khan.				
	Seed/Seedling.				
	1. Seedling growth	n habit	2. Coleoptile's Anthcyanin		
	3. Seedling length	(cm)	4. First leaf color		
	5.First leaf tip				
	Leaf				
	6. No, of Leaf pe	r plant	7. Leaf size (length / width)		
	8. Leaf attitude (d	drooping / semi-	9. Mid rib color		
	drooping / erec	et)			
	Stem				
	10. Stem length		11.Stem type (Juicy/dry)		
	12. Stem thickness	S	13. Lodging		
	14. Internode leng	th			

	Donroductive T	noita	
	15 Devic to popie	la amanganga	16 Dadunala langth
	15. Days to pante	cie emergence	10. Peduncie length
	17. Panicle shape		18. Panicle attitude
	19. Rachis length	n/width	20. Stigma color
	21. Anther fertili	ty	
	Seed		
	22. Seed covering	g	23. Seed size
	24. Seed shape (I	Narrow elliptic,	25. 100 grain weight (gm)
	elliptic and spher	rical)	
	26. Seed weight/	panicle (gm)	
	Disease		
	27 Red leaf spot		28 Stalk rot %age
	27. Red lear spot		20. Stark for /odge
	29. Any other		
	T (
METHODOLOGY	Lay out	= Strip	
	Reps	= Non replicated	1
	Plot size	$= 5m \times 1.5m$	
	Plant to plant	= 20 cm	
	Row to row	= 75 cm	
	Fertilizer	= 170-84-62 NP	K (Kg/ha) at Y. Wala & D.G.K.
		79-57-62 NPK	K (Kg/ha) at Rawalpindi.
	Date of sowing	$= 25^{\text{th}}$ June -15	th July
	8		
	Five true to type	e nlants will be s	elected in each line and will be
	covered with Kr	off namer hags to a	void contamination At maturity
	Selected papiele	ant puper bugs to u	d and seed will be collected for
	maintonance. Th	a data on differen	at agronomic characteristics like
	device to 50% and	e uala oli ullielei haaia plant haight	heiv percentage leef color leef
	uays to 50% and	lesis, plant height	titude etc. will be recorded
	attitude, tillering,	, louging, panicle a	ittitude etc. will be recorded.
	D . 1 / / /	1 / 1 1	
PREVIOUS YEAR'S	Eighty entries w	ere planted and m	naintained at MMRI, Yusafwala-
PREVIOUS YEAR'S RESULTS:	Eighty entries w Sahiwal and SRS	ere planted and n S, D. G. Khan.	naintained at MMRI, Yusafwala-
PREVIOUS YEAR'S RESULTS:	Eighty entries w Sahiwal and SRS	ere planted and n S, D. G. Khan.	naintained at MMRI, Yusafwala-
PREVIOUS YEAR'S RESULTS: 02. TITLE	Eighty entries w Sahiwal and SRS MAINTENANC	ere planted and m S, D. G. Khan. E OF CYTOPL	ASMIC MALE STERILE (A)
PREVIOUS YEAR'S RESULTS: 02. TITLE	Eighty entries w Sahiwal and SRS MAINTENANC LINES.	ere planted and n S, D. G. Khan. E OF CYTOPL	ASMIC MALE STERILE (A)
PREVIOUS YEAR'S RESULTS: 02. TITLE	Eighty entries w Sahiwal and SRS MAINTENANC LINES.	ere planted and n S, D. G. Khan. E OF CYTOPL	ASMIC MALE STERILE (A)
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE	Eighty entries w Sahiwal and SRS MAINTENANC LINES.	ere planted and n S, D. G. Khan. E OF CYTOPL Female parent lines	ASMIC MALE STERILE (A)
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f	ere planted and n S, D. G. Khan. E OF CYTOPL Temale parent lines	ASMIC MALE STERILE (A) for hybrid program.
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE RESEARCH WORKER(S)	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f	ere planted and n S, D. G. Khan. E OF CYTOPL Temale parent lines	ASMIC MALE STERILE (A) for hybrid program.
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE RESEARCH WORKER(S)	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f	ere planted and n S, D. G. Khan. E OF CYTOPL Temale parent lines	ASMIC MALE STERILE (A) for hybrid program.
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE RESEARCH WORKER(S)	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f Mr. Aamir Mumu Mr. Muhammad	ere planted and n S, D. G. Khan. E OF CYTOPL Temale parent lines taz Saeed	ASMIC MALE STERILE (A) for hybrid program.
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE RESEARCH WORKER(S)	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f Mr. Aamir Mum Mr. Muhammad Mr. Dilbar Hussa	ere planted and n S, D. G. Khan. E OF CYTOPL Temale parent lines taz Saeed tin	ASMIC MALE STERILE (A) for hybrid program.
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE RESEARCH WORKER(S)	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f Mr. Aamir Mumu Mr. Muhammad Mr. Dilbar Hussa	ere planted and n S, D. G. Khan. E OF CYTOPL Semale parent lines taz Saeed	ASMIC MALE STERILE (A) for hybrid program.
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE RESEARCH WORKER(S) PROJECT DURATION	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f Mr. Aamir Mumt Mr. Muhammad Mr. Dilbar Hussa Kharif 2016.	ere planted and n S, D. G. Khan. CE OF CYTOPL Temale parent lines taz Saeed tin	ASMIC MALE STERILE (A) for hybrid program.
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE RESEARCH WORKER(S) PROJECT DURATION	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f Mr. Aamir Mumu Mr. Muhammad Mr. Dilbar Hussa Kharif 2016.	ere planted and n S, D. G. Khan. E OF CYTOPL Temale parent lines taz Saeed tin	ASMIC MALE STERILE (A) for hybrid program.
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE RESEARCH WORKER(S) PROJECT DURATION LOCATION	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f Mr. Aamir Mumu Mr. Muhammad Mr. Dilbar Hussa Kharif 2016. Maize & Millets	ere planted and n S, D. G. Khan. E OF CYTOPL Temale parent lines taz Saeed tin Research Institute	ASMIC MALE STERILE (A) for hybrid program
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE RESEARCH WORKER(S) PROJECT DURATION LOCATION	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f Mr. Aamir Mumu Mr. Muhammad Mr. Dilbar Hussa Kharif 2016. Maize & Millets	ere planted and n S, D. G. Khan. E OF CYTOPL Female parent lines taz Saeed tin Research Institute,	ASMIC MALE STERILE (A) for hybrid program. Yusafwala-Sahiwal.
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE RESEARCH WORKER(S) PROJECT DURATION LOCATION TREATMENTS	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f Mr. Aamir Mumu Mr. Muhammad Mr. Dilbar Hussa Kharif 2016. Maize & Millets Fourteen A & B	ere planted and n S, D. G. Khan. E OF CYTOPL Semale parent lines taz Saeed tin Research Institute, lines.	ASMIC MALE STERILE (A) for hybrid program Yusafwala-Sahiwal.
PREVIOUS YEAR'S RESULTS: 02. TITLE OBJECTIVE RESEARCH WORKER(S) PROJECT DURATION LOCATION TREATMENTS	Eighty entries w Sahiwal and SRS MAINTENANC LINES. To maintain the f Mr. Aamir Mumu Mr. Muhammad Mr. Dilbar Hussa Kharif 2016. Maize & Millets Fourteen A & B	ere planted and n S, D. G. Khan. E OF CYTOPL Temale parent lines taz Saeed tin Research Institute, lines.	ASMIC MALE STERILE (A) for hybrid program Yusafwala-Sahiwal.

INTICE SOUCT Reps = Non replicated Plot size = Sun 3.75m = Sun 3.75m Plant to plant = 20 cm Row to row = 75 cm Fertilizer = 170-84-62 NPK, (Kg/ha) Date of sowing = 25 th June - 15 th July These lines will be sown in 3:2 (Female: male). Ten vigorous plants/ heads of maintenance of CMS lines. At maturity, seed will be collected for maintenance. PREVIOUS YEAR'S RESULTS: Eighteen CM (A) and their counterpart (B) lines were planted and fourteen lines were maintained while two lines were rejected due to disease succeptibility, one line was out crossed during previous year and one is just repetition. 03. TITLE MAINTENANCE OF FERTILITY RESTORER (R) LINES. OBJECTIVE To maintain the male parent lines for hybrid program. RESEARCH WORKER(S) Mr. Aumir Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain PROJECT DURATION Kharif 2016. LOCATION Maize & Millets Research Institute, Yusafwala-Sahiwal. TREATMENTS Twenty six fertility restorer (R) lines. METHODOLOGY Lay out Reps = Strip Reps = Non we plants will be solected from each line. The panicles of selected plants will be solected with carft paper bags before flowering for their maintenance. The data on d	METHODOLOGY	Lay out =	= Strip
Piot size = Non replicated Piot size = 20 cm Row to row = 75 cm Fertilizer = 170-84-62 NPK, (Kg/ha) Date of sowing = 25 th June - 15 th July These lines will be sown in 3:2 (female: male). Ten vigorous plants/ heads of male and female lines will be selected in each line & Kovered with Kraft paper bags before flowering and pollination will done by hand for maintenance of CMS lines. At maturity, seed will be collected for maintenance. PREVIOUS YEAR'S Eighteen CM (A) and their counterpart (B) lines were planted and fourteen lines were maintained while two lines were rejected due to disease susceptibility, one line was out crossed during previous year and one is just repetition. 03. TITLE MAINTENANCE OF FERTILITY RESTORER (R) LINES. OBJECTIVE To maintain the male parent lines for hybrid program. RESEARCH WORKER(S) Mr. Aamir Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain PROJECT DURATION Kharif 2016. LOCATION Maize & Millets Research Institute, Yusafwala-Sahiwal. TREATMENTS Twenty six fertility restorer (R) lines. METHODOLOGY Lay out Reps = Strip Plot size = Strip Sm x 3.3 Plain to plant Plot size = Strip Sm x 3.3 Plain to plant Plot size = Strip Sm x 3.3 Pl		Pops -	- Non replicated
Pion is size = 5m X 3.75m Plant to plant = 20 cm Row to row = 75 cm Fertilizer = 170-84-62 NPK, (Kg/ha) Date of sowing = 25 th Junc - 15 th July These lines will be sown in 3:2 (female: male). Ten vigorous plants/ heads of male and female lines will be selected in each line & covered with Kraft paper bags before flowering and pollination will done by hand for maintenance of CMS lines. At maturity, seed will be collected for maintenance. PREVIOUS YEAR'S Eighteen CM (A) and their counterpart (B) lines were planted and fourteen lines were maintained while two lines were planted and fourteen lines were maintained while two lines were planted and fourteen lines were maintain. 03. TITLE MAINTENANCE OF FERTILITY RESTORER (R) LINES. OBJECTIVE To maintain the male parent lines for hybrid program. RESEARCH WORKER(S) Mr. Aamir Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain PROJECT DURATION Kharif 2016. LOCATION Maize & Millets Research Institute, Yusafwala-Sahiwal. TREATMENTS Twenty six fertility restorer (R) lines. METHODOLOGY Lay out Reps = Strip Plant to plant = 20 cm Row to row = 75 cm Fertilizer = 170-84-62 NPK (Kg/ha) Date of sowing = 25 th June - 15 th		-	
Plant to plant = 20 cm Row to row = 75 cm Fertilizer = 25 th June - 15 th July These lines will be sown in 3:2 (female: male). Ten vigorous plants/ heads of male and female lines will be selected in each line &covered with Kraft paper bags before flowering and pollination will done by hand for maintenance of CMS lines. At maturity, seed will be collected for maintenance of CMS lines. At maturity, seed will be collected us to disease susceptibility, one line was out crossed during previous year and one is just repetition. 03. TTLE MAINTENANCE OF FERTILITY RESTORER (R) LINES. 0BJECTIVE To maintain the male parent lines for hybrid program. RESEARCH WORKER(S) Mr. Aamir Mumtaz Mr. Aumir Mumtaz Mr. Dilbar Hussain PROJECT DURATION Kharif 2016. LOCATION Maize & Millets Research Institute, Yusafwala-Sahiwal. TREATMENTS Twenty six fertility restorer (R) lines. METHODOLOGY Lay out Reps = Strip Plot size = Sm x 3m Plot size = Sm x 3m Platt to plant = 20 cm Row to row = 75 cm Fertilizer = 170-84-62 NPK (Kg/ha) Date of sowing = 25 th July Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flo		Plot size =	$= 5m \times 3.75m$
Row to row Fertilizer = 75 cm Fertilizer = 170-84-62 NPK, (Kg/ha) Date of sowing = 25 th Junc - 15 th July These lines will be sown in 3:2 (female: male). Ten vigorous plants/ heads of male and female lines will be selected in each line & covered with Kraft paper bags before flowering and pollination will done by hand for maintenance of CMS lines. At maturity, seed will be collected for maintenance. PREVIOUS YEAR'S Eighteen CM (A) and their counterpart (B) lines were planted and fourteen lines were maintained while two lines were rejected due to disease susceptibility, one line was out crossed during previous year and one is just repetition. 03. TITLE MAINTENANCE OF FERTILITY RESTORER (R) LINES. OBJECTIVE To maintain the male parent lines for hybrid program. RESEARCH WORKER(S) Mr. Aamir Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain PROJECT DURATION Kharif 2016. LOCATION Maize & Millets Research Institute, Yusafwala-Sahiwal. TREATMENTS Twenty six fertility restorer (R) lines. METHODOLOGY Lay out Fertilizer = Strip Sin x 3m Plant to plant Date of sowing = 170-84-62 NPK (Kg/ha) Date of sowing = Date of sowing = 20 cm Row to row = Fertilizer = 170-84-62 NPK (Kg/ha		Plant to plant =	= 20 cm
Fertilizer = 170-84-62 NPK, (Kg/ha) Date of sowing = 25 th Junc - 15 th July These lines will be sown in 3:2 (female: male). Ten vigorous plants/ heads of male and female lines will be selected in each line &covered with Kraft paper bags before flowering and pollination will done by hand for maintenance of CMS lines. At maturity, seed will be collected for maintenance. PREVIOUS YEAR'S RESULTS: Eighteen CM (A) and their counterpart (B) lines were planted and fourteen lines were maintained while two lines were rejected due to disease susceptibility, one line was out crossed during previous year and one is just repetition. 03. TITLE MAINTENANCE OF FERTILITY RESTORER (R) LINES. OBJECTIVE To maintain the male parent lines for hybrid program. RESEARCH WORKER(S) Mr. Aamir Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain PROJECT DURATION Maize & Millets Research Institute, Yusafwala-Sahiwal. TREATMENTS Twenty six fertility restorer (R) lines. METHODOLOGY Lay out Reps = Strip Plot size = Sm X 3m Plant to plant = 20 cm Row to row = 75 cm Fertilizer = 170-84-62 NPK (Kg/ha) Date of sowing = 25 th June - 15 th July Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different trati		Row to row =	= 75 cm
Date of sowing = 25 th June - 15 th July These lines will be sown in 3:2 (female: male). Ten vigorous plants/ heads of male and female lines will be selected in each line & covered with Kraft paper bags before flowering and pollination will done by hand for maintenance. PREVIOUS YEAR'S RESULTS: Eighteen CM (A) and their counterpart (B) lines were planted and fourteen lines were maintained while two lines were rejected due to disease susceptibility, one line was out crossed during previous year and one is just repetition. 03. TITLE MAINTENANCE OF FERTILITY RESTORER (R) LINES. OBJECTIVE To maintain the male parent lines for hybrid program. RESEARCH WORKER(S) Mr. Aamir Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain PROJECT DURATION Kharif 2016. LOCATION Maize & Millets Research Institute, Yusafwala-Sahiwal. TREATMENTS Twenty six fertility restorer (R) lines. METHODOLOGY Lay out Reps = Strip Plot size = Strip New to row = 75 cm Fertilizer = 15 th July Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, bix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS:		Fertilizer -	-170.84.62 NPK (Kg/ha)
Date of sowing = 25 June = 15 July These lines will be sown in 3:2 (female: male). Ten vigorous plants/ heads of male and female lines will be selected in each line &covered with Kraft paper bags before flowering and pollination will done by hand for maintenance of CMS lines. At maturity, seed will be collected for maintenance. PREVIOUS YEAR'S RESULTS: Eighteen CM (A) and their counterpart (B) lines were planted and fourteen lines were maintained while two lines were rejected due to disease susceptibility, one line was out crossed during previous year and one is just repetition. 03. TITLE MAINTENANCE OF FERTILITY RESTORER (R) LINES. OBJECTIVE To maintain the male parent lines for hybrid program. RESEARCH WORKER(S) Mr. Aamir Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain PROJECT DURATION Kharif 2016. LOCATION Maize & Millets Research Institute, Yusafwala-Sahiwal. TREATMENTS Twenty six fertility restorer (R) lines. METHODOLOGY Lay out Reps = Strip Strip Strip Plot size Plot to plant Plant to plant Fertilizer = Strip Strip Strip Plant to plant Estilizer = Date of sowing = 170-S4-62 XPK (Kg/ha) = 20 cm Row to row Estilizer = PrevIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. Q4. TITLE DEVELOPMENT OF D		Dete of service	25^{th} Lore 15^{th} Lore
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LOCATION Maize & Millets Research Institute, Yusafwala-Sahiwal. TREATMENTS Twenty six fertility restorer (R) lines. METHODOLOGY Lay out Reps = Non replicated Strip Plot size = Strip Plant to plant = 20 cm Row to row = 75 cm Fertilizer = 170-84-62 NPK (Kg/ha) Date of sowing = 25 th June - 15 th July Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM			
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TREATMENTS Twenty six fertility restorer (R) lines. METHODOLOGY Lay out = Strip METHODOLOGY Lay out = Strip Reps = Non replicated Plot size = 5m x 3m Plant to plant = 20 cm Row to row = 75 cm Fertilizer = 170-84-62 NPK (Kg/ha) Date of sowing = 25 th June - 15 th July Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM			
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METHODOLOGY Lay out = Strip Reps = Non replicated Plot size = 5m x 3m Plant to plant = 20 cm Row to row = 75 cm Fertilizer = 170-84-62 NPK (Kg/ha) Date of sowing = 25 th June - 15 th July Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM			
NILTIODOLOGY Lay out – Supplicated Reps = Non replicated Plot size = 5m x 3m Plant to plant = 20 cm Row to row = 75 cm Fertilizer = 170-84-62 NPK (Kg/ha) Date of sowing = 25 th June – 15 th July Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM	METHODOLOGY	Lav out	– Strin
Reps=Non replicatedPlot size=5m x 3mPlant to plant=20 cmRow to row=75 cmFertilizer=170-84-62 NPK (Kg/ha)Date of sowing=25 th June - 15 th JulyFive true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded.PREVIOUS YEAR'S RESULTS:Twenty six restorer lines were planted and maintained.04. TITLEDEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM	METHODOLOGI	David	- Sup New weylington
Plot size=5m x 3mPlant to plant=20 cmRow to row=75 cmFertilizer=170-84-62 NPK (Kg/ha)Date of sowing=25th June - 15th JulyFive true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded.PREVIOUS YEAR'S RESULTS:Twenty six restorer lines were planted and maintained.04. TITLEDEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		Keps	= Non replicated
Plant to plant Row to row Fertilizer Date of sowing=20 cm 75 cm 170-84-62 NPK (Kg/ha) 25th June – 15th JulyFive true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded.PREVIOUS YEAR'S RESULTS:Twenty six restorer lines were planted and maintained.O4. TITLEDEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		Plot size	= 5m x 3m
Row to row = 75 cm Fertilizer = 170-84-62 NPK (Kg/ha) Date of sowing = 25 th June – 15 th July Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. O4. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		Plant to plant	= 20 cm
Fertilizer = 170-84-62 NPK (Kg/ha) Date of sowing = 25 th June – 15 th July Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S Twenty six restorer lines were planted and maintained. O4. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		Row to row	= 75 cm
Date of sowing = 25 th June – 15 th July Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		Fertilizer	= 170-84-62 NPK (Kg/ha)
Date of sowing - 25 Julie - 15 July Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		Date of solving	-25^{th} Jupe -15^{th} July
Five true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. O4. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		Date of sowing	= 25 June = 15 July
Prive true to type plants will be selected from each line. The panicles of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. O4. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		Eleve trees to terms when	() () () () () () () () () ()
of selected plants will be covered with craft paper bags before flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		Five true to type plan	its will be selected from each line. The panicles
flowering for their maintenance. The data on different traits like days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: Twenty six restorer lines were planted and maintained. 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		of selected plants w	all be covered with craft paper bags before
days to 50% anthesis, plant height, brix percentage, leaf color, leaf attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		flowering for their r	naintenance. The data on different traits like
attitude, tillering, lodging, panicle attitude etc. will be recorded. PREVIOUS YEAR'S RESULTS: 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		days to 50% anthesis	s, plant height, brix percentage, leaf color, leaf
PREVIOUS YEAR'S Twenty six restorer lines were planted and maintained. 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		attitude, tillering, lod	ging, panicle attitude etc. will be recorded
PREVIOUS YEAR'S Twenty six restorer lines were planted and maintained. RESULTS: DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM		,	
I Wenty Six restorer lines were planted and maintained. RESULTS: 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM	DDEVIOUS VEAD'S	Twonty oir restorer 1:	nos wara plantad and maintained
KESULIS: 04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM	TREVIOUS TEAK S	i wenty six restorer fi	nes were pranteu and manitamed.
04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM	KESULTS:		
04. TITLE DEVELOPMENT OF DUAL PURPOSE SWEET SORGHUM			
	04. TITLE	DEVELOPMENT O	F DUAL PURPOSE SWEET SORGHUM
VARIETY.		VARIETY.	
OBJECTIVE To develop sweet sorghum variety with high grain yield and sugar	OBJECTIVE	To develop sweet sorg	ghum variety with high grain yield and sugar

	content.					
RESEARCH WORKER (S)	Mr. Aamir Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain Dr. Muhammad Arshad					
PROJECT DURATION	Kharif 2016					
TROJECT DORATION						
LOCATION	Maize & Millets Research	Maize & Millets Research Institute, Yusafwala-Sahiwal.				
TREATMENTS	08 F ₂ populations. 06 F ₄ populations					
METHODOLOGY	Replications	03				
	Plot size	5m x 31 5m				
	Plant to Plant	20 cm				
	Row to Row	75 cm				
	Fertilizer (Kg/ha)	79-57-62 NPK.				
	Date of sowing	25 th June – 15 th July				
PREVIOUS VEAR'S	Eight F_2 and Six F_4 populations will be planted according to standard practice. Desirable segregates will be selected, keeping in view; bri. % age, medium tall in height, semi drooping green leaves, panich size, panicle shape and their panicles will be covered with craf paper bags to ensure selfing. At maturity, plants exhibiting crear color grains will be finally selected for next generation studies.					
RESULTS:	from four families were selected and harvested for raising their next filial generation.					
05 TITLE	MUTATION BREEDING	IN GRAIN SORGHUM				
OBJECTIVE	To develop sorghum variet	y by creating variation through irradiation.				
RESEARCH WORKER(S)	Mr. Aamer Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain					
PROJECT DURATION	Kharif-2016					
LOCATION	Maize & Millets Research	Institute, Yusafwala-Sahiwal.				
TREATMENTS	12 Entries					
METHODOLOGY	Design=Reps=Plot size=Plant to plant=Row to row=Fertilizer=Date of sowing=	Strip Non-Replicated 5m x 3m 20 cm 75 cm 170-84-62 NPK (Kg/ha) Month of July				
	Mutated sorghum lines wi	ll be planted along with their original non				

	mutated lines and select the mutated ones for raising their next felial generation.
Previous Results	New Experiment

HYBRIDIZATION

06. TITLE:	CONSTITUTIO	ON OF SORGHUM HYBRIDS.				
OBJECTIVE:	To develop hi multinational hyl	igh yielding local hybrids as compare to brids to curtail seed import.				
RESEARCH WORKERS:	Mr. Aamir Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain					
DROJECT DURATION.						
PROJECT DURATION:	Kharif-2016.					
LOCATION:	Maize and Millets Research Institute, Yusafwala, Sahiwal.					
TREATMENTS:	CMS lines = 14					
	Restorer lines $= 02$					
METHODOLOGY	Layout	= Strip				
	Replications	= Non-replicated				
	Plot size	= 5 m x 1.5 m				
	Plant to plant	= 20 cm				
	Row to row	= 75 cm				
	Fertilizer	= 170:84:62 NPK, (Kg/ha.)				
	Date of sowing	$= 25^{\text{th}} \text{ June} - 15^{\text{th}} \text{ July}$				
	The CMS lines v	vill be sown side by side with restorer line in ratio				
	1:2 (male: femal	e) in isolations. At maturity, the panicles of each				
	entry will be har	rvested separately. The performance of harvested				
	hybrids will be te	ested in the next season.				
PREVIOUS YEARS	Fifteen "CMS x R" crosses were constituted, eight in isolation					
RESULTS:	and seven by hand pollination.					

EVALUATION

07. TITLE	VARIETAL YIELD TRIAL.				
OBJECTIVE	To evaluate the promising varieties/strains for grain yield.				
RESEARCH WORKERS	Yusafwala	Mr. Aamir Mumtaz			
		Mr. Muhammad Saeed			
		Mr. Dilbar Hussain			
	D.G.Khan	Mr. Ihsan Ullah			
		Mrs.Zaib-un-Nisa			
PROJECT DURATION	Continuous				

LOCATION	 Maize & Millets Research Institute, Yusafwala-Sahiwal. Sorghum Research Sub-station, D. G. Khan. 						
TREATMENTS	Eight varieties i.e. YSS-19, YSS-31, YSS-18, YSS-10, YSS-25 YSS-23, and standards YSS-98 & YS-16.						
METHODOLOGY	Design=RCBReps=4Plot size=5m x 3mPlant to plant=20 cmRow to row=75 cmFertilizer=170-84-62 NPK (Kg/ha)Date of sowing=Month of JulyData regarding stand count, disease score, days to 50% anthesisplant height, lodging % age, head weight, grain & stalk yield will be recorded.					nthesis, eld will	
PREVIOUS YEAR'S RESULTS:	Varie cond	etal trial comp ucted during k	rised of e charif 201	eight entries 5.	including t	wo checks	was
	R. No.	Entry	Plant Stand	Grain Yield (Kg/ha)	Stalk Yield (Kg/ha)	Days to 50% Anth.	Plant ht. (cm.)
	1	YSS-10	36	3822 a	28889	80	239
	2	YSS-18	38	3816 a	27556	78	239
	3	YSS-98 (C)	36	2918 b	25778	79	191
	4	YS-16 (C)	38	2647 bc	24000	80	227
	5	YSS-25	35	2474 bc	25333	82	218
	6	YSS-23	35	2167 c	18666	79	124
		Range	35-38	2167- 3822	18666- 28889	77-82	124- 239
		C.V.%	5.71	11.76	15.69	3.73	9.46
		LSD at 5%	NS	584	NS	NS	37.74
		Sorghum F	Research	Sub-station	1, D. G. Kh	an.	
	R.	Entry	Plant	Grain	Stalk	Days	Plant
	No.		Stand	Yield	Yield	to 50%	ht.
	1	VC 16 (C)	20	(Kg/ha)	(Kg/ha)	Anth. 70	(cm.)
	1 2	15-10 (C) VSS 19	39 30	3733 a 3555 ab	28444	/ð 75	2/3
	2	YSS-25	38	3467 abc	220444	79	243
	4	YSS-19	39	3289 bc	22000	71	154
	7	YSS-98 (C)	40	3111 c	20000	71	194
		Range	38-	2489-	20000-	71-79	154-
		Ŭ .	40	3733	38889		378
		CV%	2.49	6.30	2.72	1.01	1.46
		LSD at 5%	NS	167.14	649	0.62	2.83

08.	TITLE
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SORGHUM HYBRID YIELD TRIAL.

Selection of high yielding local hybrids to replace multinational hybrids.						
Yusa	Yusafwala Mr. Aamir Mumtaz					
Mr.			ammad Sae	eed		
		Mr. Dilb	ar Hussain			
		Dr. Muhammad Arshad				
D. G	. Khan	Mrs. Zai	b-un-Nisa			
		Mr. Ihsa	nullah			
1/1	:6.0016					
Knar	11-2016.					
1 M	aiza & Millat	Docorrol	h Instituto	Vucofwolo	Sobiwol	
1. M	archum Resea	rch Sub-s	tation D G	I usai wala- Khan	Samwai.	
2. 50	nghum Resea	ICH DUU-S	tation, D. C	. Ixiiaii.		
Entri	es = 10 (9 hyt)	orids & 1	check).			
			,			
Desi	gn	=	RCB			
Reps		=	3			
Plot	size	=	5m x 1.5n	1		
Plant	to plant	=	15 cm			
Row	to row	=	75 cm			
Ferti	lizer	=	170-84-62	2 NPK (Kg/	'ha)	
Date	of sowing	=	25 June -	- 15 July		
Data	regarding no	of plants	s per plot o	lays to 50%	6 anthesis	disease
score	. plant height	head len	igth. head v	veight and	grain vield	will be
recor	ded.	,		B	B-4111 J 1014	
Hybr	id trial compr	ised of ter	n entries ind	cluding one	check was	8
cond	ucted during l	kharif 201	5.			
MM	RI, Yusafwal	a.	a :	G4 11	D	
K. No	Entry	Plant	Grain	Stalk	Days	Plant
110.		Stand	\mathbf{Y} leid ($\mathbf{K}\mathbf{g}/\mathbf{h}\mathbf{g}$)	\mathbf{Y} leta (\mathbf{W} g/ha)	10 50% Anth	nt.
1	Lasani (C)	40	$\frac{(\mathbf{Kg}/\mathbf{ha})}{4140}$	(Kg /lia) 31555	81	201
2	YSS-98 (C)	34	2911 h	24444	80	192
3	YSH-75	33	2776 hc	27778	83	216
4	YSH-95	35	2667 bc	28889	83	227
5	YSH-118	36	2609 bc	29778	81	237
6	YSH-120	34	2589 bc	28000	83	221
7	YSH-61	35	1184 d	16444	85	175
	Range	33-40	1184-	16444-	80-85	175-
			4140	31555		250
	C.V.%	7.30	12.28	13.78	2.03	6.73
	LSD at 5%	NS	528	6113	NS	24.64
6	hum Docess	h C	ation D.C.	Khan		
Sorg	num Kesearc	Diant	ation, D. G	. Man.	Deve	Dlant
R.	Fntry	Stand	Viold	Viold	Days to 50%	F idill ht
No.	L'IIII y	Bianu	(Kø/ha)	(kg/ha)	Anth.	(cm)
	Select hybri Yusa D. G Khar I. M 2. So Entri Desig Reps Plot Ferti Data score recor Hybr cond MM R. No. I Sorg R. No.	Selection of high hybrids.Selection of high hybrids.YusafwalaYusafwalaD. G. KhanD. G. KhanIn Galar Colspan="2">Maite & Millets2. Sorghum ReseaIntries = 10 (9 hybDesign Reps Plot size Plant to plant Row to row Fertilizer Date of sowingData regarding no. score, plant height recorded.Data regarding no. score, plant height recorded.MMRI, Yusafwal R. Entry No.A Syst-118 6 YSH-118 6 7 7 7 7 7 8 9 9 7 7 7 7 9 1Lasani (C) 2 2 7 7 9 9 9 9 1Lasani (C) 2 7 7 9 9 9 9 9 1Lasani (C) 2 7 7 9 9 9 9 1Lasani (C) 2 7 7 9 	Selection of high yielding hybrids.YusafwalaMr. Aarr Mr. Muh Mr. Dilb Dr. MuhD. G. KhanMrs. Zai Mr. InsaKharif-2016.I. Maize & Millets Research Sorghum Research Sub-stEntries = 10 (9 hybrids & 1Design Reps= = Plot sizePlant to plant Row to row Fertilizer= = = Platt of sowingData regarding no. of plants score, plant height, head ler recorded.Hybrid trial comprised of ter conducted during kharif 201MMRI, Yusafwala.R. No.EntryPlant Stand1Lasani (C)40 22YSS-98 (C)34 3YSH-7533 44YSH-955YSH-11836 66YSH-12034 77YSH-6135 5Sorghum Research Sub-stat RangeR. No.EntryPlant StandStandC.V.% 7.30 LSD at 5%NS	Selection of high yielding local hybrids. Yusafwala Mr. Aamir Mumtaz Mr. Muhammad Saa Mr. Dilbar Hussain Dr. Muhammad Ars D. G. Khan Mrs. Zaib-un-Nisa Mr. Insanullah Kharif-2016.	Selection of high yielding local hybrids to rep hybrids. Yusafwala Mr. Aamir Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain Dr. Muhammad Arshad D. G. Khan Mrs. Zaib-un-Nisa Mr. Ihsanullah Mr. Kharif-2016. Image: Millets Research Institute, Yusafwala-2, Sorghum Research Sub-station, D. G. Khan. Design = RCB Reps = 3 Sorghum Research Sub-station, D. G. Khan. Design = Sm x 1.5m Plant to plant = 15 cm Row to row = 75 cm Fertilizer = 170-84-62 NPK (Kg/Date of sowing) Data regarding no. of plants per plot, days to 509 score, plant height, head length, head weight and recorded. Hybrid trial comprised of ten entries including one conducted during kharif 2015. MMRI, Yusafwala. R. Entry Plant Grain Stalk No. Entry 2467 bc 28899 28000 1 Lasani (C) 40 4140 a 31555 2 YSS-98 (C) 34 2911 b 24444 3 YSH-715 33	Selection of high yielding local hybrids to replace multi hybrids.YusafwalaMr. Aamir Mumtaz Mr. Muhammad Saeed Mr. Dilbar Hussain Dr. Muhammad ArshadD. G. KhanMrs. Zaib-un-Nisa Mr. InsanullahKharif-2016.Image: Sorghum Research Sub-station, D. G. Khan.Entries = 10 (9 hybrids & 1 check).Design RepsPlot sizePlot sizePlot sizeFertilizerDate of sowingElsibati Numries including one check wat conducted during kharif 2015.MMRI, Yusafwala.R. R. R. EntryPlant StandGrafinSign Colspan="2">Carain StandColspan="2">Reps Sore, plant height, head length, head weight and grain yield recorded.Hybrid trial comprised of ten entries including one check wat conducted during kharif 2015.MMRI, Yusafwala.R. R. Range S YSH-118A 25% bc 2889 S3Sign Colspan="2">Sign Colsp

	1	Lasani (C)	38	4800 a	29222	74.00	195		
	2	YSH-95	37	4267 b	43667	79.00	225		
	3	YSH-120	36	4222 b	45889	76.00	210		
	4	YS-15 (C)	38	3733 c	36667	77.00	270		
	5	YSS-98 (C)	37	3111 e	18667	73.67	195		
			25-	2311-	14000	73 33-	175-		
		Range	38	4800	- 45889	80.00	270		
		CV%	1.15	5.69	1.07	0.95	1.65		
		LSD at 5%	NS	159	283	0.594	2.869		
09. TITLE	NAT TRL	'IONAL UNII AL.	FORM/A	DAPTABI	LITY SO	RGHUM	YIELD		
OBJECTIVE	To varie	test the ada ties/material ur	ptability nder local	and perfe	ormance	of the	national		
			Mr. Aa	mir Mumtaz	ntaz				
RESEARCH WORKERS	Yusa	ifwala	Mr. Muhammad Saeed						
			Dr Muhammad Arshad						
	Raw	alpindi	Miss. S	Saeeda Khan	um				
		I I	Mr. Irs	had Ul Haq					
	D.G.Khan		Mrs.Zaib-un-Nisa						
			Mr. Ihsanullah						
PROJECT DURATION	Kharif 2016								
TROJECT DURATION	Kilai	11-2010.							
LOCATION(S)	1. N	Maize & Millet	s Researc	h Institute,	Yusafwala	-Sahiwal.			
	2. N	Millets Research	h Station	, Rawalpindi	i.				
	3. 5	Sorghum Resea	rch Sub-s	station, D. G	. Khan.				
TREATMENTS	As p Islan	provided by the nabad.	e Nationa	al Coordinat	tor (Cerea	1 System)	PARC,		
		• , .•	C NT -	1.0 "		10 .	DADC		
METHODOLOGY	As p Islan	er instructions nabad.	of Nation	nal Coordina	ator (Cerea	al System)	PARC,		
PREVIOUS YEAR'S RESULTS:	Last	year no trial wa	as receive	ed from NAF	RC, Ialama	ıbad.			

10. TITLE	SEED MULTIPLICATION.
OBJECTIVE	To produce breeder, pre-basic & basic seed of approved varieties.
RESEARCH WORKER(S)	Mr. Aamir Mumtaz
	Mr. Muhammad Saeed
	Mr. Dilbar Hussain
PROJECT DURATION	Continuous
LOCATION	Maize & Millets Research Institute, Yusafwala-Sahiwal.

TREATMENTS	Varieties 1= YS-16						
	2= YSS-98						
METHODOLOGY	Lay out	=	Blocks				
	Reps	=	Non replicat	ted			
	Plot size	=	Breeder =	10 m x 31.5 m			
			Pre-basic =	20 m x 31.5 m			
			Basic =	(1-4 Acres)			
	Plant to plant	=	20 cm				
	Row to row	=	75 cm				
	Fertilizer	=	170-84-62 N	NPK (Kg/ha)			
	Date of sowing	=	25^{th} June – 1	15 th July			
				•			
PREVIOUS YEAR'S	The following qua	antit	y of seed was	produced.			
RESULTS:							
	Variety Quantity (Kg)						
	-	Ī	Breeder	Pre-basic	Basic		
	YS-16		12	-	2050		
	YSS-98		08	-	-		

PEARL MILLET:

01. TITLE:	MAINTANACE OF GERMPLASM					
OBJECTIVE:	To maintain the germplasm fo	r bre	edir	ng program.		
RESEARCH WORKERS:	Mr. Abdul Razaq					
	Muhammad Hussain Chaudha	ry				
	Dr. Muhammad Arshad					
PROJECT DURATION:	Kharif-2016					
LOCATION:	Maize and Millets Research In	istitu	ite, Y	Yusafwala, Sahiwal.		
TREATMENTS:	17 lines					
METHODOLOGY:	Layout	Π	Str	ips		
	Reps	=	No	n replicated		
	Plot size	=	5m	x 1.5m		
	Plant to plant distance	=	25	cm		
	Row to row distance	Ξ	75	cm		
	Fertilizer	=	114	4:75:62 NPK (kg.ha ⁻¹)		
	Date of sowing	Ξ	15 ^t	^h June to 5 th July		
	All the lines will be maintained through self-pollination to assure homozygosity. Data regarding following traits will be collected in each line for two years along with display of pictorial features to prepare germplasm directory. Each year data of freshly included lines will also be recorded.					
	1 Soodling growth habit			2 Colooptilo's Anthoyonin		
	2 Seedling longth (cm)			4. First loof color		
	5. Seeding length (CIII)			4. FIISt leaf color		
	5.First lear tip					

	Leaf				
	6. No, of Leaf per plant		7. Leaf size (length / width)		
	8. Leaf attitude (droop	oing / semi-	9. Mid rib color		
	drooping / erect)	C			
	Stem				
	10. Stem length		11.Stem type (Juicy/dry)		
	12. Stem thickness		13. Lodging		
	14. Internode length				
	Reproductive Traits				
	15. Days to panicle emer	gence	16.Peduncle length		
	17. Panicle shape		18. Panicle attitude		
	19. Rachis length/width		20. Stigma color		
	21. Anther fertility				
	Cood				
	Seed		22 Seed size		
	22. Seed covering	allintia	25. Seed Size		
	elliptic and spherical)	emptic,	23. 100 grain weight (gin)		
	26 Seed weight/panicle ((gm)			
		(giii)			
	Disease				
	27. Red leaf spot		28. Stalk rot % age		
	29. Any other				
REVIOUS YEAR'S	Seventeen lines were sov	wn and maint	ained by hand pollination.		
RESULTS:					
02. TITLE:	MAINTANACE OF CY	TO PLASM	IIC MALE STERILE LINES		
OBJECTIVE:	To maintain and increase	e seed of cyto	plasmic male sterile lines along		
	with their counter part B	lines for cons	stitution of pearl millet hybrids.		
RESEARCH WORKERS:	Mr. Abdul Razaq				
	Muhammad Hussain Cha	audhary			
PROJECT DURATION:	Kharif-2016				
LOCATION	Maine and Millete Desea	uch Institute	Vuccfuccia Cabinual		
LOCATION:	Marze and Millets Resear	ren Institute,	rusarwara, Samwar.		
TDEATMENTS	10 lines				
IREATMENTS:	19 miles				
METHODOLOGY:	Lavout	– String	, ,		
	Rens	= Non t			
	Plot size	= 1011	1 5m for both A & B lines		
	Plant to plant distance	$\frac{-}{-}$ 25 cm			
	Row to row distance	= 25 cm	1		
	Fertilizer	= 114.7	25:62 NPK (kg ha ⁻¹)		
	Date of sowing	$= 15^{\text{th}}$	June to 5 th July		
		10 1			
	The CMS (A) lines wi	ll be planted	l side by side along with their		
	counterpart male fertile (B) line. The heads of CMS and their				

	counterpart 'B' lines will be covered with butter paper bags before the emergence of the stigmas. Five heads of each line will be maintained by their counterpart 'B' lines. Data will be recorded for seedling emergence %age, number of leaves per main tiller, leaf size, plant height, stem thickness, days to 50% anthesis, disease score, number of tillers per plant, panicle length, panicle thickness, panicle weight, grain and stalk weight per plant.							
PREVIOUS YEAR'S RESULTS:	Nineteen lines were sown and maintained by hand pollination.							
03. TITLE:	MAINTANACE OF FER	FILI'	TY RESTORER 'R' LINES					
OBJECTIVE:	To maintain and increase se of pearl millet hybrids.	ed of	fertility restorer lines for constitution					
RESEARCH WORKERS:	Mr. Abdul Razzaq Muhammad Hussain Chaudhary							
PROJECT DURATION:	Kharif-2016							
LOCATION:	Maize and Millets Research	Maize and Millets Research Institute, Yusafwala, Sahiwal.						
TREATMENTS:	31 lines							
METHODOLOGY.	Lavout	=	Strips					
	Rens	-	Non replicated					
	Plot size	-	5m x 1.5m					
	Diant to plant distance	_	25 am					
	Plant to plant distance	=						
	Row to row distance	=						
	Fertilizer	=	114:/5:62 NPK (kg.ha ⁺)					
	Date of sowing	=	15 th June to 5 th July					
	All the lines will be main	ntaine	ed through self-pollination to assure					
	homozygosity. Five true to	type	plants will be selected and 1-2 heads					
	will covered be covered fr	rom e	each selected plant with butter paper					
	bags before the emergence	of th	ne stigmas. Data will be recorded for					
	seedling emergence %age,	numb	per of leaves per main tiller, leaf size,					
	leaf angle, plant height, ster	m thi	ckness, days to 50% anthesis, disease					
	score, lodging %age, nun	nber	of tillers per plant, panicle length,					
	panicle thickness, panicle v	veigh	t, grain and stalk weight per plant.					
PREVIOUS YEAR'S RESULTS:	Thirty one lines were sown	and n	naintained by hand pollination.					
04. TITLE:	DERIVATION OF FERT	ILIT	Y RESTORER 'R' LINES					
OBJECTIVE:	To derive new fertility resto	orer li	nes for hybrid programme.					
		-						
RESEARCH WORKERS:	Mr. Abdul Razaq							
	Muhammad Hussain Chaud	lhary						
	Dr. Muhammad Arshad	2						
PROJECT DURATION:	Kharif-2016	Kharif-2016						

LOCATION:	Maize and Millets Research Institute, Yusafwala, Sahiwal.						
TREATMENTS:	S_{10} families = 5						
	S_4 families = 5						
	S_3 families = 8						
METHODOLOGY:	Layout	=	Strips				
	Reps	=	Non replicated				
	Plot size	=	5m x 1.5m				
	Plant to plant distance = 25 cm						
	Row to row distance	=	75 cm				
	Fertilizer	=	114:75:62 NPK (kg.ha ⁻¹)				
	Date of sowing	=	15 th June to 5 th July				
	Three to five best plants will be selected from each family. To self the selected plants one - two heads will be covered with butter paper bags before the emergence of the stigmas and heads of each plant/family will be harvested separately.						
PREVIOUS YEAR'S RESULTS:	Eight S_2 , five S_3 and five S_9 families were sown. Five plants were selected from each family on the basis of phenotypic performance and self-pollinated. Selfed heads of each line were harvested, sun dried and threshed separately.						

05. TITLE	CROSSING BLOCK OF PEARL MILLET (Rawalpindi)						
OBJECTIVES	 i. To maintain selected pearl millet germplasm lines through hand pollination. ii. Crossing of Pearl millet lines for development of dual purpose varieties. 						
RESEARCH WORKER (S)	Mr. Muhammad Siddi Miss Saeeda Khanum Dr. Muhammad Irshad	Mr. Muhammad Siddique Miss Saeeda Khanum & Dr. Muhammad Irshad-ul-Haq					
PROJECT DURATION	Kharif 2016						
LOCATION	Millets Research Station, Rawalpindi.						
TREATMENTS	45 lines.						
METHODOLOGY	Layout	Strips					
	Replications	Non replicated					
	Plot size	5m x 1.5m					
	Plant to Plant	20 cm					
	Row to Row	75 cm					
	Fertilizer (Kg/ha)	79:57:62 NPK.					
	Date of sowing	End of June / Ist week of July.					
	All the lines will be n will be constituted.	naintained by hand pollination and possible crosses					

PREVIOUS YEAR'S	i. All lines were maintained through bulk pollination method
RESULTS :	ii. Twenty fresh crosses were attempted and seed was harvested and retained to
	raise F_1 population during kharif 2016.

06. TITLE	DEVELOPMENT OF DUAL PURPOSE PEARL MILLET VARIETY.						
OBJECTIVE	To develop high yielding dual purpose variety for rain fed condition.						
RESEARCH WORKER (S)	Miss Saeeda Khanum, Mr. Muhammad Siddique & Dr. Muhammad Irshad-ul-Haq						
PROJECT DURATION	Kharif-2016						
LOCATION	Millets Research Station,	Rawal	pindi				
TREATMENTS	20 F_1 crosses, 20 $F_{2,}$ 20 $F_{3,}$ 16 F_4 and 15 F_5 Populations						
METHODOLOGY	Layout=StripsReplications=Non replicatedPlot size= $5m \ge 1.5 m$ Plant to Plant= $25 cm$ Row to Row= $75 cm$ Fertilizer (Kg/ha)= $79:57:62 NPK.$ Date of sowing=End of June / I st week of July. F_2 population will be developed from F_1 crosses through selfing. From F_2 , F_3 and F_4 Populations individual plants will be selected on phenotypic basis for the parameters like vigorous growth, head compactness, uniformity, stalk and grain yield. Uniform lines having desirable						
	populations during kharif	2016 f	for further evaluation.				
PREVIOUS YEAR'S RESULTS :	 i. Twenty fresh crosses were attempted during kharif 2015. ii. Twenty F₁crosses were planted during kharif 2015 and maintained through selfing. iii. Twenty single plants from F₂ populations were selected to develop F₃ population. iv. Sixteen and fifteen superior single plants from F₃ and F₄ populations were selected respectively. v. Eight superior lines were selected from F₃ and F₄ populations for evaluation in the micro yield trials during kharif 2016. 						

07. TITLE:	CONSTITUTION OF PEARL MILLET HYBRIDS.
OBJECTIVE:	To estimate the general combining ability of the cytoplasmic male sterile
	lines.
RESEARCH WORKERS:	Mr. Abdul Razaq
	Muhammad Hussain Chaudhary
PROJECT DURATION:	Kharif-2016

LOCATION:	Maize and Millets Research Institute, Yusafwala, Sahiwal.								
TREATMENTS:	CMS lines $= 10$								
	Restorer lines = 02								
METHODOLOGY:	Layout = Strips								
	Reps		=	No	n replicated				
	Plot size = $5m \times 1.5m$								
	Plan	t to plant distance	=	25	cm				
	Row	to row distance	=	75	cm	• -1			
	Ferti	lizer	=	114	1:/5:62 NPK (kg	g.ha ⁺)			
	Date	of sowing	=	15	June to 5 th Jul	y			
	The	hybrids will be c	onsti	tuted	in isolations. (Off type plai	nts will be		
	roug	ed out before flowe	ering.						
DREVIOUS VEAD'S	16		tod i	n icol	otion				
RESULTS:	10 01								
Δ8 ΤΙΤΙ Ε	DE	ADI MILLET MI	CDC) VIE					
					LD I KIAL -I				
OBJECTIVE	Тое	valuate the perform	anca	ofpo	arl millet genot	upes for grain	and dry		
Objective	stalk	vield under barani	cond	litions		spes for grain	and dry		
	Stark	yield under buruin	cond	nuons	•				
RESEARCH WORKER	Mr 1	Muhammad Siddig	ne						
(S)	Miss	. Saeeda Khanum	&						
	Dr. M	Auhammad Irshad-	ul-Ha	aq					
PROJECT DURATION	Kharif-2016								
LOCATION	Millets Research Station, Rawalpindi.								
TREATMENTS	08 E	Entries $= 07$ lines de	evelo	ped at	t MRS. Rwp. +	01 check var	iety.		
METHODOLOGY	Desi	gn		R.C.	B.				
	Plot	size		5 m :	x 2.4 m				
	Plan	t to Plant		20 ci	m				
	Row	to Row		60 ci	m				
	Ferti	lizer (Kg/ha)		N =	$\frac{79, P=57, K=62}{25, K=62}$	2.			
	Date	of sowing		Ena	of June / Ist wee	ek of July.			
DREVIOUS VEAD'S	This	trial mag communication	lofo	i aht a	ntri aa				
RESULTS :	11115	unar was comprised		igni e	chures.				
	S.	Varieties	Pla	int	Grain Yield	Days to	Plant ht.		
	No.		Sta	nd	(kg/ha)	50%	(cm)		
	1	12000 11) <i>E</i>	2070	Anthesis	220		
	1	13KBS-11		50 50	2970 a	49	229		
	2	14KDSU3	5	50 25	2393 ab	50	242		
		14KDSUS		55 26	2491 aDC	<u> </u>	243		
	4	VRS 08 (choole)		20	2005 DCU	49 50	240		
	5	Range	80	90	1460-2070	<u> </u>	220		
		CV%	3	52	9.2970	1 87	220-201		
	LSD at 5% 7.34 487.97 2.33 14						15.92		

09. TITLE	PEARL MILLET	MICRO	YIELD TRIAL -II				
OBJECTIVES	To evaluate the performance of Pearl millet genotypes for grain and dry stalk yield under barani conditions.						
RESEARCH WORKER (S)	Mr. Muhammad Siddique , Miss Saeeda Khanum & Dr. Muhammad Irshad-ul-Haq						
PROJECT DURATION	Kharif-2016						
LOCATION	Millets Research Stat	tion, Rawa	ılpindi.				
TREATMENTS	09 Entries (08 lines d	leveloped	at MRS. Rwp + 01 check variety)				
METHODOLOGY	Layout Plot size	RC 5m	CBD 1 x 3m				
	Row to Row Fertilizer (Kg/ha)	20 75 N	cm = 79, P= 57, K=62. d of June / Jet work of July				
PREVIOUS YEAR'S RESULTS :	Date of sowing End of suite / ist week of suity. New experiment.						
10. TITLE:	PEARL MILLET V	ARIETA	L YIELD TRIAL.				
OBJECTIVE:	To evaluate the performance of promising material.						
RESEARCH WORKERS:	Yousafwala	Mr. Abdu Muhamm	ul Razaq ad Hussain Chaudhary				
	Rawalpindi	Miss Sae Dr. Muha	eda Khanum ummad Irshad-ul-Haq				
	D.G.Khan	Ihsanulla Mrs. Zait	h o Un Nisa				
PROJECT DURATION:	Kharif-2016						
LOCATION:	 Maize and Millets Research Institute, Yusafwala, Sahiwal. Millets Research Station, Rawalpindi. Sorghum Research Sub Station, D. G. Khan. 						
TREATMENTS:	10 varieties including	g check.					
	Lavout	=	RCBD				
METHODOLOGY	Reps Plot size Plant to plant distance	= = e -	3 5m x 3m 20 cm				

	Data will be recorded for seedling emergence, number of plants per plot, plant height, stem girth, number of tillers per plant, number of leaves per main tiller, days to 50% anthesis, disease score, lodging %age, head length, head girth, heads harvested per plot, head weight per plot, stalk yield and grain yield.										
PREVIOUS YEAR'S	Yusa	fwala:	nria	ad of to	n 01	atrias					
KESULIS:	S. No.	Varieties	Pla Pla Sta	ant and	G S	rain ield	Stall yield	K I	Days 1 50%	to	Plant ht.
					(k	g/ha)	(kg/h	a)	anthes	sis	(cm)
	1	YBS-98		29	2	2747	3555	6	62		270
	2	YBS-89		32	2	2102	3911	1	62		290
	3	YBS-94		28	2	2082	3555	6	62		265
	4	18 BY(C)	2	29	2	2053	4222	2	65		337
	5	YBS-93		28	1	938	3688	9	65		315
	10	YBR-5		31	1	220	2844	4	60		283
		Range	28	8-34	1 2	220- 2747	2844 4533	4- 3	60-65	5	263-340
		CV%	9	.13	1	8.98	11.2	9	2.29		6.32
		LSD at 5%	l	NS	2	.93.4	3358	3	1.17		10.64
	Rawalnindi										
	R. Varieties Plant Grain vield Days to Plant							lant			
	No	•	v un cures		d	(Kg/ha)		an	50% ht		(cm)
	1	YBS-98		92		2261a			52		226
	2	YBS-95		91	91		i3 b		53		247
	3	YBS-92		85		155	60 c		50		244
	4	YBS-94		92		153	80 c		54		253
	5	YBR-5		87		135	8 cd		48		254
	6	YBS-70		92		126	i3 d		55		282
	7	18-BY (che	ck)	89		1262 d			56		275
		Range		85-9	2	2 1148-2261		4	8-56	2	26-282
		CV %		2.18	8	7.52		1.63			1.23
		LSD at 5%		4.62	2	260).86		2.03		7.34
	D.G .	Khan									
	R.	Varieties		Plant		Grain	Sta	ılk	Days	to	Plant
	No	•		Stand		Yield	yie	ld	50%	<i>.</i>	ht.
		NDC of		12	(<u>(kg/ha)</u>	(kg/	<u>(ha)</u>	anthe	sis	(cm)
		YBS-94		43	┨	1625 a		567	62		263
	$\frac{2}{2}$	YBS-89		41		1602 a	12778		62		284
	3	1BS-98		42	-	1402 b	8/	22	62		258
	4	YBS-95		42	-	1335 b	10	bb/	62		275
	5	18 DV (C)		41	-	1269 b	10	944	65	<u> </u>	286
	8	18-BY (C)		43	-	1046 c	13	$\frac{56}{7}$	7/0	70	331
		Kange		40- 43		913- 1625	81 13	67- 667	60-7	/0	254- 331
		CV%		2.14		7.38	4.	24	2.1	5	1.10
		LSD at 5%		NS		76	3	86	1.11	4	2.489

11. TITLE:

NATIONAL UNIFORM PEARL MILLET HYBRID YIELD TRIAL.

OBJECTIVE:	To test the adaptability and performance of the national varieties /material under local conditions.					
RESEARCH WORKERS	Yusafwala	Mr. Abdul Razaq				
		Muhammad Hussain Chaudhary				
	Rawalpindi	Miss Saeeda Khanum				
	-	Dr. Muhammad Irshad-ul-Haq				
	D.G. Khan	Muhammad Ihsanullah				
	Zaib Un Nisa					
PROJECT DURATION:	Kharif-2016					
LOCATION:	1. Maize and Millets Research Institute, Yusafwala, Sahiwal.					
	2. Millet Research Station, Rawalpindi					
	3. Sorghum Research Sub Station, D.G. Khan					
TREATMENTS:	Treatments will be provided by National Coordinator (Cereal System)					
	PARC, Islamabad					
METHODOLOGY	The trial will be conducted according to the instructions received with the					
	seed.					
PREVIOUS YEARS	This trial comp	rised of 06 entries was conducted during kharif 2015. The				
RESULTS:	results are under compilation at NARC, Islamabad.					

12. TITLE:	SEED MULTIPLICAT	ION					
OBJECTIVE:	To increase the seed of promising varieties /lines.						
RESEARCH WORKERS:	Mr. Abdul Razaq						
	Muhammad Hussain Cha	udhary	,				
	Mr. Tanweer Mukhtar						
	Mr. Asrar Mahboob						
PROJECT DURATION:	Kharif-2016						
LOCATION:	Maize and Millets Resear	ch Inst	itute, Yusafwala, Sahiwal.				
TREATMENTS:	Varieties/lines = 06						
METHODOLOGY:	Layout	=	strip				
	Reps	=	Non replicated				
	Plot size	=	Breeder $= 10m \times 31.5m$				
			$Pre-basic = 20m \times 31.5m$				
			Basic = $(1/2 \text{ hectare})$				
	Plant to plant distance	=	20 cm				
	Row to row distance	=	75 cm				
	Fertilizer	=	114:75:62 NPK (kg.ha ⁻¹)				
	Date of sowing	=	15 th June to 5 th July				
	Seed of all the lines/varie	eties w	ill be produced in isolations. Off type				
	plants will be louged out	DEIDIC	nowening.				

PREVIOUS YEAR'S	S. No.	Varieties	Quantity(kg)
RESULTS:	1	18-BY (Basic)	200
	2	YBS-98 (Basic)	620
	3	YBS-89	59
	4	YBS-92	17
	5	YBS-93	27
	6	YBS-94	20
	7	YBS-95	18

13. TITLE:	ON-FARM PEARL MILLET YIELD TRIAL					
OBJECTIVE:	Evaluation of promi	ising varieties at farmer field.				
RESEARCH WORKER	Rawalpindi	Dr. Muhammad Irshad-ul-Haq				
(S):	-	Mr. Muhammad Siddique				
	D G Khan	Mr. Muhammad Ihsanullah				
	D. O Khan	Mrs. Zaib Un Nisa				
PROJECT DURATION:	Kharif-2016					
LOCATIONS:	Rawalpindi Division (four locations)					
	Dera Ghazi Khan Division (five locations)					
IREAIMENIS:	3 = 1BS-89, 1BS-9	5 and YBS-98 (Check)				
METHODOLOGY.	Lavout	Strins				
	Rens	Non replicated				
	Plot size	One Kanal (506 m^2)				
	Plant to Plant 20 cm					
	Row to Row	60 cm				
	Fertilizer (Kg/ha)	79: 57: 62 NPK				
	Date of sowing	End of June / 1 st week of July.				

PREVIOUS YEAR,S	Rawalpi	ndi Division					
RESULTS:	S. No.	Location	Grain Yield (kg/ha)				
			YBS-98				
	1	Chakri ,Rawalpindi	1720				
	2	Sohawa, Jhelum	1880				
	3	Dina, Jhelum	2250				
		Average	1950				
	Dera Ghazi Khan Division						
			Grain Yield				
	S. No.	Location	(kg/ha)				
			YBS-98				
	1	Muhammad Rafiq S/O Taaj	1423				
		Muhammad R/O Mauza Mangrotha					
		Tehsil Taunsa, D.G.Khan					

2	Sadiq Hussain S/O Manzoor Hussain R/O Chak Buzdar Tehsil kot Chutta, D.G.khan	1581
3	Muhammad Afzal R/O Mauza Bakhar Wah, D.G.Khan	1383
4	Malik Mumtaz R/O Chak Gaamaan Tehsil Kot Chutta, D.G.Khan	1304
	Average	1423

AGRONOMY

01. TITLE:	DET LEV	ERMINATION OI	F OPTIMUM PLANT POPULATION VARIETY VY-15		
OBJECTIVE:	To fi grain	ind out the optimum yield of promising n	plant population for obtaining maximum naize variety YY-15.		
RESEARCH WORKER (S):	Mr. 7	Fanweer Mukhtar			
	Mr. A	Asrar Mahboob			
	Dr. J	aved Iqbal			
	Miar	n Munir Ahmad			
	**1	10 001 6 0 0 1 001	_		
PROJECT DURATION:	Khar	11 2016 & Spring 201			
LOCATION	M		Lestitute Verscherels Calibreal		
LOCATION:	Maiz	e & Millets Research	Institute, Yusafwala-Saniwal.		
TDEATMENTS	Vori	otr - VV 15			
IREATMENTS.		ely = 1 1 - 15	Planting Coomatry		
	A.	Population/ha	r lanting Geometry		
	1	106666	R-R = 75 cm & P-P = 125 cm		
	2	88888	R-R = 75 cm & P-P = 15 cm		
	3	76190	R-R = 75 cm & P-P = 17.5 cm		
	4	66666	R-R = 75 cm & P-P = 20 cm		
	5 59276 $R-R = 75 \text{ cm } \& P-P = 22.5 \text{ cm}$				
			l		
METHODOLOGY:	Desi	gn	= RCB		
	Repl	ications.	= 4		
	Plot	size	= 5mx 3m		
	Ferti	lizers	= 300-150-125 NPK (Kg/ha)		
	Date	of sowing	= Month of July & January		
	Data regarding plant stand, days to 50% tasseling & silking, plant height, cob height and grain yield will be recorded and analyzed statistically.				
PREVIOUS YEAR'S RESULTS:	New	project			

02. TITLE:	DET FOR	TERMINATION OF	OPTIMUM PLANT POPULATION CORN			
OBJECTIVE:	To fi	To find out the optimum planting geometry for obtaining maximum				
	gran	grain yield of promising pop and sweet com				
RESEARCH WORKER (S):	Mr '	Fanweer Mukhtar				
RESEARCH WORKER (5).	Mr. Asrar Mahboob					
	Dr J	Dr. Javed Jabal				
	Miar	Munir Ahmad				
PROJECT DURATION:	Khar	rif 2016 & Spring 201	7			
LOCATION:	Maiz	e & Millets Research	Institute, Yusafwala-Sahiwal.			
			· · · · · ·			
TREATMENTS:	Vari	eties = YPC-14 & YS	SC-15			
	A.	Plant Population/ł	na Planting Geometry			
	1	106666	R-R = 75 cm & P-P = 12.5 cm			
	2	88888	R-R = 75 cm & P-P = 15 cm			
	3	76190	R-R = 75 cm & P-P = 17.5 cm			
	4	66666	R-R = 75 cm & P-P = 20 cm			
	5	59276	R-R = 75 cm & P-P = 22.5 cm			
		·				
METHODOLOGY:	Desi	gn	= Split			
	Repl	ications.	= 3			
	Plot	size	=5mx 3m			
	Ferti	lizers	= 300-150-125 NPK (Kg/ha)			
	Date	of sowing	= Month of July & January			
	Data regarding plant stand, days to 50% Tasseling & silking, plant height, cob height and grain yield will be recorded and analyzed statistically.					
PREVIOUS YEAR'S RESULTS:	New project					
03. TITLE:	EFFECT OF DIFFERENT PLANTING METHODS ON					
	0111					
OBJECTIVE:	To se maxi	earch out the most suit mum grain yield of m	table planting method for obtaining aize variety yw-786.			
RESEARCH WORKER (S):	Mr.	Fanweer Mukhtar				
	Mr.	Asrar Mahboob				
	Dr. J	aved Iqbal				
	Miar	n Munir Anmad				
DROJECT DURATION:	Vhor	if 2016 & Spring 201	7			
PROJECT DURATION.	Kilai	11-2010 & Spring-201	1			
LOCATION	Mair	A Millate Descorab	Institute Vusafruele Schingel			
LOCATION:	Ivialz	a winnets Kesearch	msmute, i usaiwala-Salliwal.			
	VAD	21FTV - VW_786				
TREATMENTS	¢ AI					
	No.	Planting method	Planting Geometry			

	1	Ridge Sowing	R-R=75cm & P-P =20cm sowing on one	
			side	
	2	Bed Sowing	B-B=90cm & P-P=33.5cm sowing on	
			both side	
	3	Bed Sowing	B-B = 105 cm & P-P=28.75 cm sowing	
			on both side	
	4	Bed Sowing	B-B = 120 cm & P-P=22.5 cm sowing	
			on both side	
METHODOLOGY:	Design		RCB	
	Repl	ications.	4	
	Plot size		5m x 5.25m	
	Ferti	lizers	300-150-125(NPK, Kg/ha)	
	Sow	ing date	Month of January & July	
	Data heigi statis	regarding stand cour ht, cob height and g stically.	nt, days to 50% Tasseling & silking, plant rain yield will be recorded and analyzed	
PREVIOUS YEAR'S	New	project.		
RESULTS:				

04. TITLE:	EFFECT OF DIFFERENT PLANTING RATIO OF PARENTAL INBRED LINES ON MAIZE HYBRID SEED PRODUCTION							
OBJECTIVE:	To standar economica	dize planting ratio c al seed production of	of male and fo f Maize Hybr	emale inbred lines for id YH-1898.				
RESEARCH WORKER (S):	Dr. Javed	Iqbal						
	Tanweer N	Aukhtar						
	Asrar Mah							
	Mian Mun	iir Anmed						
PROJECT DURATION:	Kharif-20	16 & Spring-2017						
LOCATION:	Maize & Millets Research Institute, Yusafwala-Sahiwal.							
		Γ						
TREATMENTS:	Treatme	Male lin	es	Female lines				
	nts							
	1	1 3						
	2	<u>l</u>		4				
	3	<u>l</u>		5				
	4	<u>l</u>		0				
	5	1		0				
	0	1		0				
METHODOLOGY:	Design		- PCB					
	Replicatio	ons	= 6					
	Plot size		= 10 m x 1	5 m				
	Fertilizers		= 300-150	-125 NPK (Kg/ha)				
	Date of sc	owing	$= 10^{\text{th}} \text{Janua}$	ary - 20 th February				
	Data reg	arding vield and v	ield compor	nents will be recorded				

	and analyzed statistically.						
PREVIOUS YEAR'S RESULTS:	Spring 2016:						
	Sr. No.	Treatme Male : Fei	ent male	Grain Yield (Kg/ha)			
	1	1:3		3048			
	2	1:4		3162			
	3	1:5		3194			
	4	1:6		2648			
	5	1:7		2972			
	6	1:8		2678			
		CV %		21.10			
		LSD at 5	%	NS			
05. TITLE:	DETERN SEED PH	AINATION OF OF RODUCTION OF N	PTIMUM PL //AIZE HYB	ANT SPACINGS FOR RIDS			
OBJECTIVE	To find o	ut the optimum plan	ting goomotra	for obtaining maximum			
OBJECTIVE.	seed of m	aize hybrid YH-1898	8.				
DESEADCH WODKED (S).	Dr. Loved	Ichal					
RESEARCH WORKER (S):	Dr. Javed	IqDal Multhtor					
	A srar Ma	hoob					
	Mian Mu	nir Ahmed					
	ivituit ivitu						
PROJECT DURATION:	Kharif-20	16 & Spring-2017					
LOCATION:	Maize &	Millets Research Ins	titute, Yusafw	ala-Sahiwal.			
TREATMENTS	A Depended Lines of VII 1909						
	R Plan	ting Geometry	070	Plant Population / ha			
	1 R-R	= 75 cm & P-P = 12	2.5cm	106666			
	2 R-R	= 75 cm & P-P = 15	5cm	88888			
	3 R-R	= 75 cm & P-P = 17	7.5cm	76190			
	4 R-R	= 75 cm & P-P = 20) cm	66666			
METHODOLOGY:	Design		= RCB				
	Replication	ons.	= 6				
	Plot size		= 5 m x 1.5	m			
	Fertilizers	8	= 300-150-	125 NPK (Kg/ha)			
	Date of so	owing	$=10^{\text{tn}}$ Januar	ry - 20 th February			
	Data rega	arding yield and yie	eld compone	nts will be recorded.			
	Spacing	will be varied amor	ng female lin	es.			
PREVIOUS YEAR'S RESULTS:	Spring 20	016:					
	Sr. No.	Planting Ge	ometry	Grain Yield (Kg/ha)			
	1	R-R = 75 cm & P-	-P = 12.5cm	4115 a			
	2	R-R = 75 cm & P-R	P = 15cm	3553 ab			

3	R-R = 75 cm & P-P = 17.5 cm	3028 b
4	R-R = 75 cm & P-P = 20 cm	3071 b
	CV %	14.01
	LSD at 5%	589

06. TITLE:	EFFECT OF OPTIMUM PLANT POPULATION ON GRAIN YIELD OF NEW PEARL MILLET VARIETY						
OBJECTIVE:	To sear grain y	To search out the optimum plant density for obtaining maximum grain yield of pearl millet.					
RESEARCH WORKER (S):	Mr. Ta	Mr. Tanweer Mukhtar					
	Mr. As	rar Mahboob					
	Dr. Jav	Dr. Javed Iqbal Mion Munin Almond					
	Mian N	Aunir Ahmad					
PROJECT DURATION:	Kharif-	2016					
LOCATION:	Maize	& Millets Research	Institute, Yusafw	vala-Sahiwal.			
	1 .						
TREATMENTS:	Variet	y : YBS-95	I				
	A.	Plant density/ha.	Pla	nting spacing			
	1	66666	R-R = 75 cm &	P-P = 20 cm			
	2	59276	R-R = 75 cm &	P-P = 22.5 cm			
	3	53333	R-R = 75 cm &	z P-P =25cm			
	4	48496	R-R = 75 cm &	r P-P = 27.5 cm			
	5	44444	R-R = 75 cm &	z P-P = 30 cm			
	Design		DCD				
METHODOLOGY:	Design	tions					
	Diot oiz		4 5my 2m				
	Flot SIZ		JIIX JII 114 75 62 NDI	$\langle (\mathbf{K} \alpha / \mathbf{h} \alpha) \rangle$			
	Data of	Esouring	15^{th} Jupp to 5^{th}	Inly			
	Date of	sowing	15 Julie to 5	por plant days to 50%			
	anthesi	s plant height & σ	rain vield will b	per plant, days to 50%			
	statistic	s, plant noight & g	rum yiele win t	tecorded and analyzed			
	Statisti	, and the second s					
PREVIOUS YEAR'S							
RESULTS:	Khaif-	2015					
	Sr.No.	Plant der	nsitv/ha.	Grain Yield			
			5	(Kg/ha)			
	1	666	66	2767			
	2	592	76	2933			
	3	533	33	3100			
	4	484	96	2800			
	5	444	44	2600			
		CV %		8.47			
		LSD at 5%		NS			

07. TITLE:	DETERMINATION OF OPTIMUM PLANT POPULATION
	FOR SORGHUM HYBRID

OBJECTIVE:	To find out the optimum plant population for obtaining maximum						
	grain yield of promising sorghum hybrid YSH-95.						
RESEARCH WORKER	Mr. Tar	weer Mukhtar	•				
(S):	Mr. Asi	ar Mahboob					
	Dr. Jave	ed Iqbal					
	Mian M	lunir Anmad					
PROJECT DURATION:	Kharif-	2016					
LOCATION:	Maize &	& Millets Rese	arch Institu	te. Yusafwala-Sahiwal.			
				,			
TREATMENTS:	Hy	brid : YSH-95	5				
	S. No.	Plant Popu	lation/ha	Planting Geometry			
	1	106666		R-R = 75 cm & P-P = 12.5 cm			
	2	88888		R-R = 75 cm & P-P = 15 cm			
	3	76190		R-R = 75 cm & P-P = 17.5 cm			
	4	66666		R-R = 75 cm & P-P = 20 cm			
	5	59276		R-R = 75 cm & P-P = 22.5 cm			
			1				
METHODOLOGY:	Design		= RCB				
	Replica	tions.	= 4				
	Plot size	e	= 5 mx 3 n	1			
	Fertilize	ers	= 170-84	-62 NPK (Kg/ha)			
	Date of	sowing	= Month	of July			
	Data re	garding plants	per plot, da	vs to 50% anthesis, plant height.			
	and gra	in yield will be	recorded.	,			
PREVIOUS YEAR'S	Vhaif	0015					
RESULTS:	Knan-2	2015					
	Sr.	Plant Popula	ation/ha	Grain Yield (Kg/ha)			
	No.	•		0777			
	1	88888		3/5/ a			
	2	/6190		3437 b			
	3	66666		<u>32/0 b</u>			
	4	<u>59276</u>		<u>3257 b</u>			
				4./4			
	LSD at 5% 260						

SOIL CHEMISTRY

01. TITLE	EFFECT OF FERTILIZER DOSES ON GRAIN YIELD OF NEW MAIZE OPV.					
OBJECTIVE	To find out the optimum dose of NP for maximum grain yield of new Maize OPV.					
RESEARCH WORKER(S)	Mr. Muhammad Jamil					
	MianMuhammad Shafique					
PROJECT DURATION	Kharif-2016 & Spring 2017					
LOCATION	Maize & Millets Research Institute, Yusafwala-Sahiwal.					

TREATMENTS	A. Variety = YY-15					
	B. Fertilizer levels.					
	Treatments		Ν	Р	K	
	-		(Kg/ha)	(Kg/ha)	(Kg/ha)	
	1		0	0	0	
	2		150	75	100	
	3		200	100	100	
	4		250	125	100	
	5		300	150	100	
	6		350	175	100	
METHODOLOGY:	Design		= RCB			
	Replications	= 3				
	Plot size		= 5m x 4.5m	l		
	Fertilizer	= As per treatment				
	Date of sowing	5	= Month of J	lanuary & July.		
	The variety will be kept in main plots and fertilizer doses in s plots. All P, K and 1/8 N will be applied at sowing time, 1/5 N a leaf stage, 1/3 N at grand growth stage, while last 1/3 N just bef flowering stage. The data regarding stand count, days to 50% silki plant height, cob height and grain yield will be recorded and analy statistically.					
PREVIOUS YEAR'S	New Experime	nt.				

02. TITLE	IMPECT OF DIFFERENT FERTILIZER LEVELS ON GRAINYIELD OF MAIZE HYBRID (YH-1898) SEED PRODUCTION.						
OBJECTIVE	To find out the optimum dose of NP for maximum grain yield of Maize Hybrid seed production.						
RESEARCH WORKER(S)	Mr. Muhammad Jamil						
	Dr. Muhammad	Arsha	.d				
PROJECT DURATION	Kharif-2016 &	Sprir	ng 2017				
LOCATION	Maize & Millets Research Institute, Yusafwala-Sahiwal.						
TREATMENTS	A. Y-22 x Y-27 (YH-1898)						
	B. Fertilizer levels. (Kg/ha)			/ha)			
	Treatments		Ν	Р	K		
	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		0	0	0		
			225	112	100		
			250	125	100		
			275	137	100		
			300	150	100		
			325	162	100		
METHODOLOGY:	Design Replications		= RCB				
			= 3				
	Plot size		$= 5m \times 3.75m$				
	Fertilizer = As per treatment						

	Date of sowing $= 10^{\text{th}}$ January - 20^{th} February						
	Hybrids will be kept in main plots and fertilizer doses in sub-plots All P, K and 1/8 N will be applied at sowing time, 1/5 N at 4 lead stage, 1/3 N at grand growth stage, while last 1/3 N just before flowering stage. The data regarding stand count, days to 50% silking plant height, cob height and grain yield will be recorded and analyzed statistically.					doses in sub-plots. ne, 1/5 N at 4 leaf 1/3 N just before ays to 50% silking, orded and analyzed	
PREVIOUS YEAR'S	Spring – 2016						
RESULTS:	Sr.	Fertilizer levels (Kg/ha)			Maize Hybrid= YH-1898		
	No.	Ν	Р	K	Plant	Grain Yield	
					Stand	(Kg/ha)	
	1	0	0	0	115	2300 b	
	1 2	0 225	0 112	0 100	115 116	2300 b 2600 b	
	1 2 3	0 225 250	0 112 125	0 100 100	115 116 116	2300 b 2600 b 2693 b	
	$ \begin{array}{c} 1\\ 2\\ 3\\ 4 \end{array} $	0 225 250 275	0 112 125 137	0 100 100 100	115 116 116 114	2300 b 2600 b 2693 b 2826 b	
	$ \begin{array}{r} 1\\ 2\\ 3\\ 4\\ 5 \end{array} $	0 225 250 275 300	0 112 125 137 150	0 100 100 100 100	115 116 116 114 116	2300 b 2600 b 2693 b 2826 b 3384 a	
	1 2 3 4 5 6	0 225 250 275 300 325	0 112 125 137 150 162	0 100 100 100 100 100	115 116 116 114 116 114 116 114	2300 b 2600 b 2693 b 2826 b 3384 a 3440 a	
	1 2 3 4 5 6	0 225 250 275 300 325	0 112 125 137 150 162 CV% age	0 100 100 100 100 100	115 116 116 114 116 114 116 114 134	2300 b 2600 b 2693 b 2826 b 3384 a 3440 a 10.28	
	1 2 3 4 5 6	0 225 250 275 300 325	0 112 125 137 150 162 CV% age LSD at 5%	0 100 100 100 100 100	115 116 116 114 116 114 1.34 NS	2300 b 2600 b 2693 b 2826 b 3384 a 3440 a 10.28 537	

PLANT PATHOLOGY

01.TITLE	TESTING OF STALK ROT INTENSITY IN MAIZE VARIETIES BY ARTIFICIAL INOCULATION.					
OBJECTIVE	To study the response of maize varieties against stalk rot.					
RESEARCH WORKER(S)	Mr. Muhammad Shakeel Ahmad					
	Dr. Muhammad Arshad					
PROJECT DURATION	Kharif, 2016 & Spring, 2017					
LOCATION	Maize & Millets Research Institute, Yusafwala-Sahiwal.					
TREATMENTS	Maize Varieties = YY-15, YW-786, YPC-14, YSC-15, CZP-132001.					
		DODD				
METHODOLOGY:	LayOut					
	Replications 04					
	Plot Size 5m x 2.25m					
	Plant to plant distance 20cm					
	Row to row distance 75cm					
	Fertilizer	300-150-125 NPK(Kg/ha)				
	Date of sowing Month of July & January					
	At silking stage, all the varieties will be inoculated with stalk rot pathogen by toothpicks method at second internodes of the plants from soil level. Four weeks after inoculation, disease intensity will be					
	noted with the help of Hooker	disease rating s	cale (1-10)			
PREVIOUS VEAR'S	Spring 2016					
DESILITS	S YEAR S Spring 2016 Name of maize hybrids Infestation Scale React					
KESUL1S						

			%age inocula interno	of ted ode		
		-	1-25	5	1	Highly
	FILO	00 FH 1010	26.54	0		resistant
	FH-98	88, FH-1012	26-50	0	2	Resistant
	ГН-9.	22, FH-1030, FH-1040	51-73	5	3	Resistant
		-	76-10	00	4	Moderately susceptible
	Among five maize hybrids tested, two maize hybrids showed resis					
	reaction against the disease and three maize hybrids showed moderately resistant reaction against the disease.					
02.TITLE	TESTING OF SEED DRESSING FUNGICIDES AGAINST SEEDLING BLIGHT.					
OBJECTIVE	To eva seedlin	To evaluate the performance of different seed dressing fungicides against seedling blight.				
RESEARCH WORKER(S)	Mr. M Dr. M	Mr. Muhammad Shakeel Ahmad Dr. Muhammad Arshad				
PROJECT DURATION	Sprin	g, 2017				
LOCATION	Maize & Millets Research Institute, Yusafwala-Sahiwal.					
	2. Protocol 50% WP @ 2gm/ Kg seed 3. Nanok 25 % SC @ 4 gm / Kg/seed 4. Polyram DF 70 % @ 4gm / Kg seed 5. Control. Hybrid					
METHODOLOGY:	Lav O	ut	RCBD			
	Replic	cations	04			
	Plot Size		5mx2.25m			
	Plant to plant distance		20cm			
	Row to row distance		75cm			
	Fertilizer		300-150-125 NPK(Kg/ha)			
	Date of sowing		Month of January			
	Seed dressing of the maize Hybrid YH-1898 will be done with Fungicides at above mentioned doses before sowing of the crop. Data regarding seedling mortality % age will be recorded after 10 days of germination.					
PREVIOUS YEAR'S RESULTS:	Kharif 2015					
	Sr. No	Treatments	Plant Stand	Seedl attac	ing Blight k %age	Grain yield (Kg/ha
	1	Argyl Super 62.5% WS	50		3.01	5553 a
	2	Hombre 186.25% FS	49		3.10	5489 ab
	3	Topsin – M 70WP	49		3.11	5471 ab
	4	Protocol 50% WP	49		6.12	5180 bc
	2	CV% age	2 00	1	13.34	4989 C
		LSD at 5%	2.33	1	1 637	366
			0			200

Spring 2016				
Sr. No.	Treatments	Plant Stand	Seedling Blight attack %age	Grain yield (Kg/ha
1	Argyl Super 62.5% WS	90	1.39	15129 a
2	Topsin – M 70WP	89	1.69	13664 b
3	Hombre 186.25% FS	89	1.68	13333 b
4	Protocol 50% WP	90	3.33	12900 b
5	Control	88	6.69	11244 c
	CV% age	0.92	30.15	3.81
	LSD at 5%	NS	1.37	778

ENTOMOLOGY

01.TITLE	TESTING OF SEED DRESSING INSECTICIDES AGAINST SHOOT FLY & MAIZE BORER.						
OBJECTIVE	To find out the most effective seed dressing insecticides against shoot fly & maize borer.						
RESEARCHER	Mr. Muhammad Shakeel Ahmad						
WORKER(S)	Dr. Muhammad Arshad	Dr. Muhammad Arshad					
PROJECT DURATION	Kharif, 2016 & Spring, 2017						
LOCATION	Maize & Millets Researc	Maize & Millets Research Institute, Yusafwala-Sahiwal.					
TREATMENTS	Insecticides:						
	1. Poncho Plus 600 I	FS	@ 20 ml/ kg seed				
	2. Confidor 70 W	S	@ 5gm/kg seed				
	3. Actara 70 WS		@ 5gm/kg seed				
	4. Furadan 3G		@ 8 Kg / Acre				
	5. Control						
	Hybrid = YH-1898						
METHODOLOGY:	Layout	=	RCBD				
	Replications	=	04				
	Plot Size	=	5mx2.25m				
	Plant to plant distance	=	20cm				
	Row to row distance	=	75cm				
	Fertilizer	=	300-150-125 NPK(kg/ha)				
	Date of sowing	=	Month of July & January				
	Seed dressing will be don sowing of the crop for the while Furadan will be regarding maize shoot fl after germination. Data re- at the initiation of maize the be recorded.	h insecticides at recommended doses before ontrol of maize shoot fly and maize borer ed with seed and second irrigation. Data estation will be recorded after three weeks ing maize borer infestation will be recorded infestation. At maturity, yield data will also					
PREVIOUS YEAR S RESULTS	New Project	New Project					