

2008; 24 % in 2008-09 over 2007-08, 78 % in 2009-10 over 2008-09, constant during 2010-11 and further increased in 2011-12 by 97% over 2010-11 and during 2012-13 it was increased by 71 % over the area in 2011-12. Considering the total quantity of rooted slips supplied and 10% incremental in each year, approximately a total area of 465.93 ha is under the cultivation of Phule Jaywant for green fodder. Further, from area of each year, an average 100 tones green fodder was harvested from one ha area i.e. sum total 46.593 '1000' tones from 2006-07 to 2012-13 and considering the university rate of fodder @ RS. 700/tonne, an approximate fodder production of total amount of 326.1535 lakh was obtained.

**Table-1: Rooted slips of Phule Jaywant sold to the farmers and other agencies by the University from 2006-07 to 2012-13**

Year	Grass Breeding Scheme	Forage project	Cattle Project	ULP	ASDS A.C., Dhule	Total [A]
2006-07	70650	-	-	-	-	70650
2007-08	169000	303700	-	-	-	472700
2008-09	116110	383300	7405	5000	-	511815
2009-10	139130	436375	324250	13400	2250	915405
2010-11	280000	243100	4925	50000	3500	581525
2011-12	248685	185975	1027500	-	20200	1482360
2012-13	357725	128730	1346100	-	36200	1868755
<b>Total</b>	<b>1381300</b>	<b>1681180</b>	<b>2710180</b>	<b>68400</b>	<b>62150</b>	<b>5903210</b>

**Table-2: Rooted slips of Phule Jaywant sold to the farmers and other agencies by different KVK 's from 2006-07 to 2012-13**

Year	KVK, Solapur	KVK, Gadchiroli	KVK, Baramati	Walmata Farm, Hingoli	Total [B]	Grand Total [A+B]
2006-07	-	-	-	-	-	70,650
2007-08	-	-	22035	-	22035	4,94,735
2008-09	14633	-	47950	-	62583	5,74,398
2009-10	21298	-	113297	-	134595	10,50,000
2010-11	18280	25000	367475	-	410755	9,92,280
2011-12	17316	75000	491930	-	584246	20,66,606
2012-13	33800	-	83200	1525250	1642250	35,11,005
<b>Total</b>	<b>108327</b>	<b>100000</b>	<b>1128887</b>	<b>1525250</b>	<b>2856464</b>	<b>87,59,674</b>

**Table-3: Total rooted slips of Phule Jaywant sold to the farmers and other agencies, approximate area covered, fodder production and revenue generated from 2006-07 to 2012-13**

Year	Rooted slips supplied (lakh)	Rooted slips exchange by farmers (10% of previous year)	Total rooted slips used for cultivation	Area covered (ha)	% increase in Area over prev. year	Approx. fodder production '1000' tones	Approx. amount of fodder production Rs. in lakh
2006-07	0.71	-	0.71	3.53	-	0.353	2.4728
2007-08	4.95	0.071	5.02	25.09	610	2.509	17.5630
2008-09	5.74	0.502	6.25	31.23	24	3.123	21.8602
2009-10	10.50	0.625	11.12	55.62	78	5.562	38.9360
2010-11	9.92	1.112	11.04	55.18	-1	5.518	38.6234
2011-12	20.67	1.104	21.77	108.85	97	10.885	76.1936
2012-13	35.11	2.177	37.29	186.44	71	18.644	130.5045
<b>Total</b>	<b>87.60</b>		<b>93.19</b>	<b>465.93</b>		<b>46.593</b>	<b>326.1535</b>

Note: Fodder production 100 tones/ha/year; Fodder rate Rs. 700/tonne

**Conclusion:**

It is revealed from the present impact analysis that since its release during 2006-07, Hybrid Napier cv. Phule Jaywant has achieved an average annual increase of 67 ha area and eventually reached on total area of 466 ha which enabled to produce 47,000 tones of green forage yield equivalent to Rs. 3.26 crores.



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**Impact of Hybrid Napier**

**Phule Jaywant**



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## Impact of Hybrid Napier Phule Jaywant

**Introduction:** India as compared to other countries of the world has large number of livestock population and is continuously increasing day by day. However, there is very little increase in total area under cultivation. This has created a pressure on the available land for cultivation. One of the problems facing India today therefore is to provide sufficient quantity of quality fodder to the large livestock population. Hence, it is essential to have forage crops which will produce heavy tonnage of sufficient green leafy material.

The indigenous grasses viz. Marvel, Moshi, Pavana, Dongri etc. are quite hardy but their growth rate is very slow and thus yields per unit time and unit area are also very low. The exotic grasses such as Guinea grass, Blue panic, Rhodes etc. comparatively give higher yields than the local grasses but their yields are not very high and hence the problem of green forage production for dairy industry remained unsolved, till new hybrids viz., Gajraj, NB-21, Yeshwant, CO-3 were evolved. However, in recent days a problem of non-persistence over years and inconsistency in yield particularly during winter in these genotypes was observed. Therefore, efforts were made to overcome these problems at Grass Breeding Scheme, MPKV, Rahuri.

**Results:** The hybrid napier Phule Jaywant was developed through clonal selections from CN-13 in 2000-01. It was evaluated in station and MLT from 2002-0005 in Maharashtra and on the basis of overall mean performances of 21 trials the genotype Phule Jaywant (RBN-13) showed its superiority by giving 35.56%, 33.85% and 34.68% more GFY, DMY and CPY respectively over the check Yashwant (RBN-9).

Considering the high yield potential (100-150 t/ha/year GFY), less oxalate content (1.91%), high CP (10.35%) and no incidence of pest and diseases, the Bajra Napier hybrid Phule Jaywant (RBN-13) was released by State Joint Agresco-2006 for irrigated conditions of Maharashtra.

The entry Phule Jaywant (RBN-13) was also sponsored by MPKV, Rahuri in Varietal trial of N x B hybrid-2005 (Entry Code No. NB-4). This entry was tested in coordinated trials during 2006-2008. On an average of coordinated trial, RBN-13 has given 4.38%, 9.01% and 19.21% increased GFY, DMY and CPY, respectively over the National Check NB-21. While over the other



national check CO-3, superiority of Phule Jaywant (RBN-13) was to the extent of 9.29%, 17.13% and 24.10%, respectively.

Considering high yield potential of Phule Jaywant (RBN-13) over the national checks NB-21 and CO-3, better quality parameters and per day productivity, it was also identified at national level for Central and South zone during Annual Kharif Forage Crop Meeting, 2008-09 held on April-5-7, 2009 at Anand Agricultural University, Anand. Phule Jaywant was also notified during the year 2010 (Notification No. S.O 2137 (E) dated 31.8.2010).

### Salient features of the Phule Jaywant are:

- Ø High green forage yield potential (100-150 t/ha/year).
- Ø High leaf : stem ratio and high

tillering ability.

- Ø Low oxalic acid content (1.91%) and high CP (10.35%)
- Ø Consistency in yield throughout the year.

### Impact of Phule Jaywant

The planting material i.e. rooted slips of Phule Jaywant was supplied to the farmers, Private Dairy Owners, University projects and KVK in Maharashtra and outside state from



2006-2007 after its state release. During the first year (2006-2007), 70,650 rooted slips were supplied by grass breeding Scheme to the farmers. Thereafter from 2007-2008, there was increased demand of the hybrid and hence different university projects and KVK were also undertaken seed production of Phule Jaywant. Data presented in Table-1 and Table-2, clearly indicated that, there was increased demand of planting material from 2006-07 to 2012-13 and from its release sum total of 87.60 lakh rooted slips were supplied by the university and KVK to the farmers and dairy owners.

Assuming that there was exchange planting material from farmers among themselves @ 10% per year, a total 93.19 lakh rooted slips used for plantation of Phule Jaywant (Table- 3) and Initially during 2006-07, area covered under Phule Jaywant was only 3.53 ha and then after, it was increased 610% in 2007-