

# Success Stories of Hybrid Pigeonpea in India

**Taking Pigeonpea Hybrids to the Door Steps of the Farmers**  
(A project supported by NFSM, DAC)







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**Information Compiled by**  
R Vijay Kumar, KB Saxena, and Prabhat Kumar



# Success Stories of Hybrid Pigeonpea in India

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**&**

**Co-operating Farmers from different States in India**

The hybrid pigeonpea is now being popularized in parts of India because of enhancement in the yields. The promising hybrids are ICPH 2671, ICPH 2740 and ICPH 3762. Of these, ICPH 2671 was released as 'Pushkal' by seed company in 2008 and later in December, 2010 as 'RV ICPH 2671' by State Variety Release Committee, Madhya Pradesh. The other two promising hybrids are under final stage of testing. The yield enhancement recorded in hybrids were between 25 to 30% in farmers' fields. These hybrids are resistant to both wilt and sterility mosaic diseases. More than 2000 on-farm trials were conducted in the states of Andhra Pradesh, Maharashtra, Karnataka, Madhya Pradesh and Jharkhand. The hybrids have shown high yields under both pure as well as inter-crop conditions. In some on-farm trials hybrids have yielded more than 40 q/ha suggesting a possible breakthrough in the productivity of pigeonpea.



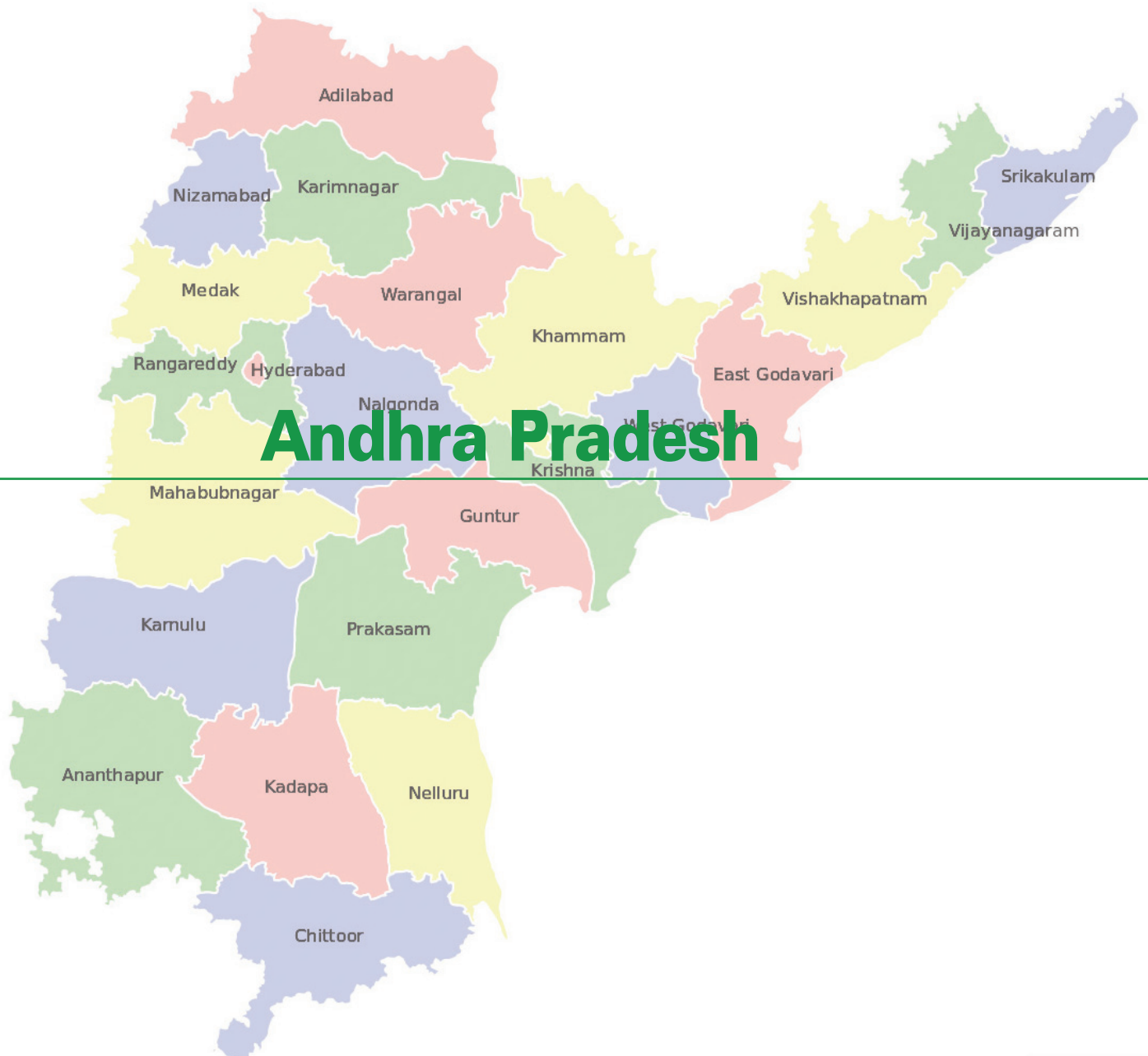


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# Happenings

In-house Newsletter

**International Crops Research Institute for the Semi-Arid Tropics**

No. 1372

24 July 2009

## Pigeonpea hybrid does it again!

**Mr A Kiran** is enjoying the sweet taste of success with hybrid pigeonpea ICPH 2671 in his fields in Bibinagar mandal in Nalgonda district of Andhra Pradesh. He congratulated the ICRISAT pigeonpea team for the successful introduction of the hybrid to farmers. To enhance seed production towards curbing rising prices of *toor dal* (pigeonpea), ICRISAT developed the hybrid technology and transferred the same to seed companies for commercial release. ICPH 2671 was released for commercial production in July last year. Over 1,200 farmers tested ICPH 2671 in on-farm trials and an average of 28% enhancement in yield was recorded over the Maruti cultivar during the 2008 season. Mr Kiran, an IT engineer from Mahadevpur village near Capol, Bibinagar mandal, was encouraged by an article on the ICRISAT website regarding ICPH 2671. He bought this hybrid seed from APSSDC, and sowed it in three acres with guidance from ICRISAT.

The spacing used was 3ft×1ft but he found crowding of plants and observed lower branches dried up due to lack of sunlight. Mr Kiran harvested 3,300 kg hybrid grain from this sowing. Though the grains were dark colored, he sold the entire quantity of grain at Rs 31 kg<sup>-1</sup> at par with other pigeonpea varieties in the nearby Bhongiri market. Kiran earned a net profit of about Rs 48,000, which is around 90% over his investment. He was encouraged by the results of the previous season and has sown more than double (8 acres) the area in the 2009 season. Needless to say, he is very happy to see the present crop growth despite the low rainfall this year.



**Farmer Name:** Shri A. Kiran (2008)  
**Location:** Capol, Bibinagar, Bhongir  
**Pigeonpea Hybrid:** ICPH 2671  
**Seed Source:** APSSDC  
**Cropping pattern:** Sole-Crop  
**Seed Rate:** 7.5 kg/ha  
**Area:** 1.2 ha  
**Spacing:** 3ft x 1 ft (90 x 30 cm)  
**Crop Management:** Normal  
**Hybrid Yield:** 3300 kg (2750 kg/ha)

**2750  
kg/ha**

### **Farmer earned net profit of Rs. 48,000**

**M**r Kiran, an IT engineer from Mahadevpur village near Capol, Bibinagar mandal, came across an article on ICRISAT website regarding ICPH 2671. He bought the hybrid seed from Andhra Pradesh State Seeds Development Corporation Ltd. (APSSDC), and planted it in three acre. The spacing used was 3ft X 1ft but it resulted in crowding of plants. Kiran harvested 3,300 kg hybrid grain and he sold the entire quantity @ Rs 31/kg in the Bhongiri market. Kiran earned a net profit of about Rs 48,000, which is around 90% over his investment.







**Farmer Name:** Shri G Janardhan (2009)

**Mobile:** +91-9490449091

**Location:** Chautukur, Medak

**Pigeonpea Hybrid:** ICPH 2671

**Seed Source:** NSC

**Cropping pattern:** Sole-Crop

**Seed Rate:** 2.5 kg/ha

**Area :** 8 acres (3.2 ha)

**Spacing:** 7ft x 1 ft (210 x 30 cm)

**Crop Management:** Normal

**Hybrid Yield:** 10400 kg (3250 kg/ha)

**3250  
kg/ha**

## The 'Best Farmer Award'

**M**r G Janardhan, a progressive farmer of Andhra Pradesh, produced exciting results in his farm located in Chautukur, village of Medak district. ICPH 2671 as a sole-crop in 8 acres with spacing of 210 x 30 cm. He used one kg seed for sowing per acre. He also grew LRG 41 in 3 acres in the adjacent land and harvested 10400 kg grains from ICPH 2671 hybrid @3250 kg/ha. Many farmers in and around this village and officers of Department of Agriculture visited his hybrid plot. The Medak District Collector also visited his field and interviewed him personally and appreciated his sincere efforts and recommended him for the State award. Mr. Janardhan received 'Best Farmer Award 2009' from Government of Andhra Pradesh, for harvesting 3250 kg/ha of grains. From this crop he earned a net profit of Rs.2,68,000. This experience showed that the hybrid technology has a potential of breaking the yields barrier in pigeonpea.

## సూచనలు పాటిస్తే అధిక దిగుబడులు



బస్సాపూర్‌లో కందిపంటను పరిశీలిస్తున్న శాస్త్రవేత్తలు

పుల్లకల్, న్యూస్‌కైన్: వ్యవసాయదారులు సంబంధిత అధికారుల సూచనలను పాటిస్తే అధిక దిగుబడులు సాధించవచ్చని సంగారెడ్డి ఏరువాక కేంద్రం డాక్టర్ సెంటర్ శాస్త్రవేత్త డాక్టర్ శ్రీనివాస్ అన్నారు. గురువారం పుల్లకల్ మండలంలోని బస్సాపూర్ గ్రామంలో కందిపంటను పరిశీలించారు. ఈ గ్రామంలో అంజిరెడ్డి అనే రైతు ఐసీపీహెచ్ 2740 హైబ్రిడ్ రకం కంది వేశారు. ఈ విత్తనాలను ఇక్రిశాబ్ వారినుంచి తెచ్చి

సాగుచేస్తున్నారు. కందిపంట మీటర్ ఎత్తు వరకు పెరగగానే కౌసలను కత్తరించాలని సూచించారు. ఈ పంటను పిట్టవరి మాను తరువాత చీస్టామని ఆయన తెలిపారు. ప్రస్తుతం పూత, కాత దశలో ఉందని ఇది మంచి ఫలితాలను ఇస్తుందని అంచనా వేస్తున్నామన్నారు. ఈ సందర్భంగా రైతులకు పలు సూచనలు అందించారు. ఈయన వెంట డాక్టర్ సెంటర్ శాస్త్రవేత్త డాక్టర్ నవిత, ఏఈఓ రవి, రైతులు ఉన్నారు.



**Farmer Name:** Shri B Anjireddy (2010)

**Mobile:** 08450273848

**Location:** Basavapur, Medak

**Pigeonpea Hybrid:** ICPH 2740

**Seed Source:** ICRISAT

**Cropping pattern:** Sole-Crop

**Seed Rate:** 2.5 kg/ha

**Area:** 2.8 ha

**Spacing:** 5.5 x 1 ft (165 x 30 cm)

**Crop Management:** Rainfed, Normal

**Hybrid Yield:** 3500 kg (1250 kg/ha)

**Check (LRG 41):** 900 kg (750 kg/ha)

## Hybrid produced 67% more yield

**M**r B Anjireddy is an interesting progressive farmer of Basavapur, village of Medak district. He cultivated ICPH 2740 planted one kg seed each of ICPH 2740 and Asha under rainfed condition. He harvested 1500 kg grains @ 1250 kg/ha. This farmer recorded 66.7% more yield than local variety which yielded 750 kg/ha. Mr Anji Reddy felt that he can harvest more yields. He would like to promote among farmers this hybrid and to grow more area.







**Farmer Name:** Shri S S Shinde (2010)

**Mobile:** 09421486467

**Location:** Chakur, Latur, Maharashtra

**Pigeonpea Hybrid:** ICPH 2671

**Seed Source:** ICRISAT

**Cropping pattern:** Sole-Crop

**Seed Rate:** 1.0 kg/ha

**Method of sowing:** Transplanting

**Spacing:** 7ft x 2 ft (210 x 60 cm)

**Crop Management:** Normal

**Hybrid Yield:** 2000 kg (=5000 kg/ha)

**5000  
kg/ha**

## One kg hybrid seed produced 2000 kg grain @ 5000 kg/ha

**Mr S S Shinde** of Sugaon village of Latur district obtained one kg seed of ICPH 2671 from ICRISAT, Hyderabad, TS 3R from ARS, Gulberga. He planted all these in raised bed to raise seedlings for transplantings. He used different media like Cocopit, straw to raise good saplings. He prepared seedling on 12th May 2010 and transplanted on 7th June 2010 at the spacing of 7 x 2 feet. He planted 2100 seedlings per acre and on an average 2000 plants maintained per acre. He followed all the regular package of practices such as application of fertilizer, timely weeding and spraying etc. for raising a good crop. ICPH 2671 hybrid produced yield of 2000 kg/acre (= 5000 kg/ha). The other varieties TS 3R produced 1500 kg (=3750 kg/ha). He was very happy with hybrid pigeonpea and would like to take up other promising hybrids such as ICPH 2740 and ICPH 3762 in the coming season.





इंक्रिसेंट नी दिलेली I.C.P.H. २६७१ च्या प्लॉटची डॉ. सक्सेना साहेब, डॉ. विजयकुमार साहेब व इतर शास्त्रज्ञ आणि तालुका कृषि अधिकारी, कळंब श्री. कुमरे साहेब यांनी पाहणी केल्यानंतर पाऊस फारच कमी असताना अशाही परिस्थितीत ही हायब्रीड तुरीची जात (२६७१) अशा क्लालिटीची या भागात येऊ शकते तर ओलीतामध्ये या जातीचे उत्पन्न अधि निश्चितच चांगले येईल अशा प्रकारची चर्चा करतांना.

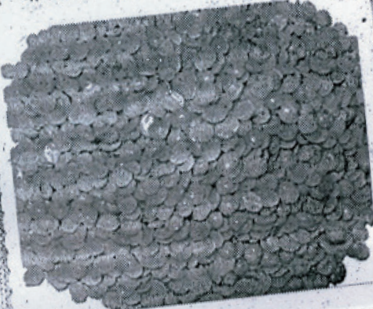
डॉ.एम. २००९-१० १४/१२/२००९



क्रांति - विभूषण केंद्रात कृषि विभागाच्या वतीने आयोजित झालेल्या 'युवदेवता' जागरण कार्यक्रमात डॉ. विजयकुमार साहेब यांनी या जातीच्या फायद्याबद्दल माहिती देऊन तालुका पाहणी करून शेतकऱ्यांना मार्गदर्शन केले.

## डॉ. राहुडकरांचा तुरीवरील लेख उपयुक्त

साप्ताहिक कृषकोव्रतीच्या ६ ते १२ एप्रिलच्या अंकात डॉ. वा.ब. राहुडकर लिखित 'येत्या खरीप हंगामात तुरीचे पीक घ्या' हा लेख उत्पादनात वाढ व जमिनीची सुपीकता वाढविण्याच्या दृष्टीने



शेतकऱ्यांसाठी फार उपयुक्त आहे. डॉ. राहुडकर यांनी यापूर्वीही तुरीच्या पिकाबाबत शेतकऱ्यांना उपयुक्त अशी माहिती दिली होती, त्यासाठी आपण अभिनंदन. मी मागील हंगामात माझ्या शेतात राहुडकरांच्या 'विपुला' आणि 'आयसीपीएच-२६७१' या जातीच्या तुरीची एक एकरात कोरडवाहू क्षेत्रात सलग लागवड केल्यामुळे यातील एक एकरात उघळीचा प्रादुर्भाव झाला. उत्पादन कमी झाले. पाच एकरात एकरी विवटल उत्पादन मिळाले. माझ्या शेताला इतर डॉ. 'सक्सेना', डॉ. विजयकुमार यांच्या शास्त्रज्ञांनी भेट दिली. मला येत्या खरीप पुन्हा तुरीचेच पीक घ्यायचे आहे. कृपया मार्गदर्शन करावे

माणिक बाबाराव कदम, इंदोरा संजय साठ्वे दत्त मंदिर रोड, रामनगर, वर्धा.

४/१४/१०

## तूर पिकाविरवी शेतकऱ्यांना मार्गदर्शन

कळंब, दि. २८ (तालुका प्रतिनिधी) - कृषी शास्त्रज्ञ डॉ. विजयकुमार सक्सेना आणि डॉ. विजयकुमार यांनी तालुक्यातील तूर पिकाची पाहणी करून शेतकऱ्यांना मार्गदर्शन केले.

दोनोडा येथील शेतकरी माणिक कदम यांच्या शेतातील सहा एकर तुरीच्या शेताची पाहणी या शास्त्रज्ञांनी केली. या शेतात 'विपुला' व इंक्रिसेंट आयसीपीएच-२६७१ या महाबीजच्या वाणाची पेरणी करण्यात आली. कमी पाण्यातही कोरडवाहू क्षेत्रात तुरीचे भरपूर घेतले जाऊ शकते, अशी माहिती शास्त्रज्ञ डॉ. विजयकुमार सक्सेना यांनी दिली. यावेळी या शास्त्रज्ञांचा शेतकरी माणिक कदम यांनी शाल व श्रीकळ देऊन सत्कार केला.

याप्रसंगी तालुका कृषी एन.आर. कुमरे तसेच कार्यालयातील कर्मचारी, मोठ्या संख्येने उपस्थित होते.

बळीराजा / जून २०१० / ५१

खत मिळते. वर्धा येथील श्री. माणिक बाबाराव कदम यांनी त्या वर्षी राहुरीच्या कृषि विद्यापीठाची 'विपुला' आणि इंक्रिसेंटची 'आयसीपीएच २६७१' या तुरीच्या जातीची ६ एकरात कोरडवाहू लागवड केली होती. त्यांना दर एकरी (०.४ हेक्टर) सरासरी आठ क्विंटल तुरीचे उत्पादन झाले होते. त्यांचे शेतात उधईचा उपद्रव झाल्याने उत्पादन घटले होते. 'इंक्रिसेंट' संस्थेतील तुरीचे संशोधक डॉ. सक्सेना यांनी त्यांचे तुरीचे पिकाची पाहणी केली होती.

पिकांचा

## इंक्रिसेंट तज्ज्ञांची तुरीच्या प्लॉटला भेट

कळंब (ता.प्र.) : येथून दहा किलोमीटर अंतरावर असलेल्या दोनोडा या खेड्यातील माणिक बाबाराव कदम या शेतकऱ्याने कोरडवाहू चार एकर शेतात तुरीची लागवड केली. पाऊस कमी असतानासुद्धा या शेतकऱ्यांच्या शेतातील तूर शेंगांनी वाकली आहे त्याची पाहणी करण्याकरिता हैद्राबाद मधील इंक्रिसेंट इंटरनॅशनल क्राफ्ट रिसर्च इन्स्टिट्यूट फॉर सेमिनरी डॉ. विजयकुमार यांनी भेट देऊन तूर पिकाची पाहणी केली. कोरडवाहू क्षेत्रात एवढा चांगला प्लॉट तयार केल्याबद्दल त्यांनी माणिक कदम यांचे अभिनंदन केले. यावेळी कळंबचे तालुका कृषी अधिकारी श्री. कुमरे कृषी सहायक, श्री. गुड्डु मवार, श्री. आगलावे, बडोदा बँकेचे कृषी अधिकारी अंकुश रावताळे व श्री सरपंच व गावकरी मंडळी उपस्थित होती.





**2625  
kg/ha**

**Farmer Name:** Shri MB Kadam (2010)

**Mobile:** 09370322950

**Location:** Kalamb, Yavathmal  
Maharashtra

**Pigeonpea Hybrid:** ICPH 2671,  
2740, 3762

**Seed Source:** ICRISAT

**Cropping pattern:** solecrop

**Seed Rate:** 1.0 kg used per acre

**Spacing:** 4ft x 1 ft (120 x 30 cm)

**Crop Management:** Normal, Rainfed

## Enhanced Hybrid Yields in Rainfed Fields

**Mr Kadam** of Wardha district of Maharashtra obtained information about hybrid pigeonpea from local newspaper and later contacted ICRISAT for more information and obtained one kg seed of ICPH 2671. He took lot of care and harvested 850 kg/ acre (=2125 kg/ha) under rainfed conditions. In 2010, based on his past crop performance, several farmers requested him to provide hybrid seed. Upon ICRISAT assurance for seed support, Mr. Kadam selected 28 farmers and ICRISAT provided hybrid seed to them. Mr. Kadam has sent a group request from farmers to get the hybrid pigeonpea seed for planting in kharif 2010. Pigeonpea Breeding, ICRISAT accepted Mr Kadam request and provided pigeonpea hybrid ICPH 2671 and ICPH 2740 one kg each to farmer along with control Maruti and Asha. He planted both hybrid ICPH 2671 and ICPH 2740 and Maruti and Asha in 0.04 ha area on 15 July 2010. First clipping of leaves was done after one month. Second clipping was done one month after first clipping and third after one month. Due to clipping profuse branching occurred. The stem of hybrid pigeonpea looked like a tree stem. At this stage bad weather affected and he lost first two flushes of the crop. He obtained 2625 kg/ha yield from third flush.



**Farmer Name:** Shri VS Karad (2010)

**Mobile:**

**Location:** Parli, Beed, Maharashtra

**Pigeonpea Hybrid:** ICPH 2671

**Seed Source:** ICRISAT

**Cropping pattern:** Inter-Crop  
(Pigeonpea+Water melon+Marigold)

**Seed Rate:** 1.0 kg

**Method of sowing:** Transplanting

**Spacing:** 7ft x 2 ft (210 x 60 cm)

**Crop Management:** Normal

**Hybrid Yield:** 1200 kg (=3000 kg/ha)

**3000  
kg/ha**

## More and more profits from hybrid

**Mr VS Karad** of Sirsal village, Taluka- Parli at Vajanath, Dist. Beed was very happy with the performance of pigeonpea hybrid ICPH 2671 at his own farm. He got information about hybrid from the local newspaper and he obtained one kg ICPH 2671 from ICRISAT for kharif season 2010. He also planted watermelon and Marigold. He planted hybrid in raised bed to make seedlings. He used different media like Cocopit, straw to raise good saplings. He prepared seedling on 12th May 2010 and transplanted on 7th June 2010. He intercropped pigeonpea with Watermelon and Marigold. He adjusted spacing of 7 x 2 ft for main crop as well as other two crops. First he harvested Watermelon and obtained yield of 15 ton per acre (=37.5 ton/ha). He sold it at a price of Rs. 5 /kg and obtained Rs. 75, 000. After one month he harvested 10 qt Marigold and sold at price of Rs. 40 Rs. /kg and got Rs. 40,000. At last he harvested pigeonpea and obtained 1200 kg /acre (=3000 kg /ha). He felt that hybrid pigeonpea was bonus crop for him. He was very happy with this new experience of inter-cropping with hybrid pigeonpea.



## Successful Farmers of Kanzara Village

**1 Mr. Shankar Giri** is a progressive farmer of Kanzara village, Taluka Murtizapur, Akola district. He is inquisitive to adopt new technology in his field. He had 22 acres of medium black soil area which has 50% irrigation facility. In 2008 for the first time he planted 2 kg seed of pigeonpea hybrid by intercropping with soybean in (4:1) in 0.5 acre. He obtained 1700 kg/ha seed yield of pigeonpea hybrid. He was satisfied with performance of hybrid pigeonpea because he obtained 36% more yield than Maruti (1250 kg/ha) cultivar.

**2 Mr Manohar Nathaji Kadu** is progressive farmer of Kanzara village, Akola district. He has his own 18 acre medium black soil with irrigation facility to nine acres farm. He grew pigeonpea hybrids ICPH 2671, ICPH 2740 and ICPH 3762 in his farm. Mr. Manohar Kadu for the first time planted 2 kg of ICPH 2671 as intercrop with soybean (5:1 row ratio). He obtained 1775 kg/ha of pigeonpea hybrid ICPH 2671 and 1325 kg/ha of Maruti. He increased area under pigeonpea hybrid during subsequent year and obtained 34% higher yield than Maruti. His description about pigeonpea hybrids-1. High yielding 2. Bold grain 3. Deep root system 4. Better taste of dal 5. Profuse vegetative growth 6. Less seed rate 7. Hardy crop that can be grown on marginal land.





**Farmer Name:** Vishal Dattatrya Kubde

**Mobile:** 09423133726

**Pigeonpea Hybrid:** ICPH 2671

**Seed Source:** ICRISAT

**Cropping pattern:** Pigeonpea+Cotton

**Spacing:** 8 x 2 feet

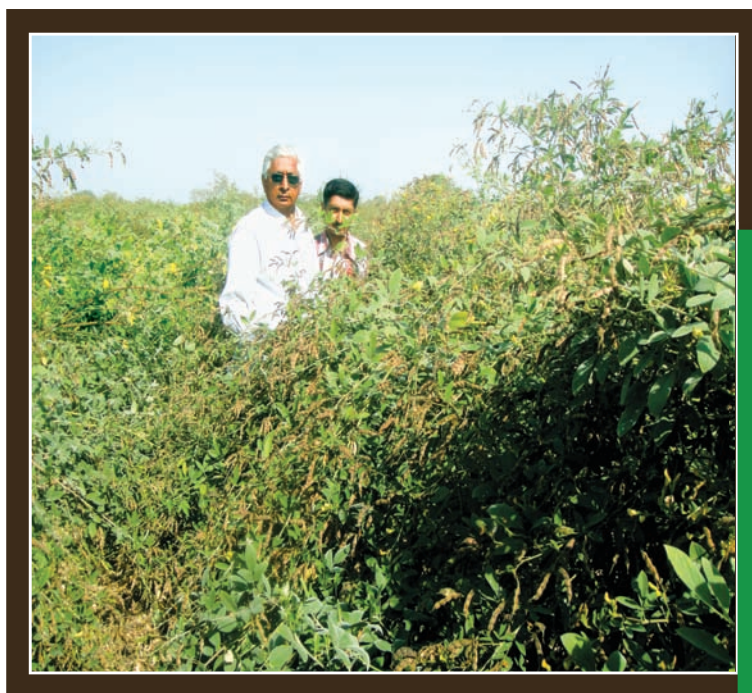
**Hybrid ICPH 2671:** 2500 kg/ha

**Maruti:** 1667 kg/ha

**Cotton:** 2500 kg/ha

## Hybrid doing well in cotton intercropping

A progressive farmer of Wardha district of Maharashtra obtained seed of hybrid pigeonpea ICPH 2671 and Maruti from ICRISAT and cotton seed from local market. He intercropped pigeonpea with cotton. He used spacing of 8 x 2 ft and sown in an area of 0.15 ha. He planted separate plot of ICPH 2671 + cotton and Maruti + cotton. He followed all the normal cultural package of practices. He harvested 2500 kg/ha grain of ICPH 2671 and 1750 kg/ha of Maruti. The hybrid pigeonpea ICPH 2671 showed heterosis of 43% over Maruti. He was very satisfied with the yield of hybrid pigeonpea over control Maruti.



**3000  
kg/ha**

**Name of farmer:** Mukesh Patil

**Mobile no.:** 09422283907

**Seed Source:** ICRISAT, Hyderabad  
(2011)

**Crop:** ICPH 2740

**Cropping system:** Pigeonpea + Fodder  
Maize + Watermelon

**Spacing:** 300 x 60 cm

**Area:** 2.75 acre

**Yield ICPH 2740:** 3000 kg/ha

**Management Practices:** Drip irrigation



## Hybrid with Watermelon

**M**r Mukesh Patil from Raver (TQ), Jalgaon district grew ICPH 2740 hybrid along with local variety in 5 acre plot. He planted ICPH 2740 in 2.75 acre plot with row to row spacing of 10 ft and plant to plant is 2ft with drip irrigation. Upon the request ICRISAT provided 5 kg seed of ICPH 2740. He also grew fodder maize after 6 rows of hybrid pigeonpea and harvested the same by 70 days. Later in the same area he grew water melon and yet to harvest the same. He was overwhelmed by podding of ICPH 2740 and he harvested 3300 kg (@ 3000 kg/ha) seed from this plot whereas he harvested 900 kg/ha from local.









**Name of farmer:** Shri Toshniwal Onkar,  
Risod, Washim

**Mobile no.:** 09422921188

**Seed Source:** MKV, Parbhani (2010)

**Crop:** ICPH 2671, ICPH 2740, ICPH  
3762, ASHA, MARUTI

**Cropping system:** Sole crop

**Spacing:** 7 x 1 ft; 4 x 1 ft

**Area:** 307 ft x 76 ft

**Special treatments:** Harvesting in three  
flushes

**ICPH 2740:** 3873 kg/ha

**3873  
kg/ha**

Mr Toshniwal Onkar is from Risod, Washim, in Maharashtra. He planted pigeonpea variety (TARA, BSMR 736, BSMR 853, VIPULA, ASHA) and hybrid (ICPH 2671, ICPH 2740, ICPH 3762) during rainy season (July month) of 2010-2011. He obtained all seed from Marathwada Agricultural University, Parbhani. For variety he used 7 x 1 feet and hybrid 4 by 1 feet spacing.

He used drip irrigation and also used growth regulators during cropping season. He harvested hybrid pigeonpea at two-three times.

Hybrid	No. of harvests	Yield per plot (kg)	Yield (kg/ha)
ICPH 2671	Two	1970	4690
ICPH 2740	Three	2440	3873
ICPH 3762	Two	1840	4381

Many farmers of Risod and other locations visited this plot. The news of hybrid pigeonpea published in local news paper like Agro one, Krishikannathi and Television, ETV. On 26 March 2011. IBN Lokmat and Star Maza news channel visited this location and interviewed of Shri Toshniwal farmer.







**Name of farmer:** Kalyanappa S/o Veerappa  
Wali, Allur (B), Aland,  
Gulbarga

**Mobile no.:**

**Seed Source:** ARS Gulbarga (2010)

**Crop:** ICPH 2671, TS-3R

**Cropping system:** Sole crop  
Sowing method: Drill machine

**Spacing:** 90 cm

**Area:** 1 ha

**Package of practices:**

- ❖ FYM ; 2 tones/ha
- ❖ Fertilizers; 25:50:0 kg/ha  
NPK and 20kg Zinc sulphate
- ❖ Intercultivation ; two times
- ❖ Weeding ; two times hand weeding
- ❖ Spraying ; three time spraying,

**Yield ICPH 2671:** 3750 kg/ha

**TS-3R:** 1850 kg/ha

**3750  
kg/ha**

## Winning over frost to harvest 3750 kg/ha

**Kalyanappa Wali**, is a farmer of Allur village which belongs to Aland taluka of Gulbarga district. He is a progressive farmer and owns 33.17acre land. Out of which he grows redgram in more than 50 per cent of area. In the year 2009-10 under NFSM project 1.5 kg seed of pigeonpea hybrid ICPH-2671 was distributed to him from Agriculture research station Gulbarga.

There was no irrigation source at his farm and wanted to cultivate hybrid pigeonpea under rainfed condition. But we were worried to give ICPH-2671 seeds for demonstration in his land. In this situation also he was ready to take risk to sow hybrid seeds since he was not happy with Gullyal red (local landrace) because of its low yield and wilt susceptibility.



During 2009 a total of 730 mm rainfall was received. Timely rains in the month of June (141.5mm.) helped the farmer to sow the hybrid on 28.06.2009. Crop was very good at flowering but due to heavy fog and wind during flowering caused flower drop which resulted in some yield loss. However, he harvested around 3750 kgs of seeds per hectare from the hybrid plot as against the check variety TS-3R, which gave yield of 1850kg/ha. Farmer was happy with performance of ICPH-2671.

### The farmer agronomic practices.

- \* FYM ; 2 tones/ha
- \* Fertilizers; 25:50:0 kg/ha NPK and 20kg Zinc sulphate
- \* Spacing ; Row to row : 90cm
- \* Plant to plant: Drill sown then thinning was done
- \* Inter-cultivation ; two times
- \* Weeding ; two
- \* Spraying ; three First spray with profenophos @ 2 ml/lit
- \* Second spray with indoxicarb @ 0.3 ml/lit + Corbondizeme @ 1gm/lit
- \* Third spray with Rynaxyphyr @ 0.15 ml/lit



### Economics of hybrid Pigeonpea cultivation

Details	Hybrids	Check (TS-3R)
Cost of cultivation	Rs.13500	Rs. 13500
Yield	3750 kg	1850 kg
Rate	Rs.3200/qt	Rs. 3700/qt
Gross return	Rs. 1,20,000	Rs. 68,450
Net return	Rs. 1,06,500	Rs. 61,500





**2000  
kg/ha**

**Name of farmer:** Mr. Devindrappa  
S/o Prabu Bidarkar, Hagargundagi, Gulbarga  
**Seed Source:** ARS Gulbarga (2010)  
**Crop:** ICPH 2740, Asha  
**Cropping system:** Pigeonpea + Bengalgram  
**Sowing method:** Drill Machine  
**Spacing:** 120 cm  
**Area:** 1 ha

**Package of practices:**

- ❖ FYM ; 2 tones/ha
- ❖ Fertilizers; 25:50:0 kg/ha NPK
- ❖ Micronutrients; gypsum 50kg, boron 5kg
- ❖ Biofertilizers; soil application of PSB @5kg/ha
- ❖ Intercultivation ; two times
- ❖ Weeding ; two times hand weeding
- ❖ Irrigation: one time irrigated during flowering period
- ❖ Intercrop; Blackgram
- ❖ Spraying ; three time spraying,

**Yield ICPH 2671:** 2000kg/ha

**Asha:** 1250 kg/ha

## Hybrid ICPH 2740 also Excelled in Saline Soil

Mr. Devindrappa is a farmer from Hagargundagi village of Gulbarga taluka. He grows redgram, bengalgram sorghum, onion, brinjal and blackgram in 13 acre of land. In fact his land is saline and salt affected. The farmer has the facility to give one or two protective irrigation. He desired to cultivate hybrid pigeonpea in his farm. Agriculture Research Station Gulbarga supplied 1.5 kg of hybrid ICPH 2740 seed along with 1.5 kg of Asha (check) under the project entitled "Taking Pigeonpea hybrids to the door steps of the farmers" during the year 2010-11. In the previous year, he has harvested 200 to 300 kg/ha of redgram using the local genotypes. With the goal of harvesting high yield he approached to ARS, Gulbarga and got the information on hybrid ICPH 2740.

The farmer has taken up sowing on 26.06.2010 in congenial condition. In addition to redgram he has sown blackgram as inter crop. A heavy rain of 1076mm was received during this year as against average annual rain fall of 760 mm. These heavy rains prolonged vegetative growth resulted in late flowering. Even under these circumstances farmer harvested 3.5 quintals of black gram from 1.5 acre area. As additional income farmer got Rs. 6000/- from blackgram. On application of micronutrients he noticed enhanced growth. The fellow farmers of the village were astonished to see the good crop growth and many farmers impressed about the performance of the hybrid and importance of micronutrients.



Mr. Devindrappa harvested around 2000kgs of seeds per hectare from the hybrid plot as against the check variety Asha, which gave yield of 1250kg/ha. Farmer was happy with performance of ICPH-2740.

The farmer practiced following agronomic practices.

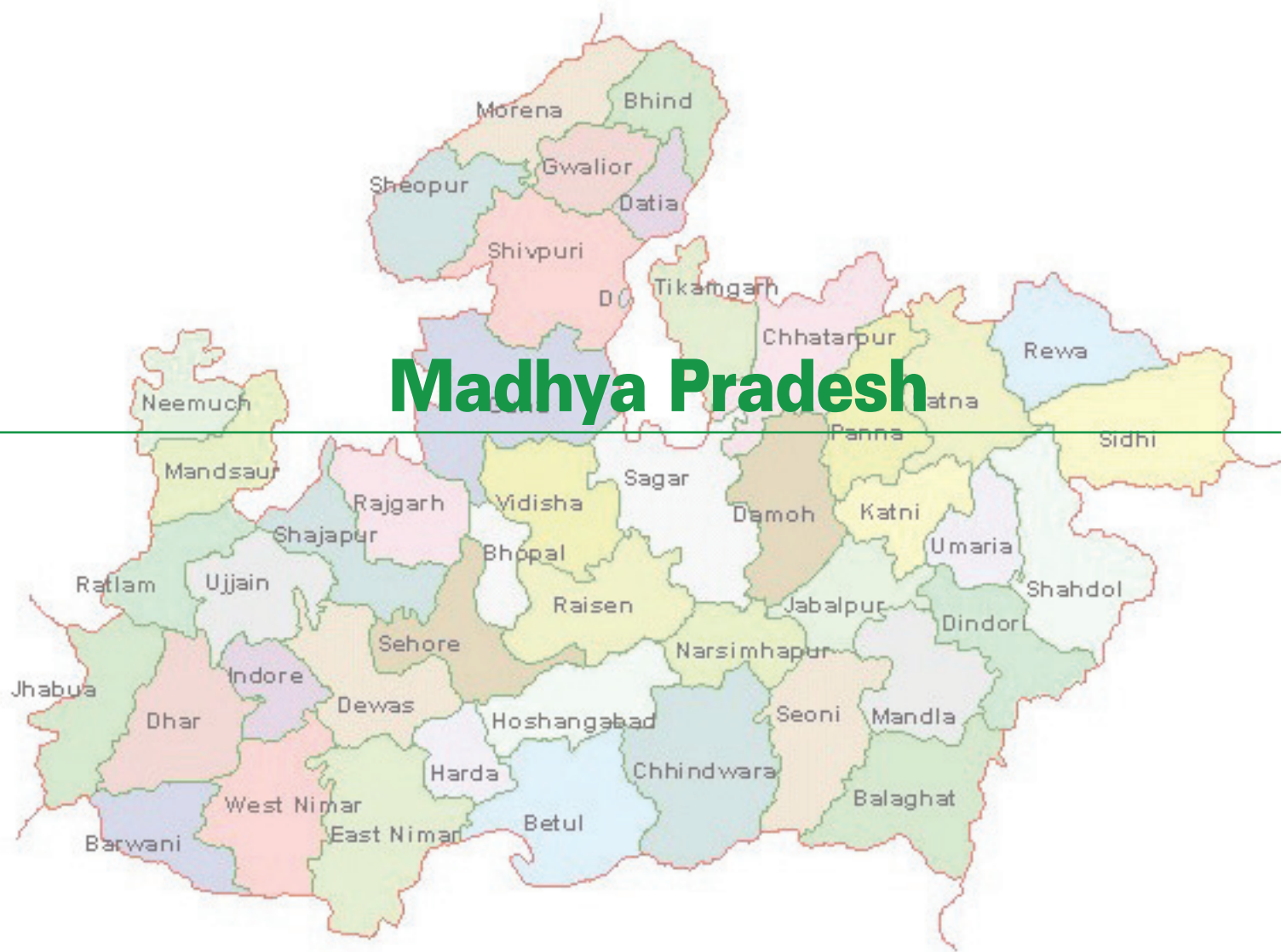
- \* FYM ; 2 tones/ha
- \* Fertilizers; 25:50:0 kg/ha NPK
- \* Micronutrients; gypsum 50kg, boran 5kg
- \* Biofertilizers; soil application of PSB @ 5kg/ha
- \* Spacing ; Row to row : 120cm
- \* Plant to plant: Drill sown than thinning was done
- \* Intercultivation ; two times
- \* Weeding ; two times hand weeding
- \* Irrigation: one time irrigated during flowering period
- \* Intercrop; Blackgram
- \* Spraying ; three time spraying,
- \* First spray with profenophos @ 2 ml/lit
- \* Second spray with indoxicarb @ 0.3 ml/lit + Corbon dizeme @ 1gm/lit
- \* Third spray with Rynaxyphyr @ 0.15 ml/lit



#### Economics of hybrid Pigeonpea cultivation

Details	Hybrids	Check (TS-3R)
Cost of cultivation	Rs.14000	Rs. 14000
Yield/ha	2000 kg	1250 kg
Rate	Rs.3500/qt	Rs. 3500/qt
Gross return	Rs. 70,000	Rs. 43,750
Net return from blackgram	Rs. 3000	Rs. 3000
Net return	Rs. 59000	Rs. 32750







## SUCCESS STORY OF PIGEONPEA HYBRID ICPH 2671 IN MADHYA PRADESH

In Madhya Pradesh pigeonpea is grown in 3.62 lakh ha. Generally medium duration varieties of 170 to 175 days duration are grown with partial areas under early and late duration pigeonpea. The farmers are growing high yielding varieties now a days replacing their old ones because of resistance of new varieties to *fusarium* wilt.

For enhancing the productivity of pulse crops it is needed to have vertical as well as horizontal expansion. In horizontal expansion the area of a crop need to be increased while in vertical expansion the productivity of the crop needs to be increased. Since past 25 years there is a horizontal growth of area in pigeonpea cultivation which expanded from 320 to 365,000 ha. In Madhya Pradesh. There is also an increasing trend in productivity of the pigeonpea in state during the past five years. This vertical expansion is mainly caused by the use of improved varieties and package of practices.

Since long it felt to the State Govt. as well as to the Scientists of the state to make breakthrough in productivity of pigeonpea in the state. There need to have a change in present status of improved varieties. The hybrid was the only solution to make a major breakthrough in yield enhancement of per unit area.

Advancement of new CMS lines and efforts of pigeonpea scientists of ICRISAT for development of medium duration, wilt resistant hybrid of pigeonpea paved the way to introduce this hybrid in Madhya Pradesh. In 2007 parental lines (ICP 2043 A, ICP 2043 B and ICP 2671 R) of hybrid ICPH 2671 have been sent by Dr. K.B.Saxena, Principal Scientist, ICRISAT to College of Agriculture, Indore while ICP 2043 A and B lines have been procured by College of Agriculture, Sehore (M.P.). The seed of hybrid had been produced by CoA, Indore and it was distributed to the Krishi Vigyan Kendra, Kasturaba Gram, Indore for demonstration purpose. Under rainfed condition the hybrid gave on an average yield of 2000 kg/ha as compared to other varieties which yielded 1600 kg/ha. The demonstration of this hybrid encouraged the pigeonpea growers in the area and in next year the hybrid seed was distributed to many farmers including Berasia block of Bhopal district of Madhya Pradesh.

In Berasia block of Bhopal division, the pigeonpea crop is adopted as the most remunerative intercrop with soybean, as the area is mostly rainfed. Only 2 to 3 kg of seed is either mixed with soybean for one acre of land or it is intercropped with every two rows of soybean. Farmers of this area harvest about 17 to 18 q/ha of soybean and the same quantity is also been harvested from the pigeonpea from the same area. The net income from pigeonpea is found very remunerative to the farmers as whatever the interculture practices adopted for soybean production also favours pigeonpea growth. Many a time this inter crop of soybean-pigeonpea is found in as many as 700 to 800 ha of land in clusters. The pest control measures for pigeonpea are strictly observed by the farmers as they treat this crop as most remunerative and boosting their economic status. Thereby the pigeonpea crop is also being given due importance in this region. The soil of the area is medium black and water holding capacity of the soil is also good. Therefore it favours pigeonpea growth for long duration.

Looking to this agro-ecological situation of the region pigeonpea hybrid ICPH 2671 is introduced in the kharif of 2010 for cultivation in farmer's field. Demonstrations were conducted along with farmer's preferred prevailing varieties to determine the increase over local varieties. Farmers harvested 18 to 20% higher yield from this hybrid than what they used to harvest from their prevailing varieties. Looking to its canopy and sturdiness, farmers are convinced that this hybrid has potential for enhancement in yield. Some of the farmers where this hybrid was grown are:

S.No.	Name of Farmers	Village	District
1.	Akil Miyan	Bawachiya	Bhopal
2.	Devendra Singh Thakur	Dharamsa	Bhopal
3.	Lalram Sahu	Dharamsa	Bhopal
4.	Banne Khan	Dharamsa	Bhopal
5.	Vinay Singh Chouhan	Dharamsa	Bhopal
6.	Kishor Maheshwari	Dharamsa	Bhopal
7.	Rafiq Khan	Lalriya	Bhopal
8.	Hanif Khan	Lalriya	Bhopal

The seed production programme of ICPH 2671 was undertaken near Sehore (M.P.) in Farmer's Participatory Programme with the help of progressive farmer Shri Arun Rai, Sehore (M.P.). The seed of parental lines ICP 2043 A & B was supplied by Research Farm, College of Agriculture, Sehore (M.P.). The ratio of female: male was maintained of 4:2. The crop was grown in around 3.0 ha of land and the farmer produced about 1300 kg of hybrid seed from A lines. This seed will be used in frontline demonstrations in the kharif of 2011 in Sehore and Bhopal districts of Madhya Pradesh.

(Dr.A.N. Tikle)  
Pigeonpea Breeder and I/C AICRP on Pigeonpea  
College of Agriculture, Sehore (M.P.)



# Jharkhand





## Pigeonpea hybrid finds its niche in intensive cropping systems in Jharkhand

- Mr Deolal Singh Nirala, a chiro tribe farmer from Sua village of Medeninagar district, takes four crops in 30 decimals of land. He intercropped ICPH 2671 pigeonpea hybrid with maize and grew lady's finger as border crop. He harvested 255 kg of pigeonpea earning Rs.12,750 and 100 kg of maize earning Rs. 800. At the same time he sold lady's finger for Rs 300. He harvested pigeonpea at the end of Jan and took up onion crop in the same field. He also grew cucurbitaceous vegetables on the bund and used pigeonpea stick to support the climbers. He sold onion for Rs.10,000 and cucurbitaceous vegetables for Rs. 1000. Thus, he obtained Rs 24,850 from 30 decimal of land. A pigeonpea field day was organized on 31 Jan 2010 in his field and about 75 farmers along with the Director; Research and scientists of BAU and ICRISAT scientist attended the event and interacted with farmers.
- Mr Ranjeet Prasad, a farmer from Chamba village, Palkot, Gumla district, intercropped ICPH 2671 hybrid pigeonpea with tomato in 0.4 ha land under late sown conditions. First, he transplanted tomato on ridges in the first fortnight of Jul and then, he sowed ICPH 2671 between the tomato rows on 13 Aug adding a little bit of fertilizers. He harvested 0.75 t of pigeonpea from 0.4 ha land realizing an amount of Rs. 37,500 and the sale of tomato fetched him Rs. 30,000. A pigeonpea field day was organized in his village on 17 Jan 2010, which was attended by a large number of villagers along with the Director Research and scientists from BAU, KVK scientist of Gumla and District Agriculture Officer, Gumla.

(PK Singh)  
BAU, Ranchi



## Appreciation of hybrid pigeonpea dal

The commercial grain of ICPH 2671 has dark brown color which was not accepted in the market in the first year and hence, rate of grain also reduced than compare to other varieties. ICRISAT took initiative and converted about 1000 kg hybrid pigeonpea ICPH 2671 grain to dal in 2008. The hybrid dal was distributed to farmers, traders, consumers and millers for taste evaluation. It was found that it tasted better than normal varieties. In the subsequent years rate of grain also increased in the market.

### Farmer views:

- \* Some of the areas like Badnapur, Jamb and Deonandra were found suitable for cultivation of hybrid ICPH 2671.
- \* In ICPH 2671 some variations was reported by farmers.
- \* During this year late maturing varieties/ hybrids have given higher yield as compared to early maturing genotypes due late rains.
- \* During the month of December there was heavy frost, which resulted in flower drop and effected yield.
- \* The pigeonpea hybrids ICPH-2671 and ICPH-2740 exhibited good vigour as compared to other pigeonpea varieties.
- \* The branching habit of ICPH-2671 i.e. from base was appreciated by farmers.
- \* About 10% off-type plant were noticed by some farmers in ICPH-2671.
- \* The hybrid ICPH-2740 performed well in heavy soils of Vidarbha region.
- \* Overall farmers are interested to adopt the hybrid pigeonpea cultivation because of higher yields.

### ICPH 2671 Pigeonpea Hybrid



Commercial Seed



Dal





## About ICRISAT



The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is a non-profit, non-political organization that conducts agricultural research for development in Asia and sub-Saharan Africa with a wide array of partners throughout the world. Covering 6.5 million square kilometers of land in 55 countries, the semi-arid tropics have over 2 billion people, and 644 million of these are the poorest of the poor. ICRISAT and its partners help empower these poor people to overcome poverty, hunger, malnutrition and a degraded environment through better and more resilient agriculture.

ICRISAT is headquartered in Hyderabad, Andhra Pradesh, India, with two regional hubs and four country offices in sub-Saharan Africa. It belongs to the Consortium of Centers supported by the Consultative Group on International Agricultural Research (CGIAR).

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