



भक्त अनुप  
ICAR

Volume: 18 (2012-2013)

## WHEAT CROP HEALTH NEWSLETTER

Directorate of Wheat Research  
P.B. 158, Karnal-132 001

April, 2013



Issue: 5

Available on website: <http://www.dwr.res.in>

Wheat crop health reports of March-April, 2013 have been compiled in 5<sup>th</sup> issue of Vol. 18 (2012-13) of Wheat Crop Health Newsletter. Crop health surveys were carried out in various parts of the country by the scientists of DWR, the cooperating scientists of AICW&BIP, KVK's scientists and officers of State Department of Agriculture of different states, Directorate of Wheat Development, Ghaziabad and CIPMC centres during March, 2013. The Task Force Meeting was held at ICAR Krishi Bhavan, New Delhi under the Chairmanship of Dr S. K. Datta, DDG (CS) on March 13, 2013. Dr. Indu Sharma, Project Director, DWR, Karnal and G.K. Choudhury, Director, Directorate of Wheat Development, Ghaziabad also extensively surveyed the northern states and provided latest update on stripe rust. The DWR issued advisory for stripe rust management from time to time through newspapers, electronic media (internet & SMS) etc.

### North Western Plain Zone (NWPZ)

Dr. Indu Sharma, Project Director, DWR, Karnal surveyed large areas during first week of March. There was no stripe rust in Kurali, Lalru area (N 30.63068; E76.68848; 246m) and Dhaultpur (N 30.61673; E 076.82674; 284m). At Mullanpur, Kurali Baddi Road (N 30.84377; E 076.72097; 343m), stripe rust was observed on variety DBW 17 with 5MS severity. At Mallikpur (N 30.99859; E76.55808; 271m), stripe rust (5-10MS) and powdery mildew were noticed. At Brahmipur (N 51.26710; E 76.45146), no stripe rust was observed but powdery mildew was noticed up to grade 5. In Chandigarh, Kurali, Ropar, Nangal and Una areas, the stripe rust was not observed but flag smut was observed (N 31.26770; E 76.45146, N 31.26710; E 76.45146, N 31.26710; E 76.45146, N 31.26710; E 76.45146).

Dr. S.C. Bhardwaj, Head, DWR Regional Station, Flowerdale, Shimla surveyed Yamunanagar areas on March 3, 2013. Stripe rust was observed in Sarawan, Barso, Majra and Rai Purani in susceptible varieties. At Jagadhri, WH 542 was found free from stripe rust. On March 5, 2013, Dr. M. S. Saharan along with scientists from NCIPM and IARI, New Delhi monitored stripe rust situation in Sadhoura block of Yamunanagar. Report of stripe rust occurrence in 8688 acres in 258 villages in Yamunanagar district was received from Dr. Pardeep Meel, DDA, Yamunanagar on March 12, 2013. Most affected villages were Sarawan (635 acres), Rampurraian (135 acres), Ferojpurraian (145 acres), Paharipur (120 acres), Deodhar (150 acres), Lal Chapar (115 acres) and Nagla Rangdan (115 acres). Dr. M. S. Saharan (DWR, Karnal) and Dr. S. Dutta (ISRO, Ahmedabad) surveyed Haryana and Punjab during March 14-15, 2013. Stripe rust was observed in Yamunanagar, Karnal and Kurukshetra districts in Haryana. In Punjab, stripe rust was observed in Nurpur Bedi (Roop Nagar) up to 40S in DPW 621-50. Stripe rust was also observed at few locations in Karnal, Ambala, Panipat, Panchkula, Sirsa, Kaithal and Kurukshetra districts but severity was low. Dr. R. Selvakumar, DWR, Karnal along with Dr. S.S. Karwasra from Hisar and Dr. Rashmi Aggarwal from IARI, New Delhi surveyed during March 14-16 enrouting Hisar, New Delhi, Dhaulakuan, Ludhiana, Hisar and Karnal (N 28.63972; E 77.15849; 202m, N 30.91278; E 075.84412, N 29.16321; E 075.72876). The team could not find the rust incidence on the way.

Dr. Sat Pal Saini and Dr. Ravinder Kumar, KVK, Ropar reported burning of flag leaf in wheat variety DPW 621-50. Dr. Maninder Singh, KVK, Hoshiarpur reported incidence of stripe rust disease on WL 711, DBW 17, PBW 550, HD 2894, PBW 621, HD 2967 and Shriram 172 varieties of wheat in patches in Garhshankar (Sadarpur, Shahpur, Garhi Matton, Chakk Rotan, Goliyan and Saila Khurd), Mahilpur (Khairar, Acharwal, Mugopatti, Laksihan, Mahla Baltoyian, Sarhala Kalan, Sarhala Khurd, Gondpur and Nangal Khurd) and Hoshiarpur-II blocks (Tohlian, Makhangarh, Barian, Bham, Harta, Baddla, Rajpur Bhaiyan, Hukran, Sasoli, Bhilowal, Bajrawar, Lehli Kalan and Handowal) during March 5-7, 2013. Dr. Daman Jeet Kaur, Senior Nematologist (Wheat), Dr. Ritu Bala Asstt. Pathologist and Dr. Beant Singh, Asstt. Entomologist monitored the wheat crop for diseases and pests in the fields enroute Sidhwan Bet, Dharamkot, Kot Isse Khan, Makhu, Harike, Taran Taran, Goindwal, Kapurthala, Nakodar, Noormahal and Phollaur falling in the districts of Ludhiana, Moga, Ferozepur, Taran Taran, Kapurthala and Jalandhar. Stripe rust incidence (10S-20S) was recorded from all the spots monitored, however, at two places the incidence was high. It was upto 60S at villages Kot Isse Khan (Elevation 206m; 30°58.050N and 075°07.031E) and Kadaiwala (Elevation 205m; 31°02.636 N and 075°03.130E) of Dist Moga and 40S at Bharowal of Dist Kapurthala (Elevation 205m; 31°23.885N and 075°04.037E). Moderate to severe aphid incidence was recorded at Sanghe khalsa near Noormahal and Tuttkalan near Nakodar of district Jalandhar. The incidence was low to moderate at all other places monitored.

As per report received from Dr. P. P. Singh, Head, Department of Plant Pathology, PAU, Ludhiana, stripe rust (5-40S) was observed in varieties, DBW 17, PBW 550, HD 2967, DPW 621-50 and non-recommended varieties in SBS Nagar (Mahindpur, Chhidhuri, Ballawal Saunkhri, Saroya, Mujowal Majara, Majari, Langroya, Taprian). In Ropar (Surewal, Mothapur, Fatehgarh Veeran, Mohan Majra, Sultanpur, Shergarh, Sarangpur, Lakhewal, Abhiyana, Dhahe, Phasemund), 5-40S stripe rust severity was noticed in varieties, HD 2967, DBW 17, PBW 550, Berbet, HD 2733 and non-recommended varieties. In Hoshiarpur, varieties, HD2967, DBW17, PBW 550, Barbet, HD 2733 and non-recommended varieties were infected with stripe rust (5-20S). Stripe rust (5-20S) was observed in varieties, DBW 17, PBW 550, HD 2967, PBW 621, DBW 17, PBW 550, HD 2967, DPW 621-50, DBW 17 and PBW 550 in Gurdaspur, Patiala, Amritsar, Bhatinda, Ludhiana, Sangrur, Faridkot, Jalandhar, Fathegarh Sahib and Ferozpur. In the districts of SBS Nagar and Ropar, disease was reported in mid January and 1<sup>st</sup> week of February. However in the rest of districts, disease was noticed in the 4<sup>th</sup> week of February. The incidence of severity was more on the varieties, DBW 17, PBW 550, PBW 343 and certain non-recommended varieties where as it was low on HD 2967 and DPW 621-50.

The disease was observed in 57 villages in ten blocks of Hoshiarpur. Stripe rust was observed in Hoshiarpur district (Mahilpur & Hoshiarpur-II blocks) in varieties Super 172, WL 711, DBW 17, PBW 550, HD 2894, DPW 621-50 and HD 2967. Dr. M. S. Saharan surveyed the area between Karnal to Nabha on March 18, 2013. Stripe rust upto 20S was observed in fields in Pehowa and Patiala. At Nabha farm (PAU, Ludhiana), DPW 621-50 was found infected with spot blotch.

A survey for wheat crop health in NE Zone districts i.e of Hisar, Jind, Kaithal, Karnal, Yamuna Nagar, Ambala, and Kurukshetra of Haryana was carried out between 30<sup>th</sup> and 31<sup>st</sup> March, 2013 by Dr. S. S. Karwasra (Sr. Wheat Pathologist), Dr. R. S. Beniwal (Asstt. Scientist). The wheat varieties sown were PBW 343, PBW 550, WH 711, DBW 17, DBW 16, HD 2967, DPW 621-50 and HD 2851 and HD 2894. Near Barwala on var. PBW 343 stripe rust was up to 40S. In village Sachha Khera (Jind) stripe rust was noticed in the range of 20-40S in PBW 343. In Kaithal and Kaul villages, stripe rust was noticed in the range of 20-60S

in PBW 343. In Nilokheri (Karnal), stripe rust severity was upto 60S in PBW 343. In village Indri (Karnal N-29°54'46.9" E 077°02'56.2" sea level 250m) , stripe rust severity was upto 60S in variety HD 2851. In village Allipura (Yamuna Nagar N 35°80'48.4" E 077 0.6'27.8" sea level 251m), stripe rust severity was upto 60S on variety HD 2851 and brown rust (80S) was also noticed. In Damla (N-30°12'13.9" E-077°12'14.2" sea level 254m), on varieties, HD 2967 and HD 2851, yellow rust severity was in the range 10S-60S and brown rust was in TS. In village Mukanpur (Chhachroli N-30°12'13.9" E-077°09'55.4, 272m sea level), stripe rust (40-60S), leaf rust (60-80S) and powdery mildew (grade 6) were noticed. Stripe rust up to 60S, Brown rust up to 10S and powdery mildew upto 5 grade were observed on variety PBW 343 at Bhambholi (Yamuna Nagar N-30°12'14.1" E-077°14'55.4" 267m sea level). In village Meetha pur (Ambala N-30°12'14.1" E-077°19.5'55.4" 309m sea level), stripe rust (40-60S), leaf rust up to 10S and powdery mildew (grade 4) were noticed in PBW 343. In village Hamuonpur (Ambala N-30°17'0.7" E-076°42'58.1" 255m sea level), variety PBW 343 was found infected with stripe rust (60S), leaf rust (TS) and powdery mildew (grade 5). In Lotni village (Kurukshetra N-30°04'11.3" E-076°40'01.6", 247m sea level), stripe rust (40-60S), leaf rust (TS) and powdery mildew (grade 5) were noticed on varieties PBW 343, WH 711, Barbet and HD 2851. Dr J.S. Sandhu, Agril. Commissioner, Govt. of India, Dr. Indu Sharma, Project Director, DWR, Karnal, Dr. M. S. Saharan, PI, Crop Protection, DWR, Karnal and Dr. Pardeep Meel, DDA, Yamunanagar visited Sadhoura block of Yamunanagar on April 6 for assessing the losses due to stripe rust in wheat crop.

On 1<sup>st</sup> March, (Dr. M.K. Pandey & Dr P. Tandan), surveyed Jammu to Reasi districts via Raphtha, Hore, Sohal, Rabita, Derababa, Ambal, Derababa KVK farm, Kotli, Jitoo. Small pustules were observed in all fields but in one field of Derababa (KVK, Reasi) (PBW-175, 1.5 acre area) (20S) and Kotli (0.2 acre) was infected with 20S severity. Yellow rust pustules were found in all the surveyed areas. Leaf blight was observed in all the fields up to 40 per cent which was sown after last week of November due to continuous and heavy rain fall received in the month of February. Powdery mildew was also observed in all Kathua district. Its severity was up to 8.

### **Northern Hill Zone (NHZ)**

Wheat crop health was monitored during the months of March - April, 2013 by conducting survey and surveillance tours in areas falling in different blocks of Districts Kangra, Mandi, Bilaspur, Hamirpur, Una and Kullu by Dr. S. K. Rana, (Malan, Palampur), Dr. R. Devlash (Bajoura) and KVK scientists. The overall crop condition was very good in all the areas of the state due to the rains received at regular intervals/ critical crop stages. Overall severity of stripe rust remained moderate not causing much loss to wheat crop. The severity of stripe rust was high (more than 40S) on susceptible varieties like HPW 42, HPW 184, HPW 211, HPW 251, HS 240, HS 277, HS 420, VL 804, VL 829, PBW 343, PBW 373, PBW 550, DBW 71, Raj 3765, HD 2380, WH 711, Kanku, Sonalika etc. DPW 621-50 also recorded high severity 40-60S in Indora block. Severity was low to moderate (less than 40S) on HPW 89, HPW 147, HPW 155, HPW 236, HPW 249, HPW 349, HS 507, HS 490, HS 295, VL 907, VL 892, VL 616, DBW 16, HD 2967, WH 1021, WH 1080 and Raj 3777. Stripe rust was recorded at all the locations in different blocks surveyed and overall severity was moderate. Leaf rust was also recorded at some locations with low to moderate severity (less than 40S) on varieties viz. HPW 89, HPW 155, HPW 147, HPW 249, HPW 349, VL 907, VL 892, HS 277, RAJ 3765 and high severity (more than 40S) on HPW 42, HPW 184, HS 295, HS 490, VL 804, VL 829, VL 616, PBW 343, PBW 373, PBW 550, Sonalika, Kanku, WH 711 and WH 1080. Powdery mildew of wheat was recorded at many locations on different wheat varieties with intensity varying from 3-8 (on 0-9 scale). However wheat varieties viz., HS 507, VL 907, VL 892, HPW 42, HS 295, HPW 155, HPW 184, PBW 343, PBW 550, VL 829 etc. recorded high intensity 7-8 of powdery mildew at some locations. Flag smut was recorded

at some locations in Kangra, Mandi, Bilaspur, Hamirpur and Una districts with incidence ranging from 1-12%.

Loose smut was recorded at one location viz., Harabag in district Mandi with incidence 0.1-3.0%.

Dr. Uday Sharma, Programme Co-coordinator, KVK, Chamba informed that wheat crop was free from rust during first fortnight of March. A team consisting of Scientists from Hill Agricultural research & Extension Centre, Bajaura (Drs Rakesh Devlash, Guru Dev Singh and Naval Kishore), KVK, Bajaura (Dr. Ramesh Lal) and Officers from the Department of Agriculture, Kullu (Dr. Tej Ram bushehari) visited Kullu, Banjar, Anni and Nirmand Blocks of District Kullu from March 16, 2013 to March 19, 2013 for monitoring of yellow rust in the farmers' fields. The team visited Bhekhal, Nahalach, Pirdi, Khokhan, Garsa, Mohan of Kullu Block, Dhaman, Shalouri, Ratwa, Targali, Sai Ropa, Banjar of Banjar block, Anni, Nagahan, Haripur, Behana of Anni Block and Bial, Koel, Bajrah, Kedas, Nauni of Nirmand Block. Kullu block was found free from stripe rust of wheat whereas in Banjar block, stripe rust to the tune of traces to 5S was observed at Dhaman and Ratwa. Stripe rust was observed in Nagahan, Haripur, Behna (Anni Block) and Bial, Koel (Nirmand Block) to the tune of Traces -80S and 5S - 20S, respectively. Dr. Pankaj Sood (KVK, Sundernagar, Mandi) conducted surveys in Gopalpur and Dharampur blocks on March 4, 2013. Stripe rust incidence was observed in varieties, PBW 550, VL 829, DBW 17 and Raj 3765 at Bamwla, Poanta, Talaw, Tarndol, Khudla, Kandyol, Ropari, Janjehal and Kanswai areas. The incidence was more severe in Baldwara area. Apart from yellow rust, loose smut incidence was observed in wheat variety DBW 17 in Salapper area of Sundernagar.

Surveys were conducted by Dr. Dhanbir Singh (HPKV, Dhaulakuan) in Nahan and Paonta blocks of Sirmour in the month of March to record stripe rust and other diseases of wheat. Stripe rust was recorded on 7.3.2013 in village Kheri near Trilokpur (Nahan Block) on wheat variety Barbet (20S). Stripe rust was also recorded on 21.3.2013 in village Lanabanka near Bagthan (Nahan Block) on local variety (80S). There was no major outbreak on any diseases and pests in both the blocks under survey. Lodging was recorded in few places due to excessive rains and wind during the month of March. The overall crop condition was very good. Dr. Deep Shikha observed stripe rust and leaf rusts in SAARC (Fasilabad 85 & Punjab85) & WDMN nurseries (DBW17 & PBW550) on 14<sup>th</sup> March, 2013 at Pantnagar (Uttarakhand).

### **Central Zone (CZ)**

Dr. K. K. Misra, Wheat Pathologist, ZARS, Powarkheda, Hoshangabad conducted survey during March 7-15, 2013 in different villages of Hoshangabad, Sihor and Bhopal districts of MP. In Hoshangabad, leaf rust was observed in villages, Byavra, Nitaya, Rohana, Baikhedi, Suprali, Palasi and Patlayee in varieties, GW 322 (10MS-40S), GW 273 (20-40S). At one location in village Patlayee, leaf rust was observed up to 80S in variety GW 322. Leaf rust (40-60S) was recorded in variety, LOK-1 in Suprali. The variety, HI 1544 was found free from leaf rust in village Byavra. In Doleria and Baghawara villages, leaf rust was noticed (20-30S) in variety, GW322. But leaf rust severity was 40S in variety, LOK-1 at Baghawara. At Ratwada, leaf rust upto 40S was observed in GW 322. In Shivani malva (villages-Banapura, Bavadia bappu, Bamuria, Timerni), leaf rust up to 40S was observed in GW 322. In district Sihor, GW 322 was free from leaf rust but LOK-1 was found infected up to 30S. In village Mandideep (Bhopal), leaf rust (10S) was noticed in GW 322. It was observed that variety GW 273 was found infected every where across the area surveyed. In most of the areas variety GW 322 was found apparently mixed with local tall lines which harbor very high degree of brown rust.

No rust was observed in Saurashtra region of Gujarat.

#### **Peninsular Zone (PZ)**

Dr. S.C. Mishra observed leaf rust from farmer's field at Shirur and Ralegaon Shidhi and Tal-Parner on varieties, Lok-1 and MACS 2496 during first week of March.

#### **North Eastern Plain Zone (NEPZ)**

Survey was carried out in Bihar during 2<sup>nd</sup> and 3<sup>rd</sup> week of March by Drs. H. C. Lal, Ashish and Atul Kumar. In Ranchi area, the crop was good and foliar blight was observed on lower leaves. Leaf rust was seen in breeding lines (upto 60S). No brown rust was observed in Samastipur (RAU Farm, BISA-CIMMYT Farm, KVK Birauli, Morsand, Dighra, Tajpur, Musrigharari, Malinagar, Kalyanpur), Muzaffarpur (Dholi Farm, Sakra, Pilkhi, Mushhari), Vaishali (Hariharpur KVK, Dighikalan, Sarai, Hazipur). No rust was noticed in Supaul, Madhepura, Purnea, Kishanganj, Sitamarhi and Katihar districts. In Samastipur, Muzaffarpur, and Vaishali districts, main varieties were HD 2733 and HD 2824. Dr. Indu Sharma, PD, DWR observed leaf rust up to 20S on HD 2160 from Coochbehar, West Bengal during second week of March.

Dr. B. N. Singh and Dr. S. P. Singh (NDUA&T, Faizabad) observed leaf rust in varieties WL 711, Lal Bahadur, C 306, WH 147, Kharchia mutant, HUW 234, Annapurna, WL 1562, HD 2204, PBW 343, RAJ 3765, PBW 373, Kh 65, Bakhtwar 94, Sonalika etc and severity ranged between 5S to 70S. Foliar blight incidence was high. Sporadic incidence of Powdery mildew was also observed in the area. A little damage was observed due to termite, stem borer and rots.

Dr. L. P. Tiwari informed that till mid of March no rust has appeared under natural conditions in Kanpur area.

#### **Southern Hill Zone (SHZ)**

Dr. J. Kumar, Head, IARI Regional Station, Wellington reported stripe rust (20-40S) in wheat genotypes in SAARC/TPN nurseries planted at Wellington on March 16, 2013. On March 23, 2013, stem rust was observed on Morocco at Wellington. On April 17, 2013, stripe rust up to 20S was observed on Diccocum at Wellington.

**Issued by:** Crop Protection Programme, Directorate of Wheat Research, P.B. 158, Karnal-132 001

**Compiled and Edited by:** M. S. Saharan, Selva Kumar and Indu Sharma

**Phone:** 0184- 2266092, 2267490, 2267830, 2267495, **Fax:** +91-0184-2267390

**E.mail:** [mssaharan7@yahoo.co.in](mailto:mssaharan7@yahoo.co.in), [picpdwr@hotmail.com](mailto:picpdwr@hotmail.com)