



Proceedings of 1st India Agri Progress Expo 2020.



23 -25 JANUARY 2020

1st India Agri Progress Expo 2020 and National Conference on Farm Mechanization in India with special focus on straw management was organized by The Punjab State Agril. Implements Manufacturers Association (PSAIMA) and Agricultural Machinery Manufacturers' Association (AMMA India) from Jan. 23-25, 2020 at Fruit & Vegetables Market, Mohali with association Udan Media & Communication.



The Exhibition and conference started at 10:00 AM with welcome address by Mr. Baldev Singh Chairman PSIAMA. Chief Guest was S. Rana Gurjeet Singh, MLA Kapurthala. Other dignitaries on the dais were Mr. Kahan Singh Pannu, Secretary Agriculture Govt. of Punjab, S. Harmail Singh, President PSIAMA. Mr. S.V. Raju, Chairman AMMA-India & Mr. G.S. Dhillon, Managing Director, Udan Media & Communication.

Mr. Baldev Singh, Chairman, Punjab State Agricultural Machinery Manufacturers

Association, appealed to the farmers of the area to explore the Agri Expo till January 25 to experience advanced machinery for world-class agriculture standards.



Mr. Kahan Singh Pannu said that proper management of the straw and preventing straw burning for environmental protection is need of the hour and optimum use of fertilizers and insecticides must be practiced by farmers. Central Government gave a subsidy of Rs. 500 crores to the farmers of Punjab last year, for 51,000 agricultural implements of which the farmers have taken full advantage of and have reduced the trend of burning straw, which has helped in environmental protection. Current advanced technology machines badly needed for alternative agriculture and seasonal disturbances can be met only by such expos.



Chief guest MLA Mr. Rana Gurjit Singh duly inaugurated the expo and emphasized the importance of mechanization of farming, he called upon the engineers of Punjab to play a leading role in agricultural machinery industry

by developing technologies equivalent to western countries. Punjab is capable of a leading role in the agricultural landscape of the country through low-cost and advanced engineering technology



S. Harmail Singh, President of PSIAMA proposed vote of thanks. He also thanked Dr. Surendra Singh, Mr. S V Raju and Mr. D S Balachandra Babu for attending thw exhibition and conference.

Mr. G.S. Dhillon, Managing Director, Udan Media & Communication addressed the gathering and shared information about other exhibitions organized by them. Mr. Dhillon requested chief guest to open exhibition directory on the occasion.



Mr. S.V. Raju, Chairman of AMMA-India shared the association activity throughout India & issues, policies.



Technical Session I: Government schemes, policies and investments for enhancing farm Mechanization

The session was chaired by Dr. Surendra Singh, Technical Advisor AMMA-India. and Co-chaired by Mr. Rajdeep Singh, National Agro Industries, Ludhiana. Rapporteur was Dr. Rajesh Goel, Testing Head, Deptt. Of Farm Machinery and Power Engg., PAU, Ludhiana



They raised concern regarding time taken by testing centres to test the machines. They were of view that if a manufacturer submits the machine for testing well within the time of two years remaining of validity of test report and test center do not issue the test report within that period and there is no fault with the machine submitted by manufacturer, then earlier released test report of that machine may be considered valid till the testing centre release a test report.

Manufacturer raised the point that subsidy is already granted to PAU Super SMS attached to self-propelled combine harvester. They said it should be provided on PAU Super SMS attached to tractor operated combine harvester also.

A farmer raised the point that subsidy granted on paddy transplanters in 2019 has not been paid by Punjab Government yet to the farmers' of state.



Manufacturers of agricultural machinery raised the concern that they have to deposit the money separately for separate tender of different states for empanelment. This leads to blockage of huge money out of working capital of individual manufacturer. They suggested that if possible individual manufacturer may be empanelled at a central level by paying EMD and should be eligible to apply in any tender related to agricultural machinery.



Officials of Dairy Development board of Punjab stressed on need of development of machines required for dairy farming in the state such as fodder harvesters, milk coolers etc.





The speakers during the session were: Engg. Manmohan Kalia, Joint Director, Govt. of Punjab, At the outset Mr. Baldev Singh, Amar Agril. Implements, Ludhiana welcomed the Chairman, Co-Chairman and the Speakers and other delegates/manufacturers/farmers present in the session.



Proceedings of Technical Session II: Technological and institutional innovations, lessons learnt and strategies for promoting farm mechanization (with special focus on CRM)

The session was chaired by Dr. Balwinder Singh Sidhu, Commissioner Agriculture, Govt. of Punjab and Co-chaired by Dr. Surendra Singh, AMMA-India. The speakers during the session were: Dr. Manjeet Singh, Sr. Research Engineer-cum-Head, Deptt. Of Farm Machinery and Power Engg., PAU, Ludhiana, Dr. Rajbir Singh, Director, ICAR-ATARI, PAU Campus, Ludhiana and Dr. M L Jat, Principal Scientist, CIMMYT India.

The Chairman in his opening remarks congratulated the organizers for holding the Expo and Conference. He stressed on timeliness of operations in agriculture and role of farm machinery in agriculture. The Chairman said that manufacturers not only play an important role in commercialization of machinery but also help farmers and research institutes in modifications of machines as per need. He said that in past few years crop residue burning has been a major issue in agriculture in North-West India and farmers itself bear the ill effects of residue burning. He said that Scientists from PAU and Manufacturers have done a great job in development of crop residue management (CRM) machinery and state govt. is working in close collaboration with PAU and Manufacturers in promotion of CRM machinery.

Dr. Surendra Singh, Co-chairman said that organizers have selected an important topic particularly for North-West India. He said that paddy straw can be managed by two methods i.e. by collection or by in-situ management. He said Centre govt. in consultation with SAUs and state govts. had allocated Rs. 1120 crore to Punjab, Haryana, Delhi and UP for in-situ

management of paddy straw for a period of 2 years.

Dr. Manjeet Singh delivered a presentation on the topic titled “Management of crop residue for sustainable paddy-wheat rotation”. He presented that PAU has developed machines for in-situ straw management like Happy seeder, PAU Super SMS, Paddy straw chopper, Straw cutter-cum-spreader. Paddy straw can be used for other ex-situ purposes like mushroom cultivation, biogas production, for mulching in crops etc. PAU is also working on development of short duration varieties of rice and has already recommended PR121, PR122, PR126 paddy varieties which mature early. PAU is also engaged in promotion of paddy straw management technologies through its KVKs and FASCs. PAU has also collaborated with corporate sector like Birlasoft and CII through CSR initiatives for promotion of paddy straw management technologies. He presented that approx. 57 % area was covered under different straw management technologies in Punjab in 2018. Due to combined efforts of SAUs, state & central govt. agencies, manufacturers and farmers this achievement was made. He presented that Air quality index improved by 35.98% as compared to 2017 in Punjab. PAU is evaluating the new in-situ straw management machines like Super Seeder and is also working on development and refinement of new in-situ straw management machines.



Second speaker Dr. Rajbir Singh said that fertilizers worth Rs. 3300/ha are lost by burning of paddy straw in the field. He said that according to IFPRI, Rs. 2.1 lakh crore is lost in India due to crop residue burning. He said 250 villages were made zero crop residue burning

by KVKs in 2019. He highlighted some constraints in adoption of straw management machinery like high initial cost of machines, limited use of machines available with co-operative societies, high tractor power requirement and lack of skilled manpower. He said that work needs to be done on microbial consortia for faster degradation of paddy straw in the field, estimation of carbon build up in in-situ straw management techniques and refinement/modification in Happy seeder to increase its use per year.



Third speaker Dr. M L Jat thanked AMMA-India and the organizers to inviting him to the event and congratulated the organizers. He said that timeliness of operation is a very important factor in farming system especially from climate change point of view. There is a need to document the role of farm machinery in food grain production of the country. Farmers with small land holding need suitable machinery and manufacturers can play a role in this regard. The future policy on crop residue management should aim at sustainable rice-wheat production system. Farmers needs to be compensated according to the practice adopted for straw management instead of subsidy on machinery so that farmer can choose the right technology by himself.

During question-answer session one question was raised regarding the performance results of Super seeder and a new capsule developed by IARI for straw decomposition. Dr. Manjeet Singh replied that in 2018, trials of Super seeder were held on 3 locations on a limited area. The machine needed tractor of 55 hp or above. The germination of crop sown with Super seeder was uneven but yield was at par with Happy

seeder sown crop. Further Dr. Manjeet replied that decomposition of paddy straw is still not under 35-40 days and PAU is conducting its own trials. On this Dr. Jat commented that cost of operation of Super seeder will be more than Happy seeder. He said that research need to be conducted on fertilizer requirement with Super seeder and other aspects like weed matter etc.

Chairman Dr. B S Sidhu commented that subsidy has been provided on limited number of Super seeder machines and based on results of exhaustive research trials; govt. will take decision on its recommendation.



Another question was raised about issues of pest infestation in Happy seeder sown crop and asked about its status. Dr. Manjeet Singh replied that pink stem borer is carried over from paddy crop with paddy straw. He said in cases where Roto drills were used, the environment was favorable for pink stem borer in early sown crops. The incidence of pink stem borer and army worm was very limited in Happy seeder sown crop. Dr. Jat added that incidence of pest attacks is also reported in fields where crop residue was burnt. So, Happy seeder technology has no negative role in pest infestation. He said that pink stem borer should be managed in paddy crop itself.

Mr. Gurmail Singh, M/s Droli Mech. Works, Moga said that he had visited China and saw a combine harvester that was simultaneously bailing loose straw combine out of combine. He said these combines need to be evaluated. Dr. Manjeet Singh replied that those are called Head feed combines. Their capacity is less and is costlier as compared to combines available in India and those only work for paddy crop.

Mr. Baldev Singh, M/s Amar Agril. Implements, Ludhiana said that subsidy procedure is difficult and different in every state. A lot of capital money of manufacturers is invested for availing subsidy in different states. He said that there is a need for one-point subsidy approval at the center level. He also said that farmers need to be compensated for the process he adopts for residue management.



Dr. Sidhu said that direct benefit transfer to farmers will soon be implemented for procurement of farm machinery. He emphasized on the need to training of operating farm machinery especially to operators of co-operative societies. He said that manufacturers can play a huge role in this regard in collaboration with SAUs and state govts. In the end he said that with collective efforts of all stakeholder's issue of crop residue management can be handled in coming future.

The following major recommendations emerged from deliberations held during the session:

1. Capacity building of stockholders through awareness, trainings for proper machinery use, repair and maintenance of machines is needed. Machinery manufacturers may collaborate with SAUs/State govt. agencies in providing training/awareness.
2. Package of practice for rice-wheat system under in-situ rice straw management conditions need to be standardized.
3. New machines being introduced by manufacturers/universities should be

evaluated properly before their recommendation to the farmers.

4. There is a need to promote custom hiring centers being owned by entrepreneurs having adequate technical and business skill to make the technology available at affordable prices. Efforts are needed to enhance the use of machines available with co-operative societies.
5. The govt. should continue its support to in-situ crop residue management programme for sustainable rice-wheat production system.
6. The procedure of subsidy programme must be simplified and a single point approval center must be created.



The session ended with the Chairman remarks and felicitation of Chairman, Co-Chairman and speakers. The vote of thanks was proposed by Mr. Baldev Singh, M/s Amar Agril. Implements, Ludhiana.



Concluding Session

Sh. Baldev Singh Founder President AMMA-India and proprietor Amar Thresher welcomed the dignitaries on the dais. He told the purpose behind Ist India Agri Progress Expo was that B to B link was missing. Now the quality and finishing are improving and there is still scope for further improvement. He said that MSME is providing subsidy of Rs. 30000/- per stall for participation in exhibition and complimentary stay is also provided to the dealers. The total covered area for exhibition is 50,000 sq. meter. Total 100 Exhibitors participated in the Expo. 87 Exhibition are from Punjab and 13 are from other states. The exhibition included Farm Machinery, ancillary units providing agriculture machinery parts and dairy processing equipment and small hand tools.

Er. Manmohan Kaila, Joint Director Agriculture (Engineering), Punjab told about the agricultural mechanization policy in state of Punjab. He emphasized the Contribution of PAU in machinery development. He told that manufactures should concentrate on the main product. He told that If any part of the machine is failed in the field, it causes set back to technology and the extension functionaries to face the problems in field. Now there is need of Precision machinery for sowing and planting.

Dr. Ashok Kumar, Dean, College of Agricultural Engineering and Technology, PAU, Ludhiana appreciated the effort and exhibition. He told that at national level 45% of machinery is from Punjab. He assures that PAU and College of Agricultural Engineering and Technology will always provide help to the manufactures/industry.



Padam Shri Dr. Baldev Singh Dhillon, Vice Chancellor, PAU, Ludhiana told that it was a good initiative by All India Agricultural Machinery Manufacturer Association, Punjab State Agricultural Implements Manufacturers Association & All India combine Manufacturer Association. He said the role of farm machinery in Green Revolution and the productivity has increased. The other states are following the road map set by Punjab. He told precision Agriculture, sensor-based technology, robots and drones in Agriculture is the future farming. He told about the processing is the need of hour. In India, co-operative systems to be followed as 86% farmers are small (< 5 acres land holding). The industry should come forward for awareness among farmers. The quality of machinery should not be compromised. There is scope of agriculture machinery in East Africa as it has the same climate as Punjab.

Dr B.M Sharma, Assistant Managing Director, MARKFED told about the role & need of cooperative movement. He said the agricultural machinery to be available on rent like Uber/Ola on hire basis. Sh. Manjit Singh Nain, Joint Director Agriculture (QC) told about the need of quality of machinery. He also cautioned that some manufacturers are supplying inferior machinery to the farmers that result in failing of technology.

Sh. Sarabjeet Singh Panesar, Secretary, AMMA-India and Chairman AMMA-India EPTF and proprietor Landforce Dasmesh Amargarh told about the *Agriculture Machinery app*. He told at present 3000 customer hiring farmers are registered on this application. The farmer gets agricultural implement on hire within 10 km area. This app should be popularized among the farmers.

Sh. Harmail Singh, President PSAIMA proposed vote of thanks.