



The Agrievolution Alliance, representing over 6,000 agriculture machinery manufacturers worldwide, calls on the UN Food Systems Summit to mainstream Sustainable Agriculture Mechanization worldwide.

UN Food Systems Summit:  
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Agrievolution, the global voice for agriculture equipment manufacturers, is made up of 14 agriculture equipment manufacturing associations and organizations. Our mission is to support our collective 6000+ agriculture equipment manufacturing members around the world, working to **promote the benefits of mechanization in global sustainable agriculture.**

Agrievolution calls on heads of state and decision-makers convened for the United Nations Food Systems Summit to mainstream Sustainable Agricultural Mechanization in global food systems to achieve the 2030 UN Sustainable Development Goals.

The United Nations' Food and Agriculture Organization (FAO) estimates that between 720 and 811 million people in the world faced hunger in 2020 – as many as 161 million more than in 2019 – with nearly 2.37 billion people not having access to adequate food. According to the FAO's SOFI 2021 report, the COVID-19 pandemic continues to expose weaknesses in our food systems, which threaten the lives and livelihoods of people around the world. Achieving the Sustainable Development Goal of Zero Hunger by 2030 remains an immense challenge.

Feeding an ever-larger population while at the same time addressing sustainability targets and associated objectives that include reductions of greenhouse gases, maintenance of biodiversity and better water management can only be achieved using mechanization.

#### How mechanization can support sustainable agriculture

There is a pressing need to increase global food production to feed the growing, and increasingly urban, global population. Agricultural production must increase 70% by 2050 at a global level, according to FAO's figures. Mechanization is key to meeting these challenges.

Tailored, inclusive, and integrated approaches to agricultural mechanization can make a real difference in increasing the welfare of farm households and create positive dynamics and opportunities for economic growth in rural areas.

Members of Agrievolution all share the common goal of promoting the benefits of mechanization for sustainable agriculture to meet the global challenge of feeding the population in a safe healthy manner. The following statements by representative members of the Agrievolution Alliance illustrate the importance of sustainable mechanization practices from regions around the world.



#### [AEM](#) - Association of Equipment Manufacturers, USA

Use of technologies such as auto guidance, variable rate planting, equipment section controls and precision irrigation in the US are proven to have substantially increased yields, while reducing the use of inputs and fossil fuels. Full adoption of these technologies make long term agriculture sustainability gains attainable with the following projected annual results in the US:

- Production could increase a further 6% from 1.43 trillion lbs. to 1.52 trillion lbs.
- Fertilizer use could reduce an additional 14% from 40 billion lbs. to 34 billion lbs.
- Herbicide use could reduce another 15% from 313 million lbs. to 265 million lbs.
- Fossil fuels could be reduced by a further 16% from 1.9 billion to 1.6 billion gallons
- Water use could be reduced by 21% from 11.3 trillion gallons to 8.9 trillion gallons



#### [ANSEMAT](#) - National Association for Agricultural, Forestry and Landscaping Machinery, Spain

Agriculture machinery needs to be considered as a tool to develop agriculture according to social and economic approaches. The zero-hunger goal cannot be achieved only by providing food to those who are starving, but by improving all the links in the agri chain, improving infrastructures and fostering hire services. Manufacturers need to provide training and support to customers that facilitate employment creation. It is a proven fact that vocational courses as well as educational programs help rural youth to find a job, but this training should not be focused only on technical aspects. Women involvement must be a priority in extension services, organizational activities and managing.

Environmental preservation is a top priority for agriculture machinery manufacturers. Manufacturers must provide technologies that minimize soil loss and get the same levels of production by reducing irrigation or by taking care of the soil structure in order to minimize water runoff. Agriculture machines are responsible for implementing other technologies and distributing inputs in the field, namely seeds, fertilizers and plant-protection products. Our industry must place those inputs in such a way that expected yields and quality are achieved; and must ensure that no damage is caused to soils, water reservoirs and any plants or animals

while operating the machinery. Obviously, air quality is another important element to protect, and there shall not be any negative spillovers from the use of self-propelled machines. Levels of exhaust emissions are reduced every year, and fuel consumption and energy efficiency are continuously improved.



**AXEMA** - Association for Industrial Agricultural Equipment, France

Development in France is mainly oriented towards that of robotics for agriculture as well as decision support tools.

Digital technology and robotics allow, in addition to precision technologies, to provide for substantial reductions in crop inputs such as plant protection products, fertilizers which can be estimated in the different target plants at 15 to 20% on average.



**FEDERUNACOMA** - Italian Farm Machinery Manufacturers Association

The electronic systems adopted in precision agriculture allow an average saving of 25-30% depending on the crop concerned on the use of treated seeds, fertilizers, and plant protection products with environmental and financial benefits. Equally relevant is the positive impact in terms of water saving due to the application of variable rate precision irrigation using technologies applied to irrigation or auxiliary machines (such as drones and sensors). Indeed, the knowledge of the differences of soil, humidity and state of the crop allows to intervene in a differentiated manner by decreasing the contributions of water (on average 25%) and at the same time improving yields per hectare (between 10 and 20% depending on the crop concerned).

As far as agronomic techniques are concerned, an example of practice that would allow to contain the CO<sub>2</sub> emissions into the atmosphere is given by the so-called "no till" (tillage), which would affect an average reduction per hectare of just over 1,500 kg of CO<sub>2</sub>, due to a lack of preparation of the soil and a lack of inversion of the surface layers. Potentially applied to our territory of about 5 million hectares would allow a lower emission of about 7.6 million tons of CO<sub>2</sub> per year.

It should be remembered that precision agriculture, through technologies that have long been accessible, such as for example those for the control of fertilization and seed distribution, and more complex technologies, such as those based on maps that can be used, for example, for electronic dose regulation of chemical product in the treatments, allows us to increase the efficiency of production processes from a perspective of cost minimization and environmental protection. Precision agriculture is only one component of Agriculture 4.0, whose cornerstones - automation, "cloud computing" and networks (data transmission, modeling, telecommunication,

etc.)- are all integrated with each other and aimed at improving yield and the sustainability of agricultural activity.



**FICCI** - Federation of Indian Chambers of Commerce and Industry

Governments across the world are trying to focus on increasing food productivity. The demand for agricultural equipment with modern technology is expected to rise, as machinery with better technology will act as a catalyst for optimal utilisation of Agri-Inputs (Seed, Pesticides, Fertiliser, Power, Water) and protect soil degradation thereby increasing the agricultural yield. Adoption of appropriate Precision and AI in mechanisation of farm operations and Farm to Fork can reduce food waste and thereby improve farm productivity and utilisation of farmers funds, increasing their yields.



**TARMAK BİR** - Turkish Association of Agricultural Machinery & Equipment Manufacturers

Similar to other developed countries in agriculture, the yield of agricultural production per area in Turkey is remarkably high thanks to advanced mechanization tools. For example, the average milk production in traditional dairy farms in Turkey is between 18 and 22 kg per day, while the output in more professional farms ranges from 28 to 32 kg. In one modern farm in Turkey using precision agriculture technologies, the average production is 40 kg. While the average maize yield in Turkey is about 1 ton per decare, the yield of this farm using precision agriculture technologies is over 2 tons. As for wheat silage production, the average wheat silage yield nationwide is 1,300 kg, while the yield of the same farm is 3,500 kg. Therefore, it is crucial for productivity to work with modern methods and use the latest agricultural technology. For more efficient production, there is only one thing: using the latest agricultural mechanization tools and precision/smart agriculture technologies, supported by biotechnological innovations.

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Manufacturers of Agricultural Machinery represented by the Agrievolution Alliance provide farming equipment to serve the needs of farmers of all sizes, of all types of farming, and of all geographies, according to the applicable conditions and opportunities. This ranges from the simplest mechanical implement to the most complex smart farming system fully leveraging precision agriculture, automation, data and artificial intelligence. From seeding to harvesting and livestock management, mechanization and technology are part of any solution for sustainable global food systems able to feed 10 billion people by 2050.

Mechanization in its broadest sense has great potential to increase productivity and improve livelihoods along the full agri-food value chain. This includes post-harvest operations such as

storage and processing. It can also include food processing from simple packing of fresh produce for supermarket chains to more industrial type processing.

Agrievolution respectfully calls on world leaders to mainstream Sustainable Agriculture Mechanization for men and women in global food systems as a key enabler in achieving the Sustainable Development Goal of Zero Hunger by 2030. The proceedings and outcome of the 2021 Food Systems Summit must acknowledge and support the role of Agriculture Mechanization to achieve the 2030 UN Sustainable Development Goals, leveraging efficiency, productivity, and innovation in agriculture and food supply chains towards enough safe, nutritious and affordable food for people around the world.

### **About Agrievolution**

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