

## **Product allocation and licensing of CIMMYT derived elite maize hybrids in sub-Saharan Africa**

Background: CIMMYT granted 23 licenses through Limited Exclusivity Agreements in 2017 to commercialize hybrids in sub-Saharan Africa (SSA). Each license is granted to one partner institution for one or more hybrid varieties across one or more countries and affords the partner the right to sublicense. The licenses were granted pursuant to a [call](#) for applications, open to both public and private sector institutions. The performance data of the hybrids is summarized and released in the public domain. Based on the product allocation applications received from interested institutions, CIMMYT uses a standard product allocation process involving a set of robust criteria<sup>1</sup>. For example, for the licenses reported for 2017, 78% granted commercialization rights to three or four hybrids each. Approximately 17% of the product licenses during the last four years (2014 – 2017) were provided to public sector institutions and parastatals, while 73% were private seed companies.

Potential benefit to smallholder farmers: The arrangements are designed to ensure that hybrid varieties with superior agronomic performance, especially in stress-prone environments in SSA, are made available to smallholder farmers. The hybrid varieties in these instances include the following agronomic traits which are particularly beneficial to smallholder farmers in SSA: higher yield stability, tolerance to abiotic stresses (eg: drought, heat, and low soil nitrogen), resistance to major diseases (eg: maize lethal necrosis, gray leaf spot, maize streak virus, turicum leaf blight, ear rots, etc.), nutritional quality (eg: QPM, provitamin A), and other relevant end-user traits that are valued by farmers and consumers.

Key rationale for maximizing global accessibility and impact: Exclusive licensing for a limited period and geographic scope is required to incentivize commercial partners to invest the funds required to release, multiply, and commercialize improved hybrids and undertake appropriate quality control. It is beyond the ability of CIMMYT to evaluate the performance of the materials in multiple different sites in many different countries under range of different conditions. This approach creates incentives for range of organizations to undertake the evaluations and share the data back with CIMMYT which is critical for further development of the technologies concerned.

By allocating a substantive number of genetically diverse hybrids to different seed producers, every licensee has an incentive to invest in its individual portfolio. The approach particularly helps smaller- and medium-sized seed companies that cannot afford their own breeding programs, thereby enabling a wider range of development partners, especially seed companies, to deploy genetically diverse, elite hybrid varieties to farmers in multiple agroecologies.

Dissemination strategy, including global access and communications plans: In most cases, licenses are granted for an initial five-year period and further renewed for an additional five years if CIMMYT considers there to be sufficient evidence or potential to reach target beneficiaries. There are numerous reasons why a seed company may not be able to release or scale-out a certain hybrid, or why a particular hybrid may not succeed in the marketplace. In order to maximize the number of hybrids successfully making their way to farmers' fields, the focus of the product allocation process is on

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<sup>1</sup> Including but not limited to: (i) investment by the applicant in variety testing and seed production; (ii) likelihood that seed will become widely available to smallholder farmers; (iii) likelihood that seed will become widely available as soon as possible; (iv) diversity among suppliers; (v) diversity of regions where the variety will be marketed; (vi) track record as a CIMMYT collaborator; (vii) relative importance of a variety for the variety portfolio or success of an applicant.

allocating easy-to-produce, elite, stress resilient hybrids to institutions/companies with a proven record of successfully scaling up new hybrids, while also ensuring that each new partner also is given a fair opportunity to demonstrate its abilities. The scheme deliberately focuses on allocating hybrids to a broad range of seed companies even though they may have different scale-up capacities to ensure diversity in the marketplace.

CIMMYT hybrid allocation is thus dependent on demand from partners: if a collaborator/partner does not seek allocation of a product, it is not given. Hence, some countries may lose the opportunity if no interested parties request the right to commercialize a CIMMYT hybrid. CIMMYT works with the national agricultural research system and seed companies to strengthen their ability to register new CIMMYT-derived varieties and to successfully release and deploy these varieties in target geographies. Licensees enter their allocated hybrids in the National Performance Trials and register them pursuant to the applicable country laws and regulations.

Under the commercialization licensing arrangement, the licensees can use their own names and brands for their hybrid(s); however, since 2018, CIMMYT has introduced a varietal identification number (VIN) to each of the licenses maize hybrids. The VIN must be displayed by the licensee on each of the certified seed packets/bags. The company is permitted to give its own brand name to the released hybrid. The VIN adds an extra layer of security to confidential and commercially sensitive pedigree information and enables the seed company that has registered a CIMMYT derived hybrid to trade seed in a group of countries (EG: COMESA, SADC, etc.) after the variety is entered in a regional variety catalogue. It also enables CIMMYT to effectively track the global diffusion, adoption, and impact of CIMMYT derived varieties. Moreover, the VIN system enables the regulators to track the diversity among the varieties released within each country, even when marked by different companies (eg: sublicensees) under different brand names.

Following the CGIAR IA Principles, all the parental lines of CIMMYT derived maize hybrids, including those licensed, remain available for unrestricted research, breeding, and capacity development, either in the form of CIMMYT Maize Lines or as Plant Genetic Resources under Development. Research and emergency use exemptions for the hybrids are also built into the licensing agreements. CIMMYT's public communications concerning these arrangements relate to its generic product allocation process explained on its website and hybrid performance data within each product [announcement](#).