

Emerging trends in genetics and strain development



The search for specific therapeutic effects is one of the most intriguing trends in cannabis genetics, writes **Thomas Walker**.

Genetic and strain development improvements are driving a significant revolution in the cannabis production industry. Now that we have a thorough understanding of cannabinoids, terpenes, and their complex interactions, the days of making simplistic distinctions between indica and sativa are long gone. Cannabis breeders are using the power of genetics to create strains with specific profiles, customised to satisfy diverse therapeutic requirements and consumer tastes as study into the plant's genetics deepens and technology advances.

The two primary species of cannabis, indica and sativa, were traditionally used to categorise strains. This classification, though, was unable to adequately convey the intricacy of the plant's chemical composition and effects.

The study of terpenes and cannabinoids, which are the molecules in charge of the plant's various effects and fragrances, is now the main objective. Terpenes like myrcene, limonene and pinene, as well as cannabinoids like CBD, THC, CBG and CBN, are crucial in determining a strain's special characteristics.

TREATING PARTICULAR AILMENTS

Breeders are developing strains to treat particular medical ailments as our knowledge of the endocannabinoid system expands. For example, high-CBD strains are becoming more popular because of their conceivably beneficial anti-inflammatory, anti-anxiety, and anti-seizure effects. Similar to this, strains with high amounts of CBG are being investigated for their potential to have anti-cancer and neuroprotective properties. Customisation is the key to targeted

therapies. There are more than a hundred cannabinoids and terpenes found in cannabis. These substances each provide a distinct contribution to the actions of the plant.

Healthcare providers can create a treatment plan that best utilises cannabis's therapeutic potential by considering a patient's medical history, genetic composition, and particular symptoms.

MINOR CANNABINOID EXPLORATION

Less well-known cannabinoids, including CBG, CBN and THCV, are drawing attention, despite the fact that THC and CBD have historically dominated the discussion. It is thought that these minor cannabinoids have particular medicinal benefits. In order to offer a wider range of advantages, breeders are striving to create strains with higher concentrations of the minor cannabinoids.

THE COMING YEARS HOLD PROMISE FOR A WIDE VARIETY OF STRAINS THAT WILL MEET DIFFERENT DEMANDS

Growing interest in conserving and honouring the cannabis plant's rich cultural legacy is a result of the cannabis industry's development. Landrace strains, which are native to particular areas, have a tremendous amount of genetic variation. In order to uphold tradition and to capitalise on distinctive genetic features that might have been lost due to hybridisation, some breeders are putting their efforts into developing and preserving these strains.

INNOVATIVE BREEDING TECHNIQUES

Technology advancements have an impact on strain development as well. Plants are chosen using traditional breeding techniques based on discernible characteristics. Breeders can now, however, pinpoint individual genes linked to desired qualities thanks to contemporary techniques like marker-assisted breeding and genomic mapping. This accuracy quickens the breeding process and raises the possibility of creating strains with predictable and focused effects.

COLLABORATION AND SHARING

The competitive secrecy of the cannabis sector is giving way to co-operative knowledge sharing. Breeders are becoming more and more aware of the benefits of working together with other experts to share knowledge, pool resources, and hasten genetic advancements. Breeders can now access and contribute to a shared genetic database thanks to the emergence of open-source genomics platforms.

CONCLUSION

A revolution is currently taking place in the field of cannabis genetics and strain development. The potential for developing new and highly specialised cannabis strains is limitless as science, technology and collaboration come together.

The coming years hold promise for a wide variety of strains that will meet different demands while preserving the plant's rich history. *Thomas Walker is the founder of Walker Cultivation, a consulting firm specialising in commercial cannabis production. Email him at thomas@walkercultivation.com. Subject line: Cannabis post. FW*