



Grower Opportunity Zones for Seed Production

A cornerstone of coexistence of genetically enhanced (GE), conventional and Adventitious Presence Sensitive (APS) alfalfa seed markets is the use of spacial isolation to mitigate gene flow in seed production. This will be greatly facilitated by tools that help segregate and concentrate seed production destined for various markets. This can be accomplished by a number of means, including:

- 1) NAFA *Best Management Practices for Roundup Ready Alfalfa Seed Production* (NAFA GE BMP), which mandates minimum isolation from conventional seed for new RRA seed production plantings.
- 2) NAFA *Best Management Practices for APS Alfalfa Seed Production* (NAFA APS BMP), adopted by NAFA for the production of APS seed production.
- 3) California Crop Improvement Association (CCIA) pinning map, which helps seed companies identify regions where GE and APS/Alfalfa Seed Stewardship Program (ASSP) plantings are being concentrated.
- 4) Grower Opportunity Zone (GOZ), grower driven zones concentrating either GE or APS production, excluding the other.

What is a Grower Opportunity Zone (GOZ)?

A GOZ is a seed grower defined geography within which a validated super-majority $\geq 80\%$ of alfalfa seed growers, or alfalfa seed growers representing $>80\%$ of the alfalfa seed production acres, elect to focus on the production of either APS or GE alfalfa seed (including RRA), facilitating meeting isolation requirements for these markets. In either GOZ, conventional AP-tolerant (APT) seed can be produced in accordance with the applicable NAFA Best Management Practices (BMP) for that GOZ. The formation of such GOZs facilitates seed production of GE and APS alfalfa seed, and thus allows the alfalfa seed industry to meet the demands of various markets. It is expected there will be market driven incentives for stakeholders that will encourage the formation of GOZs.

APS GOZ. This is a GOZ for seed production of APS alfalfa seed and conventional alfalfa seed. As outlined in NAFA Best Management Practices for Roundup Ready Seed Production, RRA seed production would not be practical in an APS GOZ and would be out of compliance with the NAFA Best Management Practices for Roundup Ready Seed Production.

GE GOZ. This is a GOZ for seed production of GE and conventional alfalfa seed that is destined for markets that are not APS. APS alfalfa seed production would not be practical in a GE GOZ. As outlined in NAFA Best Management Practices for Roundup Ready Seed Production, Association of Official Seed Certifying Agencies (AOSCA) certified seed production isolation requirements apply between GE and conventional seed within a GE GOZ. NAFA Best Management Practices for Roundup Ready Seed Production isolation requirements apply between a GE seed production field in a GE GOZ and the nearest conventional seed production field outside the GOZ border.

Why Grower Opportunity Zones (GOZs)?

The alfalfa seed industry in general will benefit from stewardship programs that facilitate coexistence. Segregating and concentrating production of GE vs. APS alfalfa seed via GOZs is such a program. There are challenges with seed companies unilaterally establishing such GOZs. First and foremost, such seed company action would undoubtedly upset countless seed growers who may be placed in a GOZ that might limit long term opportunity to produce seed for the highest value market. Secondly, any such action coordinated by two or more seed companies may not comply with Federal Anti-Trust law.

The GOZ concept is driven by market dynamics. If growers organize to form a GOZ, these growers and this GOZ becomes an attractive place for seed companies to produce GE or APS alfalfa seed. Individual seed companies may preferentially seek production contracts in GOZs. GOZs will provide clear benefits for seed companies and the alfalfa seed industry as a whole. GOZs are a primary tool and strategy for coexistence of GE and GE-sensitive markets.

How do Growers Organize a GOZ?

NAFA will officially recognize a GOZ based on a request by alfalfa seed growers in a specific geographic area. The area could be a county, or an area defined by specific roads/highways, rivers or other clearly defined boundaries. Upon receipt of a request for a GOZ by two or more growers, and for an area encompassing a minimum of 500 seed production acres, NAFA will notify its Class 2 members (Genetic Suppliers), the seed certification authority for the proposed GOZ, the local crop improvement association, and state seed commission or other appropriate organization, within two (2) business days to identify alfalfa seed growers in the proposed GOZ and facilitate a grower meeting

to vote on the request. In order to pass, a validated super-majority $\geq 80\%$ of alfalfa seed growers, or alfalfa seed growers representing $>80\%$ of the alfalfa seed production acres, must elect to focus on the production of either APS or GE alfalfa seed (including RRA).

Once a GOZ is certified, it will be placed on the CCIA pinning map, and listed on the NAFA website to alert alfalfa seed production companies of the opportunity.

Individual seed growers in a new GOZ will need to work with the seed companies with which they have ongoing seed production contracts to work on a transition plan for planting new seed production acres in the new GOZ.

How Long Does a GOZ Remain in Place?

Once a GOZ is formed, it stays in place until or unless the growers in the GOZ notify NAFA of their intent to change the status. Upon receipt of a request for a change in a GOZ by $>20\%$ of the alfalfa seed growers and acres, NAFA will facilitate a vote on the request for revalidation. Alfalfa seed contracts are typically three years in duration. Individual fields are in various stages in the life cycle of a contract. A change in status of an existing GE GOZ to a non-GOZ would immediately impose NAFA GE BMP requirements on all new seed production plantings in the GOZ. A change of status of an existing APS GOZ to a non-GOZ would impose NAFA GE BMP requirements on new seed production plantings in the area, however, the restriction on GE planting would continue for a period of three years. Multiple year seed production contracts and medium/long term production and rotation planning suggest that an efficient use of GOZ will require a multi-year grower commitment, which should be taken into account when GOZs are established or changed in the future.

How Will Seed Growers Coexist in Close Proximity to a GOZ?

Although the isolation requirements within a GE GOZ are governed by AOSCA Certified Seed standards, NAFA GE BMP govern the required isolation between a new GE seed production planting near the border of a GE GOZ and the closest conventional seed production field outside the GOZ border. Example: A GE GOZ is formed with a specific border defined. A grower outside of the GOZ plants conventional seed in close proximity to the border. The growers within the GOZ must adhere to the NAFA GE BMP on future plantings to protect the now existing grower outside of the GOZ.

What About Seed Production Not in a GOZ?

A significant amount of seed production will occur outside of a GOZ. This seed production will be managed consistent with current practices. This will include various combinations of the following: CCIA pinning map, inter-company communication, seed company contract requirements; AOSCA ASSP requirements; certified seed requirements; and, in the case of RRA, NAFA GE BMP.

REFERENCES

AOSCA. 2010. Association of Official Seed Certifying Agencies. <http://www.aosca.org>.

CCIA. 2008. California Crop Improvement Association. <http://www.ccia.ucdavis.edu>.

NAFA. 2008. National Alfalfa & Forage Alliance (NAFA), Best Management Practices for Roundup Ready Alfalfa Seed Production (January 22, 2008). <http://www.alfalfa.org/pdf/CSBMPForRRA.pdf>.

The National Alfalfa & Forage Alliance (NAFA) strongly supports the availability and continued use of biotechnology in agriculture. These advances will allow American farmers to effectively compete in the world market and will enable American farmers to supply abundant, safe, high quality food, fiber and renewable fuel desired by global consumers. NAFA acknowledges and respects different markets and methodologies of food, fiber and renewable fuel production. We believe that science based stewardship management practices allow for the coexistence of these different markets and methodologies in production agriculture. NAFA believes collaborative efforts among all stakeholders are required to develop methodologies that enable coexistence.

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