February 1, 2019

Oat Variety Selection from Variety Trial Results

Announcements

1. Technical difficulties – communications about small grains programs will only come from sarah@practicalfarmers.org or alisha@practicalfarmers.org if you receive any invitations or notices from another email address about shared learning calls assume that it is not trustworthy
2. Oat market opportunities
    a. Iowa Cover Crop – Jefferson, IA
    b. Oatly/Grain Millers – St Ansgar, IA
3. Remember to cut N and scout on corn & soy following small grain in the rotation
4. NEW Oat variety trial is on PFI website

Melanie Caffe – SDSU

1. Benefits of oat in a corn soybean rotation
    a. Help break pest cycles
    b. Good for the soil
    c. Spread out the workload
    d. Low input costs in oat year and lowers inputs in following years
    e. Risk management across crops
2. Variety
    a. Yield – test Jerry to show difference between the old varieties and the new genetics
    b. Test weights, lodging, disease resistance, pest resistance
    c. Consider the market end use → test weight will be very different between varieties and is needed for milling market. Talk to them ahead of time.
3. How do we choose from the trial info
    a. Will depend about the end use
    b. Mostly about milling
    c. Results vary by state and location due to adaptation to local conditions
    d. Include all the new releases and the experimental lines
    e. Looking at state trials – look whether they apply fungicides or not. This can change the ranking
    f. Use as much information as possible. Weight more the information that is close to your farm. But don't just look at the location next to your farm but look at the performance of the variety over many locations because it will indicate how well the variety will respond to different conditions.
    g. Look at the results of multiple years. For example when you have a year like 2018 that was quite different than you'd expect, if you looked at that you'd have a quite different expectation than a normal year.
    h. Most universities publish yearly results but also 3 and 4 year averages.
    i. Pay attention to statistical difference in yields, not just the yield number. That indicates the quality of the data and reliability of results. For CV under 15 is good and under 10 is very good.
    j. Test weight, lodging disease, milling quality all important

i. Oats can have different head color – yellow or white. Milling market doesn't matter if it's yellow or white. Some markets prefer white hulls. In SD they only do white oats
ii. SDSU and UMN provides info on milling quality and oil, beta glucan

k. Look at the three-year average to avoid weighing extreme years too much
l. Don't be afraid to reach out to breeding programs to learn more about varieties
    i. Grain yield & test weight is high priority; test weight is as important as yield
    ii. Lodging resistance and disease resistance → disease resistance breaks down over time as the varieties have been released.
    iii. Breeding for better milling quality
    iv. On forage, we don't measure value for forage potential, hope to do more testing on this next year.
m. Hayden
    i. High yield, yield stability
    ii. Combines high yield and high test weight
    iii. BYGD moderately resistant, Crown Rust moderately susceptible
    iv. Apply fungicide at flag leaf stage
    v. Forage feed or food market
n. Natty replaces Shelby 427
    i. High test weight and better yield than Shelby 427
    ii. Not super resistant to crown rust
    iii. Low in betaglucan so it's not the recommended list for the milling industry
o. Saddle replaces horsepower
    i. More
    ii. Acceptable for milling quality
p. Warrior
    i. mid-to late maturity
    ii. Good test weight, high yield
    iii. Resistant to corn rust
    iv. Milling quality acceptable
q. Goliath
    i. Forage → biggest biomass
    ii. Hayden also works for forage
r. Deon
    i. Good high-yielding variety with corn rust resistance

4. Do application of fungicide at flag leaf
5. If the variety is limited in test weight you can put the fan higher on your combine to try to
6. Get certified seed – guarantee that you're planting the proper variety. Most university varieties are PVP. Can plant for your own use, but can't sell them. So that we send resources back into breeding programs.

Q & A

7. Who is producing Warrior?
    a. It's only at foundation level now, not certified yet

    b. ND120419 was the test line on warrior
8. Saddle and sumo are commercially available?
    a. Saddle and Hayden are
    b. Sumo is bred for organic
9. How do you select on different maturity varieties?
    a. Earlier maturity varieties mature before it gets very hot and affects grain fill. The earlier variety are better in more of the southern parts and where it is more hot. But there are some years where you think it would do best, it's more favorable to late maturity variety. Last few years, later performing varieties have been performing better. Plant enough acres and plant two varieties. I would suggest planting one with earlier maturity and one with later maturity. For example, in South Dakota the western part of the state I know farmers will want to plant early maturity because they know from experience that earlier will do better. A lot of farmers who are using oat as a companion crop to establish clover or alfalfa may choose an earlier variety. To get it off the field sooner and they are shorter and have less leaf area.
10. What's the first thing you should be screening for when you look at varieties?
    a. Test weight is very important
    b. This year we have tested Camden, it yields very high but the test weight is really low. So I would not grow it unless you have a contract where they don't care about test weight
    c. Lodging is very important
    d. Disease resistance is very important if you're organic or trying to avoid spraying. Also plan for a fungicide if you're planting a low resistance variety
11. Does anyone direct feedback from the farmers?
    a. PFI is working on it! New SARE grant will create decision tool based on zip code and then farmers will trial varieties on their farms.
12. Management tips for oats?
    a. Plant as early as possible
    b. 28 seeds per square foot
    c. Use the thousand seed weight because of difference between varieties
    d. Total N about 90 lbs/acre, too high and you'll get lodging
    e. P & K look at soil test and follow the recommendations
13. What about varieties for producing cover crop seed?
    a. The way it is produced is more important than the variety if you're going to sell it for cover crop seed. Managing for disease to maintain germ and harvesting quickly without sprouting.
    b. Not a lot of data on difference in the varieties for use as a cover crop.
    c. "Pick and roll days" of 1990s of government set-asides for land. Lots of oat seed that was really crappy quality, mixture of winter and spring oat and wild oats and highly susceptible to smut. Several farmers got down on oats. Look for good quality oat seed to use as a cover crop or you're just going to be creating a problem.
14. If you can't change the variety but you have to plant later?
    a. You should increase the seeding rate. Last year we had very late planting. One location planted in May actually had the highest yield.
15. Is anyone doing no-till oats after soybeans?

a. Wade – we no-till into bean stubble and it's fine. IN the spring you can either go and till a field or go and drill the field in the window we get. It's fine as long as the drill is set right.
b. Can you mix in the alfalfa or clover seed? Wade – I put it in one pass yes, in the second box. It's supposed to go into the double disc opener but it flails the faster I go so I try to keep my speed down. If I want to establish a good hay crop I'll go back over it with a cultipacker or roller to get good seed to soil contact. Knocks rocks back down so that you don't have it going into a low mow hay cutting or a low combine setting.
c. A lot of the trials in south Dakota are done on no-till. The yield does not impact the yield to do no-till. Would you take the seeding rate any higher? No, recommend the same seeding rate.
d. 80 lbs/acre. COUNT the thousand count and weight
e. PFI put together a good booklet on seeding rates for populations – include in blog.