Pask Farms Ltd.
Box 40
Atwater, SK
SOA OCO

Phone:
306-745-2571
Fax:
306-745-2564

INSIDE THIS ISSUE

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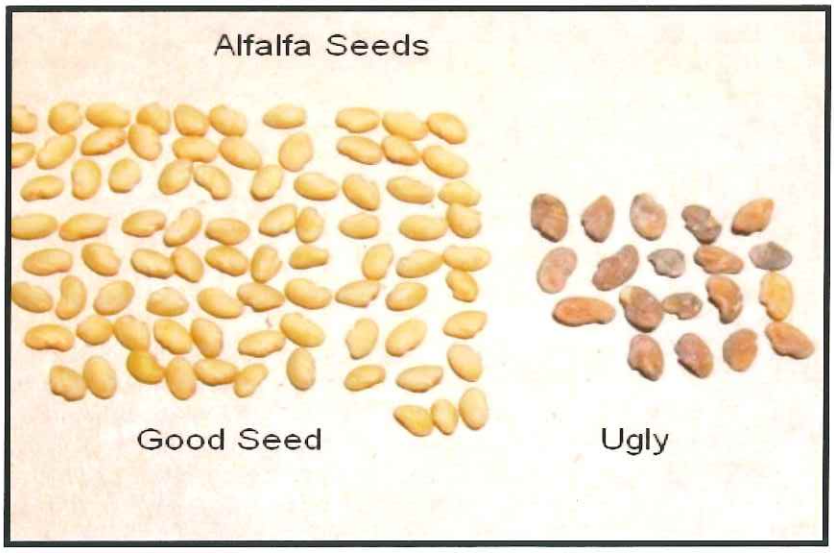
Pask Farms Ltd.

Understanding and Lowering Dockage

• craig@paskfarms.com • murray@paskfarms.com

What is Dockage?

Dockage is simply the stuff you have in your seed, that your customer doesn't want to plant in his field. "The stuff in your seed" is weeds and other crop that are similar sized to alfalfa seed. "What your customer doesn't want" depends on how fussy he is, and what the regulations in his part of the world will tolerate. For example, a hay grower in Saskatchewan may not care about a few cleavers in the alfalfa seed he plants, but the Canadian regulations do not allow any cleavers in Certified or Common #1 grades. Keep in mind that your customer is planting seed to grow, and it must germinate. Tough alfalfa seed that starts heating in storage will have poor germination.



We've come through two wet years with poor yielding alfalfa seed crops. Unfortunately when alfalfa yields poor, the weeds and volunteer crops seem to produce more seeds than ever. Plus, each year farmers – your customers – get more particular about what they are planting in their fields. This means the seed coming in has more "bad stuff" than usual, and the customer thinks the seed he plants should be pure seed. To make matters worse, the alfalfa seeds these last two years haven't been the nice, plumb, smooth, heavy yellow seeds we grow in good years. They are thinner, shrunken, twisted, tan color, and some of them don't germinate, or produce "abnormal seedlings" which don't count on a germination test. Even more dockage!

Separating good alfalfa seed from everything else isn't a perfect science. Seeds are separated by length, width, weight, seed coat roughness, round seeds from flat seeds. Many of the weeds and volunteer crops have seeds very similar to alfalfa seeds. **Removing all or most of the bad seeds invariably means some alfalfa seeds get removed as well and end up as more dockage.**

Different Weeds for Different People:

Alfalfa seed is traded across the world. Each market place has different ideas about what they will tolerate in "clean" seed. For example, Canada and the USA consider Canada thistle is a very bad weed, so they don't want any Canada thistle seeds in their alfalfa seed. Europe doesn't mind Canada thistle, so we can have a fair amount of Canada thistle in seed going to Europe. BUT, Europe doesn't tolerate any RR canola, so all the canola must be cleaned out of alfalfa going to Europe. It seems that each market has a zero tolerance on one or more weeds.

Don't ship any cleavers to New York, Ohio can't stand kochia, Montana doesn't like dock, and Illinois thinks canola is wild mustard.

If a company is selling all across the USA, they will ask for "all states noxious free" which effectively means it must be pretty clean seed.

Even if the seed is only going to one market, by the time you clean out the weed they don't want, most of the other weeds are cleaned out as well.

More Dockage!

UNDERSTANDING AND LOWERING DOCKAGE 2012

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Contract Dockage vs. Common Seed Dockage:

A common question is "Will my dockage be higher on my contract seed than my open market common seed?" It depends on the quality stated in your production contract, and what you have in your seed. If the seed is a certified variety that is contracted to a market that doesn't want the particular weed that you have, then your dockage will be higher. From a grower perspective, knowing how clean the final product needs to be, and what is allowed in the final clean seed, gives you an indication of what weeds and volunteer crops will increase your dockage.

Ancient Wisdom:

To thy corn fields thou dost go,
Which, though well soiled, yet thou dost know
That the best compost for the lands
Is the wise master's feet and hands
Herrick – written in 1648

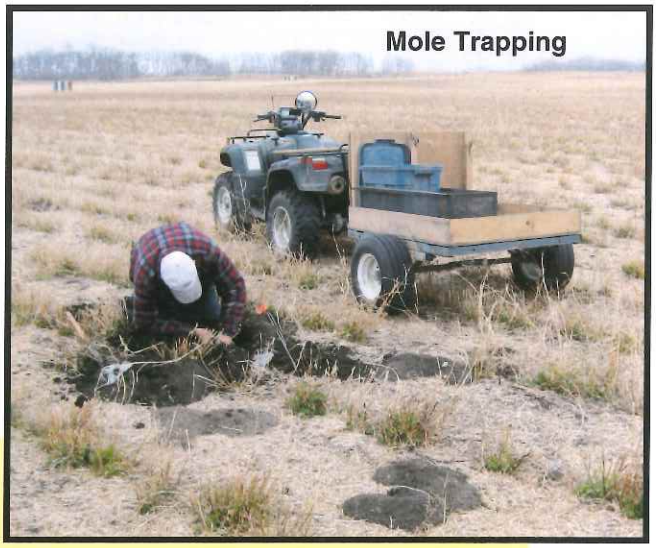
Modern Translation:

The best thing to put on your field is your footprints

Weeds, Other Crops, and Things That Increase Your Dockage:

The "rough" seed you deliver usually contains un-threshed alfalfa pods, wild oats, grain, small stones, dirt and dust which are easily removed from the seed. It is the similar sized weeds and other crop seeds that cause most of the higher dockage problems. Occasionally the alfalfa seed gets smeared with dirt from mole hills, and the dirt sticking to the alfalfa can cause major cleaning problems.

Controlling moles is an entirely different problem from controlling weeds. The currently acceptable control methods for moles all involve a significant amount of hand labor.


Mole Trapping

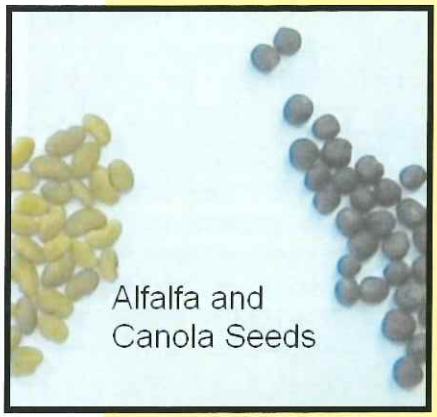
Controlling volunteer crops and weeds in alfalfa seed involves significant expense and isn't as easy as your neighbors think.

The crop and weed seed pictures that follow show how many of our common weeds have seeds very similar to alfalfa seed.

Other Crops:

The term "other crop" refers to seeds of other plants that are grown as crops. Things like wheat and barley aren't issues, but the presence of other crops like canola and clovers can really increase your dockage.

Canola: This can be a dockage killer, depending on how much canola your customer will tolerate in the seed he plants. Odyssey, Pursuit, Pardner and Velpar are fairly effective on canola. Don't forget to get the canola out of all your harvesting equipment before you pull into the alfalfa seed. An 8" auger left full of canola prior to loading alfalfa can really increase your dockage.


Alfalfa and Canola Seeds

Sweet clover: We see the sweet clover bells, but the threshed seed is virtually identical to alfalfa seed. Most markets have tight tolerances on how much sweet clover they will accept. A couple of applications of Pardner during the establishment year will help control sweet clover seedlings. Getting the school football team and pulling them out works well on lighter infestations. Pardner applied on hot days to flowering alfalfa can severely wilt the sweet clover. Sometimes a second application may be needed. Pardner can also damage the alfalfa seed crop, so this can be dangerous territory.


Alfalfa and sweet clover bells with a few seeds

Red clover and alsike clover: It seems if clover has been grown on a field in the last 50 years, it all volunteers the year you plant the field to alfalfa seed. Some growers have had some luck controlling volunteer clovers with various mixtures of Simazine and Velpar.

Black medic: This annual crop produces seeds almost identical to alfalfa, perhaps just a bit smaller. Velpar seems to work well on this for us.

Weeds:

Canada thistle: The best thing is not to have any Canada thistle when you plant the field. Embutox and Troputox can be pretty effective on seedling thistles in the establishment year, but can be very hard on seed yields in a seed year. People have had Canada thistle suppression with various applications/mixes of Pursuit,Solo, Pardner, Basagran and Velpar in seed years, but control can be spotty.

Cleavers: This weed is developing quite a tolerance to Pursuit, Odyssey and Solo. It continues to be a real problem in alfalfa seed destined for Canada, and much of the USA market. You can clean most of it out, but quite a bit of alfalfa seed can end up in the dockage trying to get the last few cleavers. Annual applications of Velpar seem to control cleavers.

White Cockle and Night Flowering Catchfly: These two weeds are closely related, and the seeds are very similar. Velpar has given us good control on catchfly, but we've seen a few white cockle escapes on Velpar fields.

Kochia: This annual weed likes salty soil and no competition. Light spring cultivation and/or burning is hard on the early seedlings. It has numerous flushes in the spring, so two or more applications of Pardner on the patches may be necessary to get season long control. Velpar has very little effect on kochia.

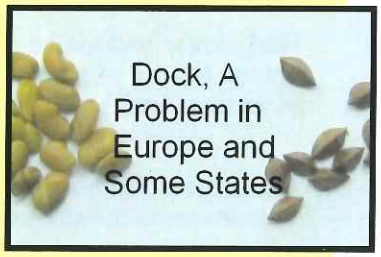
Lamb's-quarters and Red-root Pigweed: These weeds show up in almost everyone's seed. Not a big issue in any market.

American Dragonhead: As you can seed, this is a wicked separation, and can really increase your dockage. So far Pursuit, Odessey, Solo has given us pretty good control on this plus hemp nettle.

Russian Pigweed: This weed is considered the toughest cleanout in alfalfa seed. We see it in the fence lines, but not in our crop. We must be getting control from our Velpar, as well as the Pursuit chemicals. Pardner may work on it as well. We don't see a lot of Russian pigweed any more, but it is the hardest separation and can cause the most dockage.

Green foxtail: The hulled version of this weed seed causes dockage problems. Occasionally we will tank mix a grassy weed killer with early bug spray to control late germinating green foxtail and wild oats.

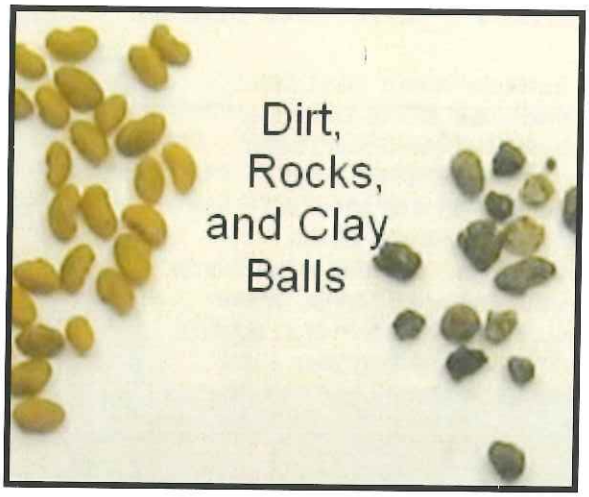
Lady's Thumb or Smartweed: It likes wet areas with less competition. Velpar works fairly well on it for us. It is a bit bigger than alfalfa, but the smaller seeds cause all the extra dock age.



Dock: Dock and curled dock are not tolerated in seed going to Europe and some states in the USA. This weed is more common south of #16 highway.

Inert Material:

This refers to rocks, clay balls, cracked alfalfa seed, and miscellaneous pieces of trash. Some contracts allow a lot of inert. A USA contract that requires 99.85% pure means the weeds, crop, and inert can't be more than 0.15% of the entire weight. This means that very little inert can be left in the clean seed.



Alfalfa seeds that are smeared with damp dirt end up with a dry coating of rough material. As they no longer have a smooth seed coat, they can end up in the dockage when weed seeds are separated that also have rough seed coats.

Representative Samples:

It is really important to get a good representative sample of your alfalfa seed at harvest. Alfalfa really segregates as it flows out of the truck box. The center of the stream is chaffy and the corners are nice seed. Make sure you catch from each part of the flow as the truck unloads. You should have a 5 gallon pail to represent the bin. Pour from one pail to another to get a 2kg sample for us to check. That sample is used for a dockage test, and it is retained and checked against the sample we draw when the seed is delivered.

Dockage Tests, Contract Pricing, and Games People Play

There really isn't a standard dockage test for alfalfa seed. A set of screens will indicate the "easy" dockage, but not the dockage that happens when removing the similar sized weeds and crops. As alfalfa seed goes to many markets with different requirements, there isn't a grade standard that is used. The final quality required of the clean seed will dictate what has to come out.

The seed plant equipment and operator can also influence the dockage. Anyone can clean alfalfa seed if the amount of dockage is not an issue. Unfortunately, removing weeds usually involves removing some good alfalfa seed as well. The good operator lives on the line, balancing between leaving something bad in the clean seed, and trying to keep dockage to a minimum. The good operator treats the incoming seed as if it was from his own farm, trying to get all the good alfalfa into the bag. Yet that same operator must treat the clean seed as though it was to be planted on his farm, making sure that seed doesn't contain anything "bad". When Canada thistle gets found in seed in New York state, that seed usually has to come back to Canada, be re-cleaned, and shipped back to the market.

Finally, the games people play can influence dockage. If we have lots of contracts based on common price, it is in our interest to keep our common price as low as possible. But if we're paying $1.25 for common and everyone else is paying $1.50, we won't buy any common. An easy way to fix this is to offer low dockage. If the seed is really worth $1.50 per pound and has 30% dockage, we could offer $1.25 per pound at 15% dockage.

Dockage testing and offering to purchase seed under contract to another company is an easy way to muddy the waters. We try to avoid dockage testing seed that is under contract to another company. If we test it to buy it as common, that may not be the dockage necessary to meet that companies customer's needs. Plus we could fudge the dockage just to make our competition look bad.

How Can I Have Less Dockage?

Simply grow the crop as clean as you can. Some things to remember:

Establishment: Start with a clean field and consider the history – have clovers been grown previously? Any companion crop shouldn't compete with the alfalfa seedlings, nor result in "bad" crop volunteers, like canola. Make sure the companion crop doesn't limit your seedling year weed control options.

Desiccation to help harvest before the fall wind and rain

In Crop: One yearly application of one weed control product rarely does the job. A tank mix of Pardner and Assure doesn't control quite a few weeds, including cleavers. Watch for late germinating weeds like canola, kochia, green foxtail and wild oats. We have tank mixed various weed control products with bug spray or early disease spray to control these late weeds. In 2011 we ignored some late canola coming in areas thinned out by the excess moisture, and paid the price in extra dockage. A number of products are being tried off label with various outcomes. Check the weed control table on the last page.

Weed Control Without Spraying

Use all the tools, after all there is more to weed control than spraying in crop. Early spring burning controls many of the small winter annuals and early germinating annuals. Burning also helps control plant bugs and alfalfa plant disease. Light spring cultivation will control small weeds and help level the mole hills. You can incorporate Treflan or Edge to change up your chemical groups. Patch spraying works well on weeds that tend to grow in certain areas like kochia in alkali areas. Even using a small sprayer to apply Round-up to Canada thistle patches may be better than having the patches get bigger and the seed blow all over the field.

Pulling Sweet Clover

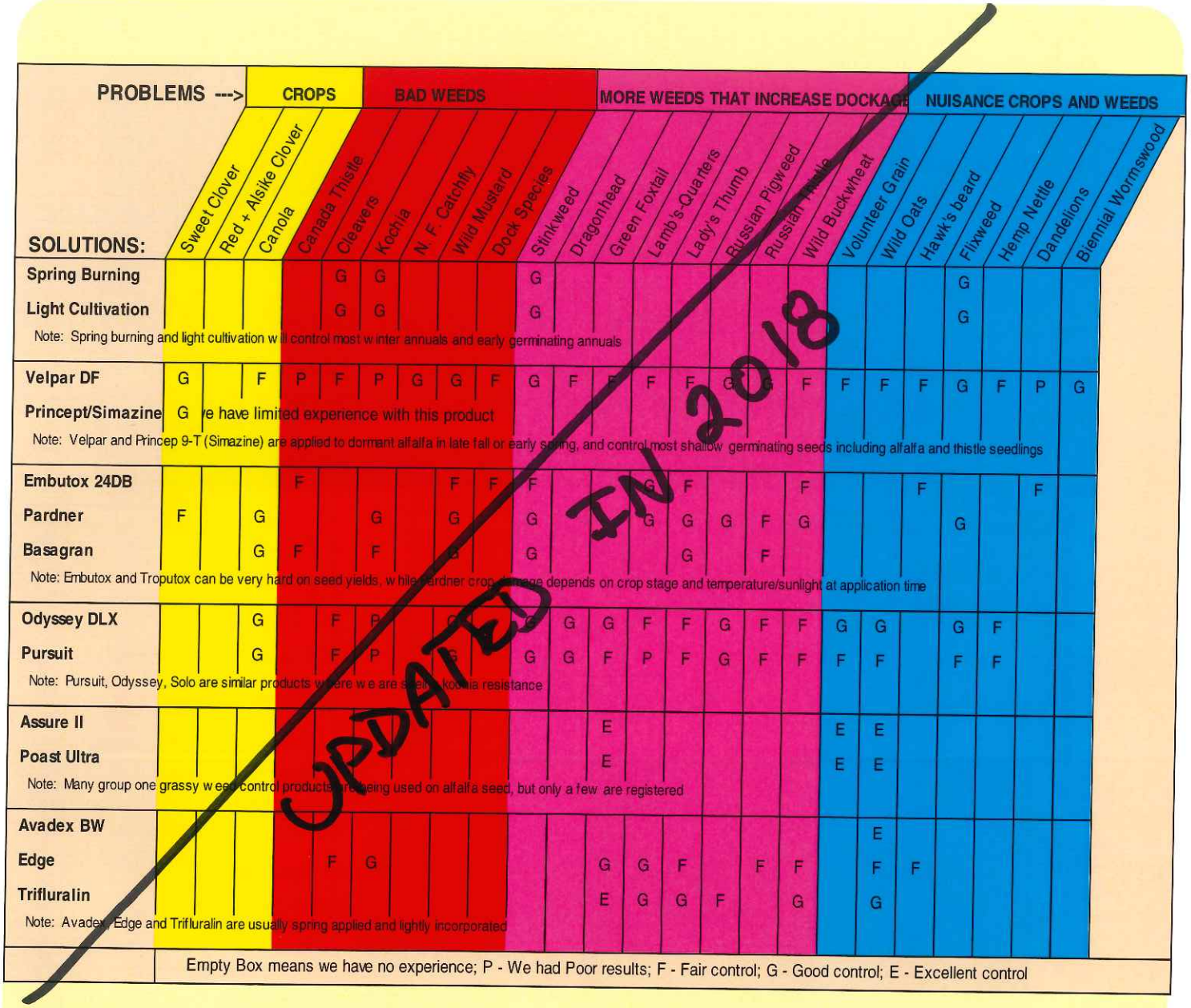
I sure hope the neighbor's fence is still there

In-crop mowing is hard on the Canada thistle patches, and the alfalfa will re-grow. Just driving round the weed patches with the combine will help on the dockage.

Finally, when all else fails, provide the local kids with some honest employment.

Dockage Control – Chemical – Weeds – Crops Summary Table

This is a summary table of various treatments and our experience on different crops and weeds that cause increased dockage. Remember to check and always follow label directions. The product may be registered on another crop where we have noted weed control or lack of control as compared to the label. These products may work differently in different soils and different crop and weed staging so proceed at your own risk.



We hope this has helped you understand what causes excessive dockage. Together, we continue to develop and adopt management practices that increase our yields and reduce the dockage in our seed.

Craig Newton *Murray Pask*

Pask Farms Ltd

Box 40
Atwater, SK
S0A 0C0

Phone: 306-745-2571
Fax: 306-745-2564

craig@paskfarms.com
murray@paskfarms.com