



### **Use of Twitter & Vine for personalised, timely mobile alerts in agricultural extension**

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#### **ABSTRACT**

Farmers need problem identifying alerts delivered timely and personalised. Using smartphones as platform (35% of Danish farmers use a smartphone) utilising micro blogging tools, Twitter and Vine are able to fulfil this need. Advisers in the Danish agricultural extension systems are instructed and encouraged to start using Twitter and Vine. To lower the entrance barrier, they are offered a common account, so they can start tweeting without the hassle of creating their own account. Work was done to find appropriate hashtags and to emphasise the importance of using these so targeted and personalised tweets can be embedded on websites. Preliminary results indicate that we will see a steep increase in uptake of this new way of disseminating alerts.

**Keywords:** Twitter, Vine, smartphones, extension, personalisation, Denmark

#### **1. INTRODUCTION**

Information and communication technologies (ICT) are already being used on many types of platforms for knowledge dissemination from agricultural extension services to farmers. This is done through websites, databases, newsletters, forecast systems, instructive videos amongst others. These means are indeed suited for transferring information, but suffer from a cumbersome production process often involving several persons and an uptake hampered by farmers often not being close to their computer throughout their working day, so they might not get information in time.

Farmers need problem identifying alerts delivered timely and personalised. Using smartphones as platform utilising micro blogging tools is expected to be able to fulfil this need.

#### **2. MICRO-BLOGGING**

A blog is a frequent, chronological publication of what is happening in a person's life and what is happening on the web. It is typically a kind of hybrid diary/guide site, although there are as many unique types of blogs as there are people. People maintained blogs long before the term was coined, but the trend gained momentum with the introduction of automated published systems, most notably Blogger at [blogger.com](http://blogger.com).

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Micro-blogging is a combination of blogging and instant messaging that allows users to create a short message to be delivered on cell phones, which allows micro-blogging to provide a quick way to communicate with a group of people.

### 2.1 Twitter

Twitter is a micro-blogging site at which users share updates in “tweets” that are limited to 140 characters. You can share links to websites you find useful, photos or videos too. Users build audiences of “followers” and also choose to follow other users, read their content and then share some of it with their own followers through what are called retweets.

Twitter has over 500 million registered users as of 2012, generating over 340 million tweets daily and handling over 1.6 billion search queries per day. Since its launch, Twitter has become one of the ten most visited websites on the Internet.

The so-called hashtags are used to denote a topic of conversation or participate in a larger linked discussion. A hashtag is a discovery tool that allows others to find your tweets, based on topics. You can also click on a hashtag to see all the tweets that mention it in real time — even from people you do not follow.

### 2.2 Vine

Vine video is a free mobile video app that allows users shoot 6-second video clips and loop them using an innovative start-and-stop touch-screen interface. Twitter owns Vine and rolled it out in the iTunes App Store in January 2013. The app is only available initially for the iPod Touch and iPhones 3GS and higher, but other versions are in the works, too.

Users can share their clips on Twitter and with other users of the app on Vine's own network. One innovative aspect is how the videos are automatically looped, so the 6 seconds of sound and motion repeats unless a viewer taps on the video to stop it. Creating videos is as simple as holding a finger on the screen to record, and letting go to stop. You can stop as few or as many times as you want, so you can record one continuous six second video or a bunch of short clips. It only records while touching, so you can change the shot and tell a brief story through the videos without actually having to do any editing.

You can also shoot with the front-facing camera so to make your clip more personal. When creating a post, a tap on a button lets you switch back and forth between the regular and front-facing camera as many times as you want. When the shooting of a video is done, Vine asks if you want to share it and where. The workable options are either Twitter, Facebook, embedding or just Vine.

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The videos are embedded directly in tweets, just like a photo shared on a supported image service. Videos can be played on the Twitter website or on the Twitter mobile app. However, on the mobile application, the videos do not loop as they do on the desktop version of Twitter.

Posts can be embedded in an iFrame using a simple template that just shows the looping video, or as a postcard similar to an Instagram post which features the original poster's name and a timestamp.

### 2.3 Examples of current use in agriculture

#### 2.3.1. Twitter

Uptake of Twitter use has been slow in Denmark compared to for example the US. At current, there are 150,000 registered Twitter users in Denmark, but this number is rising very fast now. From February to May 2013, the number increased by 25,000. It has not been possible to find any agricultural advisers using Twitter as tool in their work. Similar, almost no farmers is using Twitter. A survey in February 2013 (Hansen, 2013) with 3,366 respondents (response = 43%) showed that roughly ¼ do not know what Twitter is; ½ has heard about Twitter and ¼ believes they know what Twitter is all about. Out of the 3,366 respondents, only 50 (1,4%) stated that they are using Twitter.

In the US, Twitter is much more common than in Denmark. The best known example is AgChat started in 2009, and now with more than 30,000 followers. The service is run by AgChat Foundation with the mission of "Empower farmers and ranchers to connect communities through social media platforms." A group of American farmers has founded the AgChat Foundation. The foundation was launched through volunteer activities, but is now funded by donations and sponsorships and has started investment talks with a variety of stakeholders.

AgChat has inspired farmers in the UK, Australia, New Zealand and Holland amongst others. There are three leading groups in the UK - AgrichatUK, clubhectare and AgGen – each with its own distinctive community and purpose, but all with a shared passion for the industry and its people (Farmers Weekly, 2013).

AgchatOZ is a weekly forum for Australian farmers and the urban public to debate and learn about agricultural issues. AgchatOZ is now well established and has been running since 2010. AgchatNZ is currently a hashtag for New Zealand farmers to connect, but is being developed into a weekly debate soon (Broughton, 2013). Guusnet focuses upon a weekly discussion for Dutch people on rural development. The group was established 19 months ago and has connections with the Ministry for Agriculture.

#### 2.3.2 Vine

As Vine is very new - was launched on 24 January - it is assumed that knowledge about this service is zero amongst advisers and farmers. The service has caught a lot of

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attention, but it still remains to be seen, how it is going to be used besides for producing creative videos.

### 3. MATERIALS AND METHODS

A major task for extension personnel is to visit farms and give specific advice to the farmer after inspecting the problem in focus, which for example could be a crop attacked by bugs, problems with weed or effect of climatic stress. By doing this, the adviser often identifies a general pattern of problems, which he should be able to communicate as quickly as possible to other farmers with similar productions. By using Twitter and Vine, he can disseminate alerts right on the spot.

For example, if an adviser inspecting crops comes across the same disease several times in the same morning, he can tweet a Vine video telling farmers with that crop to go and inspect their fields.

#### 3.1 Activating advisers

Given the low level of knowledge amongst advisers about Twitter, a three step approach is implemented to get advisers to use Twitter.

First step allows them to experience with tweets without needing to create a personal account or risking that their tweets are going public. For this, a protected Twitter account was created. An account with protected tweets requires manual approval of each and every person who may view that account's tweets. Protected tweets may only be visible to your approved Twitter followers.

Second step is a similar Twitter account except that tweets are public. As such, tweets from this account will not be personal, but be seen as coming from the brand name DLBR Plant Production. In the settings for this account, presentation of location is activated, so that a nearby FourSquare location can be used to indicate from where the tweet was sent.

Use of both alternatives is controlled by instructions presented on LandbrugsInfo in articles, which can only be accessed by employees working in the Danish advisory system. This approach is assuming that none will misuse these accounts - there is no way to control what is tweeted.

The instructions also include guidelines for using hashtags. Specific tags for all major Danish crops are suggested after checking that these tags were not used systematically already. The tags are #hvede, #vinterbyg, #triticale, #vrug, #vårbyg, #havre, #vinterraps, #vårraps, #havre, #græs, #majs, #frøgræs, #foderroer, #sukkerroer, #helsæd, #kartofler, #ærter). As nobody yet is tweeting about plant production in Denmark, our aim is to establish these tags as a common standard.

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To indicate if the tweet comes from the Knowledge Centre of Agriculture or a local advisory centre, hashtags #vfl and #dlbr should be used.

Third and final step is when an adviser “breaks out” and starts tweeting from his own account. By doing this, an adviser can brand himself and his advisory centre and as such attract new customers. By keeping on using the proposed hashtags, such an adviser will still be able to reach the followers, which he might have had while tweeting using the common account.

To kick start the use of Twitter, an encouragement was placed in a virtual Yammer forum for advisers working with plant protection.

### 3.2 Reaching farmers

Danish farmers are not yet familiar with using Twitter (Hansen, 2013). Therefore, it was decided to embed tweets on their favourite websites including the personal portal Landmand.dk and a farmers’ forum called ErfaLand.dk.

On Landmand.dk, for a start all tweets with relevant tags are presented on the front page of the portal together with other sources of news. The purpose is to showcase the potential in tweets and to stimulate the interest for receiving tweets on their smartphone. To help farmers move from intention to action, they can right away scan a QR code, which brings them to download the Twitter app from Google Play or AppStore.

Furthermore, they are encouraged to read an article on LandbrugsInfo, which gives them a step by step instruction how to use Twitter both on smartphone, tablets and on the web covering both roles as passive reader and active tweeter.

In a separate article aiming at inspiring and fuel uptake, resumes of experiences and use of Twitter by farmers in the US, the UK and other placers, were published.

## 4. RESULTS

This is still a work in progress where the road is built as we move forward. It has hindered uptake that plant production advisers are very busy in springtime. However, it is quite encouraging that if an adviser is helped to a running start by scaffolding him through download of Twitter and Vine apps and producing his first tweet or vine, most of them grasp the idea and potential at once and start using it.

Presentation of tweets on Landmand.dk benefits from the detailed work around the use of hashtags, as this allows us to present filtered tweet timelines on My pages on Landmand.dk using information about which crops the farmer is growing. Twitter has recently launched an option for filtering on language, which has proven very useful as mean to avoid irrelevant tweets. We are currently experimenting with using a “near” filter, which makes it possible alone to receive tweets sent from the local area.

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**5. DISCUSSIONS**

Our preliminary results indicate that micro-blogging tools such as Twitter and Vine are useful tools for producing timely alerts. Comparing Twitter with SMS, tweeters appreciate how easy it is to tweet pictures and option for including or tweeting a link. Farmers appreciate that they themselves control from whom and about which topics, they receive information and that their SMS inbox is kept free for non-personal messages.

Vine seems very appealing to both advisers and farmers. Being able to produce alerts on the spot out in the field without having to type any text at all is welcomed by all. Farmers experience that they get a lot of information – video, speech and maybe a line of text – in just six seconds.

**6. ACKNOWLEDGEMENTS**

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